



Bluetooth Module

Bluetooth Transmission Adapter BTM-510C Manual

藍牙收發機 BTM-510C 說明書



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1. Package Contents

Congratulations on your purchase of BTM-510C Bluetooth Transmission Adapter. This manual is provided to help you understand the correct operation and obtain optimal performance, please read carefully before use.

BTM-510C Bluetooth adapter built with our fundamental design concepts for high quality, free of movement, convenient portability, easy to use and low radio interference.

Combining advanced Bluetooth technology, BTM-510C is a general wireless audio platform for dynamic and condenser microphones with an appealing appearance.

Please make sure the following items shown below are included in the package.

1.1 BTM-510CR + BTM-510CC Package

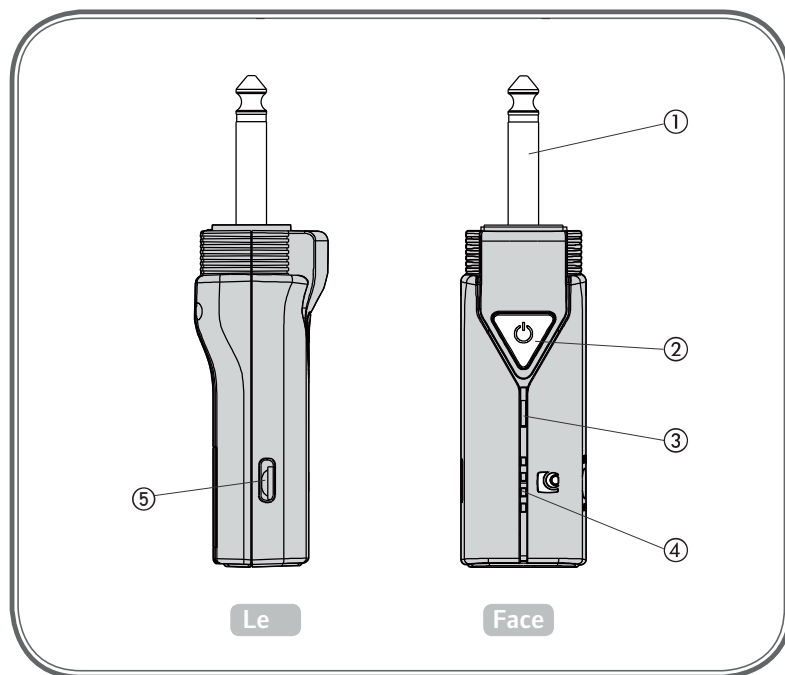
- ① Ø6.3 male plug receiver
- ② Ø3.5 female phone jack transmitter (Compatible with condenser microphone)
- ③ USB Type-A to Type-C Cable
- ④ Manual

1.2 BTM-510CR + BTM-510CD Package

- ① Ø6.3 male plug receiver
- ② XLR female plug transmitter (Compatible with dynamic microphone)
- ③ USB Type-A to Type-C Cable
- ④ Manual

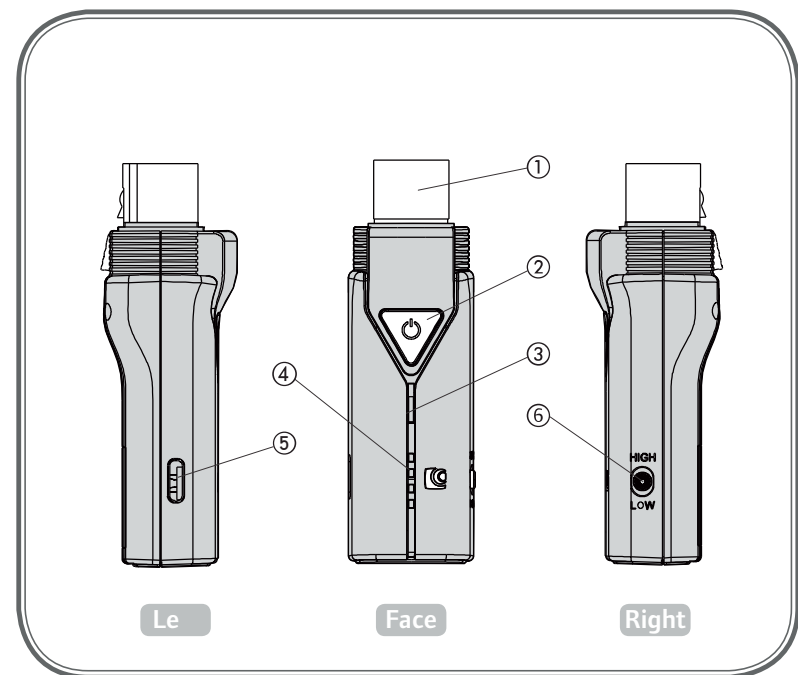
2. Getting to know the BTM-510C Bluetooth Transmission Adapter

2.1 Receiver (RX) adapter BTM-510CR



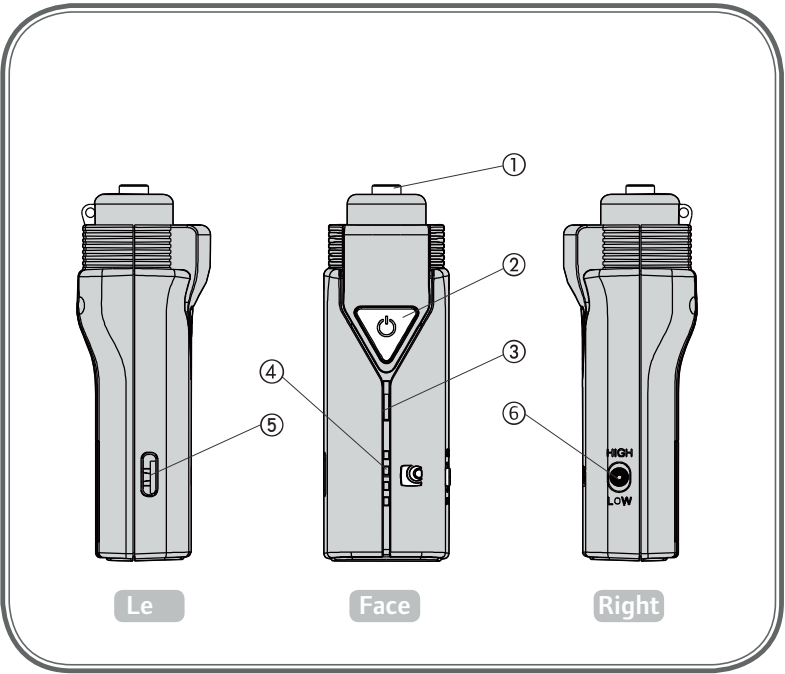
- | | |
|----------------------------|--------------------------|
| 1. Ø6.3mm Male Plug | 2. Power Button |
| 3. LED Operation Indicator | 4. LED Battery Indicator |
| 5. USB Type-C Power Socket | |

2.2 XLR transmitter (TX) adapter BTM-510CD



- | | |
|----------------------------|--------------------------|
| 1. XLR Female Connector | 2. Power Button |
| 3. LED Operation Indicator | 4. LED Battery Indicator |
| 5. USB Type-C Power Socket | 6. Usage Distance Switch |

2.3 Ø 3.5 transmitter (TX) adapter BTM-510BC



1. Ø3.5mm Female Connector

2. Power Button

3. LED Operation Indicator

4. LED Battery Indicator

5. USB Type-C Power Socket

6. Usage distance Switch

3.Operating Instructions

3.1 Use of Product

■ 3.1.1

Use one receiver (RX) adapter and one transmitter (TX) adapter, users will be able to transmit the sound from dynamic (XLR Connector) or condenser(Ø3.5 Phone Plug) microphone to amplifier through Bluetooth wireless adapter.

3.2 LED Operation Indicator

Mode	LED Description
Power On	Green light glow.
Automatic Connection	Red light and green light flash alternately.
Sound Transmissoin	Green light flashes once every 2 seconds.
Power o	Red light glow.
Battery is too low	The operation indicator light does not light up, and a battery indicator light flashes.

3.3 LED Battery Indicator

Light display	Power state
■ ■ ■ ■	Battery higher than 75%
■ ■ ■ □	Battery in 51%~75%
■ ■ □ □	Battery in 25%~50%
■ □ □ □	Battery lower than 25%

- (1) The LED battery indicator flashes once every 5 seconds when it turn on
- (2) The LED battery indicator flashes once every 1 seconds when it charging

3.4 Operating Instruction

■ 3.4.1 Power On the adapter.

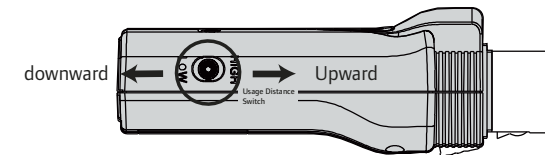
- (1) Charge the Bluetooth receiver (transmitter) to a working power level.
- (2) Press the button for 2 seconds to turn on Bluetooth receiver (transmitter).
- (3) Green light will glow while the power is on. Then you can leave button.
- (4) Bluetooth receiver (transmitter) will goes into automatic connection mode.
- (5) When the battery is too low to maintain the operation of the device, press and hold the button will not be able to turn on, the operation indicator will not display a green light, and the battery indicator will flash.

■ 3.4.2 Automatic Connection

- (1) After power is on, the adapter is in automatic connection mode.
- (2) Bluetooth receiver (transmitter) will search for nearby Bluetooth devices while the red light and green light flash alternatively.
- (3) If the devices have not been paired, short press the button 5 times, the device will flash red light 5 times. After then, the red and green lights flash alternately to enter the automatic pairing mode again.

■ 3.4.3 Sound Transmission

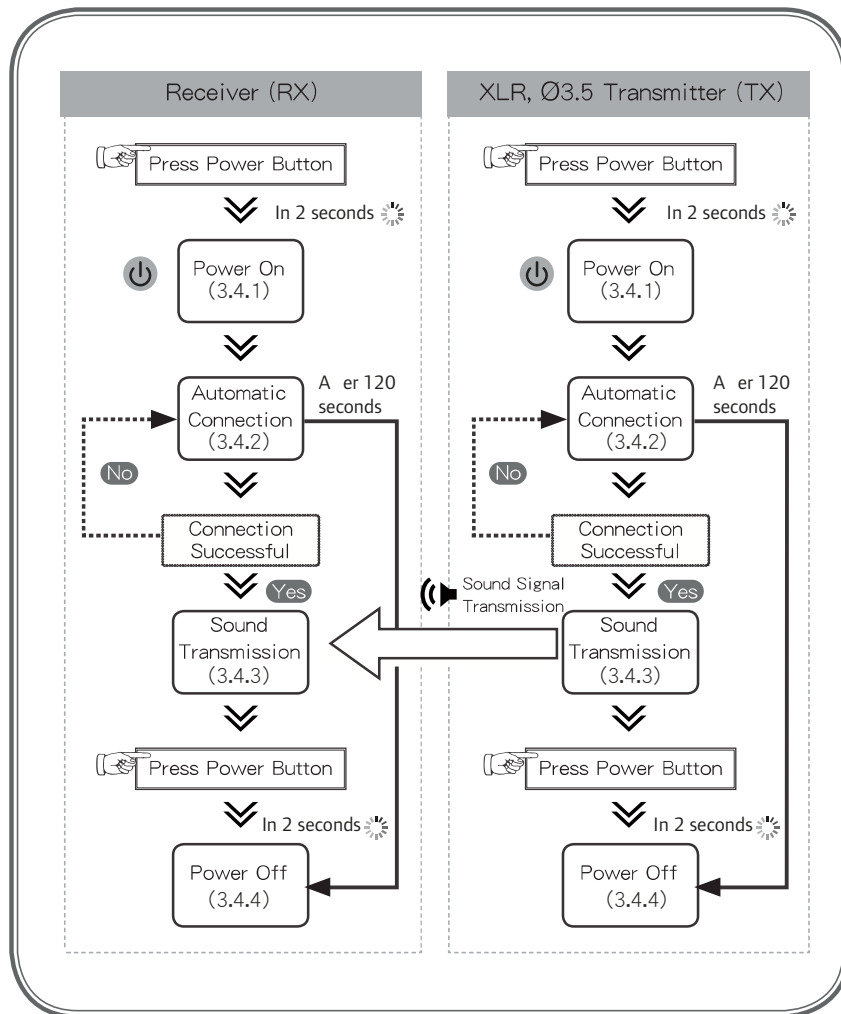
- (1) When the Bluetooth receiver (transmitter) in automatic connection mode finds Bluetooth device for sound transmission, Bluetooth receiver (transmitter) will automatically be in sound transmission mode.
- (2) In sound transmission mode, transmitter (TX) can transmit sound signal to receiver (RX). Green light will flash once every three seconds.
- (3) During use, the distance adjustment switch on the side can be used to adjust the appropriate power consumption and transmission distance. Upward is long transmission distance (high power consumption), and downward is short transmission distance (low power consumption).



■ 3.4.4 Power Off the adapter (Low power warning)

- (1) When Bluetooth receiver (transmitter) is on, press the button for 2 seconds to turn it off (red light will glow still you leave button).
- (2) When Bluetooth receiver (transmitter) detects low battery power, red light and green light will flash once every 2 seconds, battery should be charging soon. If the battery are not been charged, the adapter will cut the power.

3.3.7 Operating Procedures



4. Troubleshooting

Problem	Solution
Adapter cannot be turned on.	1. Make sure that battery power is sufficient. 2. If power still cannot be turned on. Please power OFF, then Power ON after 10 seconds.
Unable to connect	1. Turn on receiver (RX) first, transmitter (TX) later. 2. Except receiver (RX) and transmitter (TX), turn off all unrelated Bluetooth devices within effective distance. 3. Short press the button 5 times. The device will flash red light 5 times and be repaired. Repair is required for receiver (RX) and transmitter (TX) both.

5. Specifications

- 5.1** Bluetooth Standard: BLE (Bluetooth Low Energy) 5.1
- 5.2** Output Power: Class 1
- 5.3** Transmission Distance: 20 meters (Unobstructed line of sight)
- 5.4** Battery: Lithium battery 3.7V 400mAH
- 5.5** Battery Life: Approximately 8 hours(downward mode)
- 5.6** Battery Charging time: Approximately 2 hours
- 5.7** BTM-510CR Receiver (RX) is equipped with Ø6.3 Phone Plug
- 5.8** BTM-510CD Transmitter (TX) is equipped with XLR Connector, compatible with dynamic microphone
- 5.9** BTM-510CC Transmitter (TX) is equipped with Ø3.5 Phone Jack, compatible with condenser microphone
- 5.10** Carrier Band Frequency: ISM band 2.400~2.480GHz
- 5.11** Transmit Power: +10dBm
- 5.12** Receive Sensitivity: -94dBm
- 5.13** Maximum Output Voltage: 900mVpp
- 5.14** Maximum Current Consumption: 80mA
- 5.15** Frequency Response: 16~22KHz(BTM-510CC)
16~22KHz(BTM-510CD)

6.Special Notes

- 6.1** It is recommended to charge the battery when there is one bar left to avoid battery damage caused by over-discharge of the battery voltage.
- 6.2** Receiver (RX) can only receive sound signal from one transmitter(TX) and cannot receive signals simultaneously from two or more transmitters (TX)
- 6.3** When charging, please use a non-fast charging device and a USB standard mobile power supply or other qualified USB power supply device
- 6.4** Prohibition of use close to fire or in a car where temperature may be above 60°C. Also do not charge / discharge in such conditions.
- 6.5** Do not disassemble the product.
- 6.6** Keep the product, package and parts away from the children and pets as these objects are hazardous to swallow
- 6.7** Please avoid placing the product in a dirty, high temperature, low temperature, high humidity or direct sunlight environment to avoid product damage; high and low temperature environments will cause the battery's storage capacity to permanently decrease.
- 6.8** Stop using the product abnormal heat, odor, breakage, deformation or abnormal condition is detected during use, charge or storage.
- 6.9** Stop Charging the product if charging is not completed within the specified time.
- 6.10** If the product is used for a long time, the storage capacity of the battery will decrease due to the aging of the battery, which is a normal.

Brand : CAROL

Name : BLE True Sound low Latency Chargeable Audio
Transmission Adapter

Model : BTM-510CR / BTM-510CD/ BTM-510CC

FCC ID : G4RBTM-510C

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and a human body.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

© This device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

1. BTM-51C 藍牙收發機配件表

感謝您選用 BTM-510C 藍牙收發機，使用前請詳閱本說明書，以了解正確的操作方法，並獲得最佳的使用效果。

BTM-510C 藍牙收發機，為本公司以適合高品質、無移動限制、攜帶方便、使用容易、低干擾為基本設計理念，應用最新藍牙傳輸技術，所研發出分別適合動圈式、電容式麥克風的無線傳輸平台，外觀造形曲線優美，質感精緻。

1.1 BTM-510CR + BTM-510CC

- ① Ø6.3 公插頭接收機(RX)
- ② Ø3.5 母插座發射機(TX)，適用於電容式麥克風
- ③ USB Type-A 對Type-C連接線
- ④ 說明書

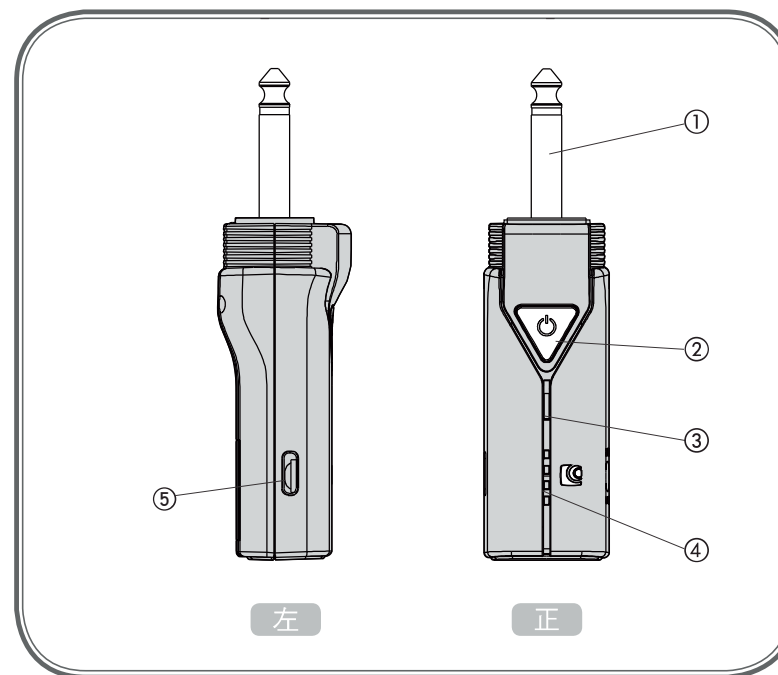
1.2 BTM-510CR + BTM-510CD

- ① Ø6.3 公插頭接收機(RX)
- ② XLR 母插座發射機(TX)，適用於動圈式麥克風
- ③ USB Type-A 對Type-C連接線
- ④ 說明書

2. 各部名稱及功能簡介

一套藍牙收發機，包括一台接收機(RX)，一台發射機(TX)。

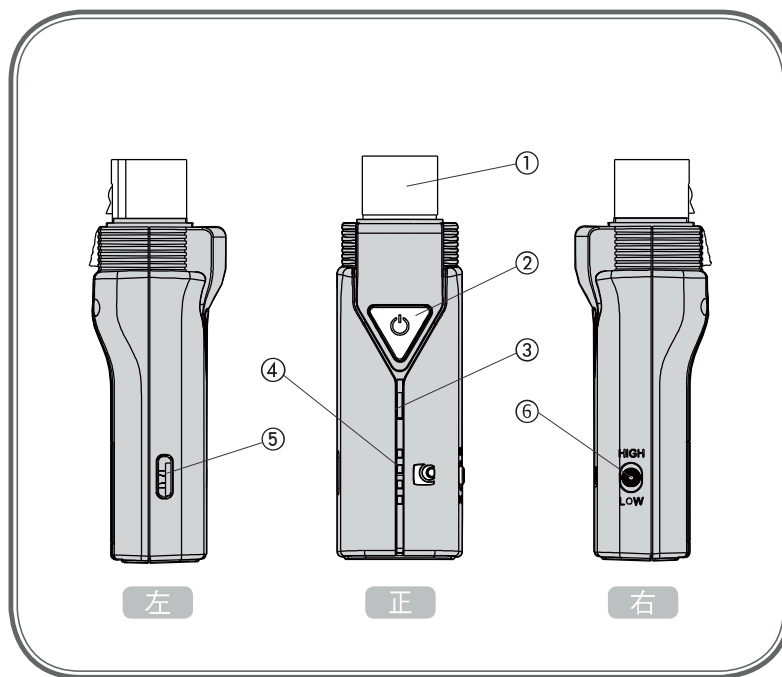
2.1 Ø6.3 接收機(RX)BTM-510CR



- 1. Ø6.3mm 公插頭
- 3. LED 操作指示燈
- 5. USB Type-C 充電孔

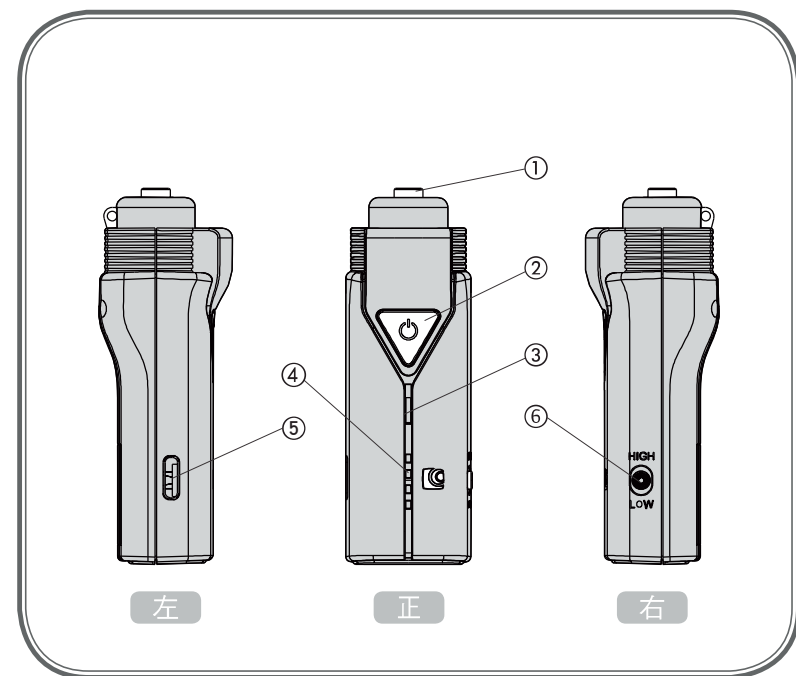
- 2. 電源開關
- 4. LED 電量指示燈

2.2 XLR 發射機(TX)BTM-510CD



- | | |
|-------------------|--------------|
| 1. XLR母插座 | 2. 電源開關 |
| 3. LED 操作指示燈 | 4. LED 電量指示燈 |
| 5. USB Type-C 充電孔 | 6. 使用距離調整開關 |

2.3 Ø6.3 發射機(TX)BTM-510CC



- | | |
|-------------------|--------------|
| 1. Ø3.5mm 母插座 | 2. 電源開關 |
| 3. LED 操作指示燈 | 4. LED 電量指示燈 |
| 5. USB Type-C 充電孔 | 6. 使用距離調整開關 |

3. 操作使用說明

3.1 產品使用

- 3.1.1 使用一組接收機(RX)機加上發射機(TX)，就可以將動圈式(XLR Connector)麥克風的聲音或電容式(Ø3.5 Phone Plug)麥克風的聲音，經藍牙無線收發機傳送到擴大機。

3.2 操作指示燈號說明

模組狀態	燈號模式
開機	綠燈亮起
自動連線	紅綠燈交互閃爍
聲音傳送	綠燈 2 秒閃爍一次
關機	紅燈亮起
電量過低	操作指示燈不發光，電量指示燈閃爍

3.3 電量指示燈號說明

燈號顯示	電量狀態
■ ■ ■ ■ ■	電量高於 75%
■ ■ ■ ■ □	電量於 51%-75%
■ ■ □ □ □	電量於 25%-50%
■ □ □ □ □	電量低於 25%

(1) 使用時，每5秒閃一次。

(2) 充電時，每秒閃一次。

3.4 操作說明

■ 3.4.1 開機

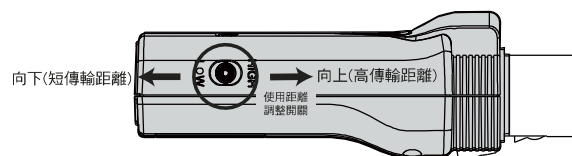
- (1) 先將藍牙接收(發射)機進行充電至可運行電量。
- (2) 按鍵連續按住 2 秒鐘，藍牙接收(發射)機就會被開機。
- (3) 綠燈亮起。
- (4) 藍牙接收(發射)機在開機後會直接進入自動連線的狀態。
- (5) 當電量過低無法維持設備運作時，按住按鍵將無法開機，操作指示燈不會顯示綠色燈號，電量指示燈則以一格閃爍。

■ 3.4.2 自動連線

- (1) 開機後即可進入自動連線。
- (2) 進入自動連線後，藍牙接收(發射)機會去搜尋在附近已綁定的藍牙設備，此時的燈號為紅綠燈交互閃爍。
- (3) 如設備之間尚未配對過，短按按鍵 5 次，設備將閃爍 5 次紅燈後紅綠燈交互閃爍進入重新配對。

■ 3.4.3 聲音傳送

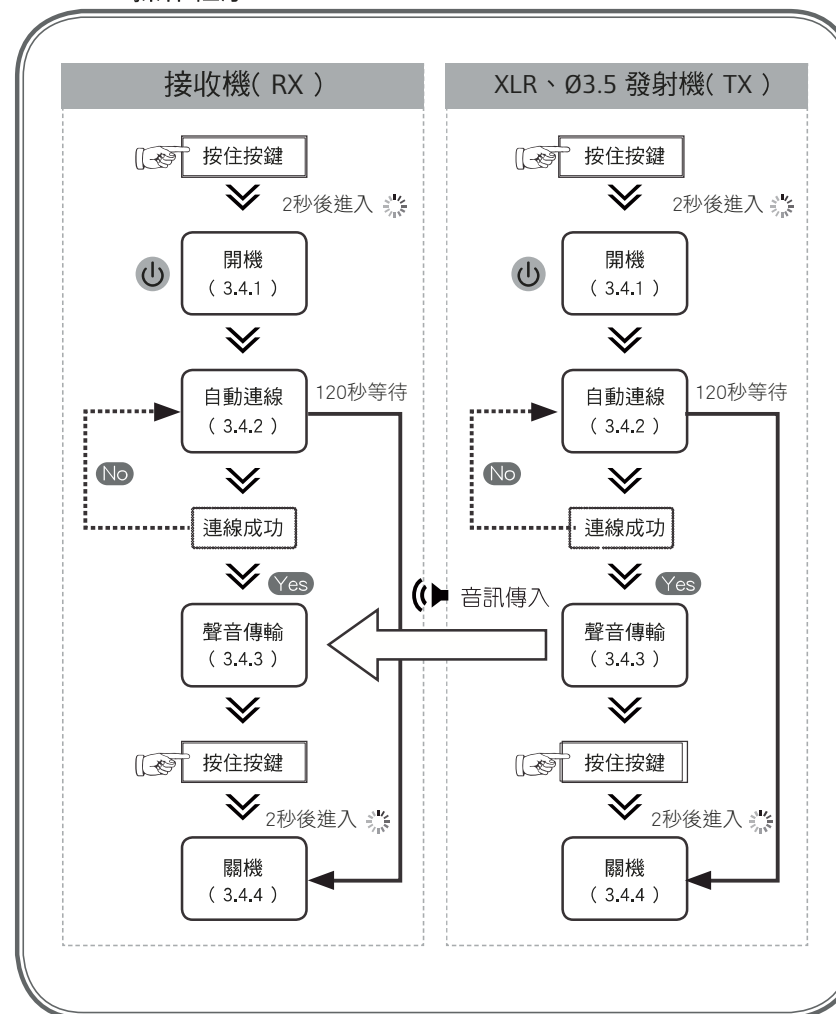
- (1) 藍牙接收(發射)機在自動連線中搜尋到可以提供聲音傳送的藍牙設備時，藍牙接收(發射)機就會自動進入聲音傳送。
- (2) 進入聲音傳送後就可以開始從發射(TX)機傳輸聲音訊號到接收(RX)機，此時所指示的燈號為綠燈 2 秒閃一次。
- (3) 使用過程中可以利用側邊的距離調整開關調整適合的用電量與傳輸距離，向上為長傳輸距離(高耗電)，向下為短傳輸距離(低耗電)。



■ 3.3.4 關機(低電壓)

- (1) 藍牙接收(發射)機於啟動狀態時，按鍵連續按住 2 秒鐘，紅燈亮起，藍牙接收(發射)機就會被關機。
- (2) 當藍牙接收(發射)機偵測到電池電壓過低時，電量指示燈將僅亮起一格燈，提醒使用者進行充電；如仍持續使用至電量過低無法持續運作時，設備將自動斷電。

■ 3.3.4 操作程序



4. 故障排除

故障	解決方式
無法開機	請先確認電量是否足夠。 如果還是無法正常的開機，暫時停止操作設備，10 秒後，再試一次。
無法連線	將接收機(RX)先開機，發射機(TX)後開機。 除了接收(RX)機和發射(TX)機以外，關掉有效距離內所有其他不相關的藍牙設備。 連續按按鍵五下，燈號紅燈快閃五下顯示，即可進入配對模式，並進行重新配對。 所有要進行配對的接收機(RX)、發射機(TX)都需要操作一次重新配對的動作，產品會自動進入配對程序。

5. 規格

- 5.1 相容標準：**BLE (Bluetooth Low Energy) 5.1 藍牙低功耗
- 5.2 發射功率規格：**Class 1
- 5.3 通訊距離：**至少 20 公尺(直線距離)
- 5.4 電池：**鋰電池 3.7V 410mAH
- 5.5 電池使用時間：**大約 8 小時(低功率模式)
- 5.6 電池充電時間：**大約 2 小時
- 5.7 接收 (RX) 機設置有** Ø6.3mm Phone Plug(插頭)
- 5.8 XLR 發射機(TX) 設置有** XLR 插座，適用於動圈式麥克風
- 5.9 Ø3.5 發射機(TX) 設置有** Ø3.5 Phone Jack(插座)，適用於電容式麥克風
- 5.10 載波頻帶：**ISM band 2.400~2.480GHz
- 5.11 無線發射功率：**+10dBm
- 5.12 無線接收靈敏度：**-94dBm
- 5.13 最大輸出電壓：**900mVpp
- 5.14 最大消耗電流：**80mA
- 5.15 頻率響應：**16~22KHz(BTM-510CC)
16~22KHz(BTM-510CD)

6. 注意事項

- 6.1 建議電池顯示剩一格的時候請充電，避免電池電壓過放造成電池損壞。
- 6.2 接收(RX)機只能同時接收一組發射(TX)機傳送聲音訊號，無法同時接收兩組或兩組以上的發射(TX)機。
- 6.3 充電時，請使用非快充設備和USB標準的行動電源或其他合格的USB供電設備，否則產品會有起火、爆炸或損壞的可能。
- 6.4 請勿在高溫的環境(如曝曬的車內)下充電或使用，否則產品會有起火、爆炸或損壞的危險及電池的儲電能力可能永久下降。
- 6.5 請勿拆解或改裝產品，否則產品會有起火、爆炸和損壞的可能危險。
- 6.6 避免孩童及寵物觸及產品、包裝或配件，這些物品會有誤食的危險。
- 6.7 請避免將產品置放置於髒污，高溫、低溫、高濕或陽光直射的環境，以避免產品損壞;高低溫環境會造成電池的儲電能力永久下降。
- 6.8 充電時或產品使用時，如果產品溫度變高，請停止充電和使用，待溫度下降後再繼續充電或使用，否則會造成電池的儲電能力永久下降。
- 6.9 如果產品發燙或充放電失效，請勿繼續使用產品,否則產品會有起火、爆炸的危險。
- 6.10 如果產品長期不使用，請定期為產品充電，以避免電池過放，而造成電池失效或儲電能力永久減少。
- 6.11 產品長時間使用，會因電池老化現象，而使儲電能力減少，這是屬於正常現象。

警告：

器材名稱：BLE True Sound low Latency Chargeable Audio
Transmission Adapter

廠牌：CAROL

型號：BTM-510CC/ BTM-510CD

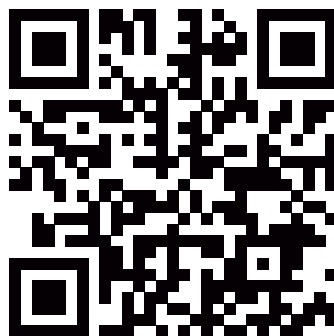
NCC 規定：

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前述合法通信，指依電信管理法規定作業之無線電通信。

低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。



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