ASTERA ART7-WIFI Transmitter Box User Manual

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NOTE

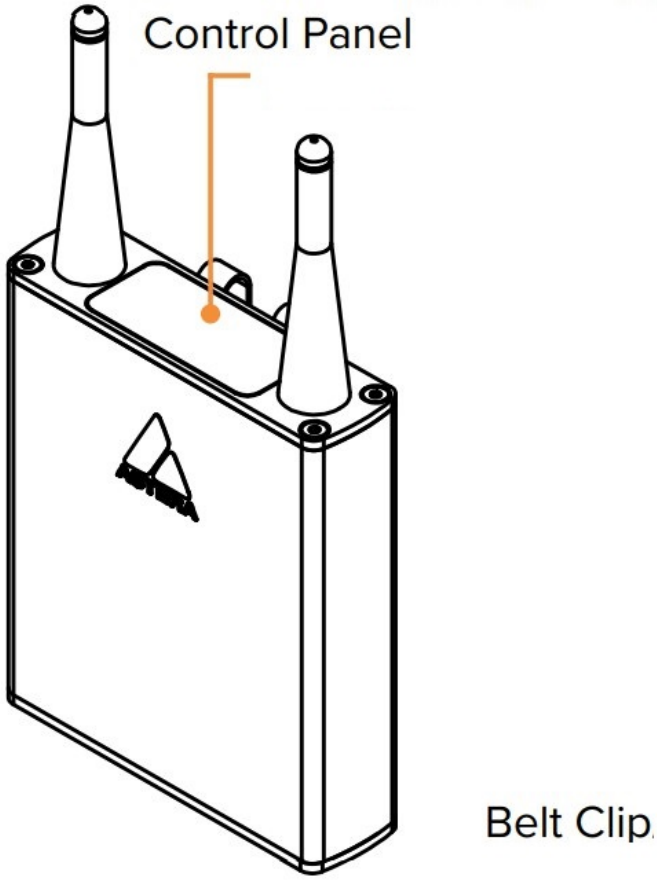
The app device requires at least Bluetooth 4.2 to be able to connect to the AsteraBox.

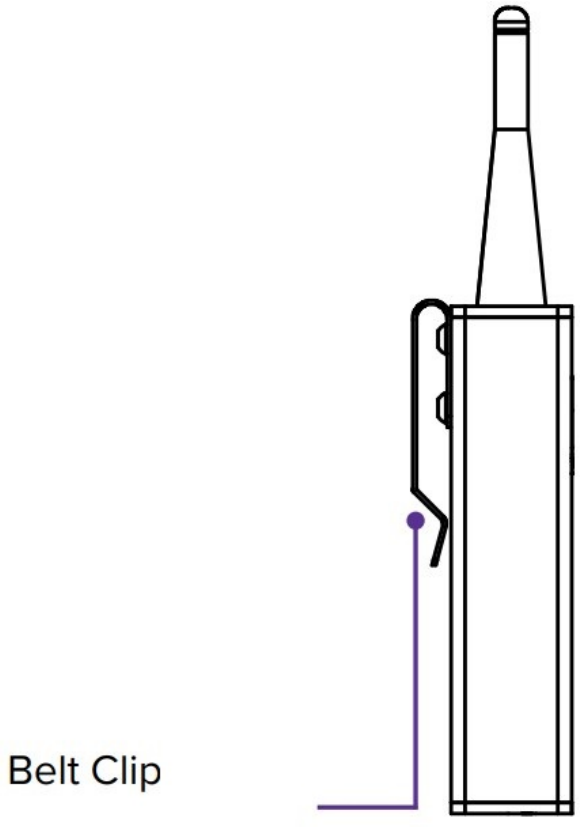
CONTENT

1. AsteraBox WIFI (ART7-WIFI)
2. Micro USB Cable
3. AC Adapter (ART7-CHR-U)
4. DMX Adapter Cable (ART7-DMXA)
5. ART7 Transportation Case (ART7-CSE)
6. User Manua

Contents

PRODUCT OVERVIEW





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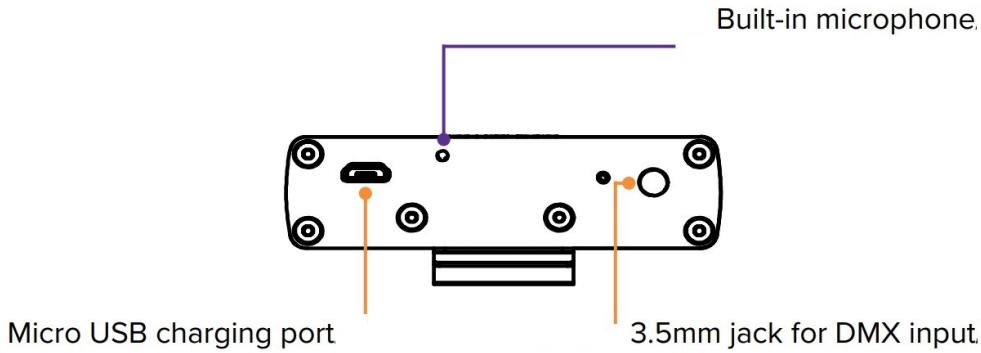


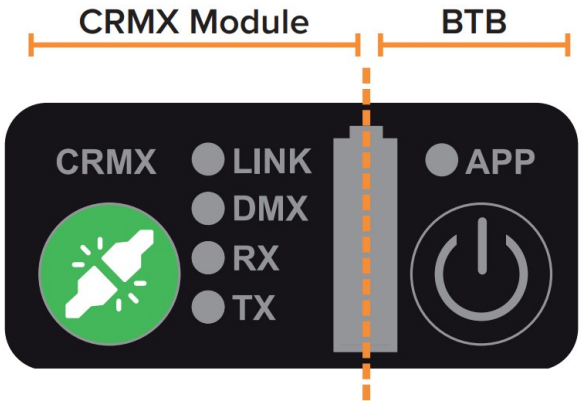
USAGE

Switching On/Of

Press the power button for one second to turn the AsteraBox on or off.

Functions and Control Panel

The AsteraBox can be used as a BluetoothBridge (BTB) to forward the AsteraApp signal to paired lights. In addition, with the built-in CRMX module, the AsteraBox can be used as a transmitter or receiver of wireless DMX. These two functions can be used simultaniusly. The AsteraBox has a control panel on its top. While the right half refers to the function as BTB, the status of the CRMX module can be read and set on the left side.

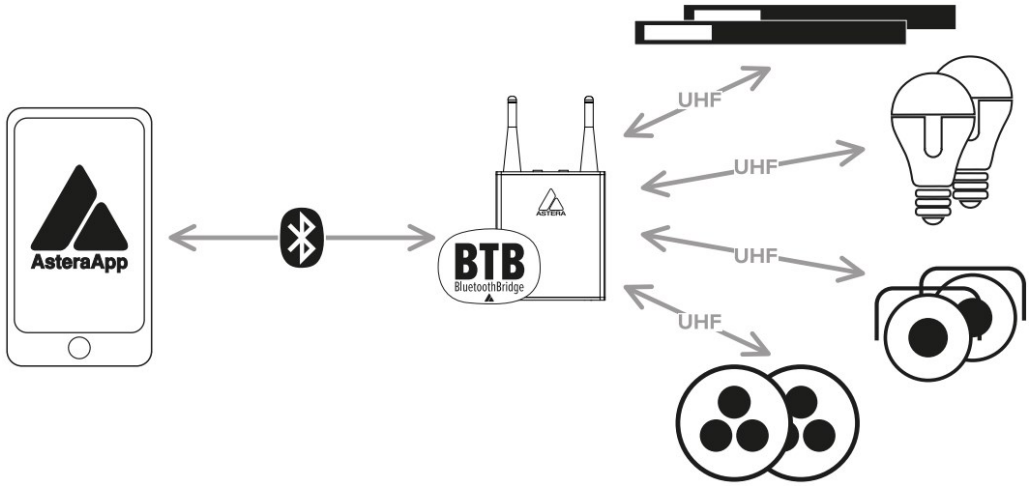


Charging and battery status

Use the included wall charger and USB cable to charge the AsteraBox. Charge immediately when the battery is empty. Do not store the unit when the battery is empty. Charging time is approximately 8 hours. If the AsteraBox is powerd off and connected to the charger, the batteryLED either shows the battery status or is dark to indicate that charging has finished and the battery is full. If the AsteraBox is powerd on, press the button shortly and the battery

LED will show the battery-status for two seconds

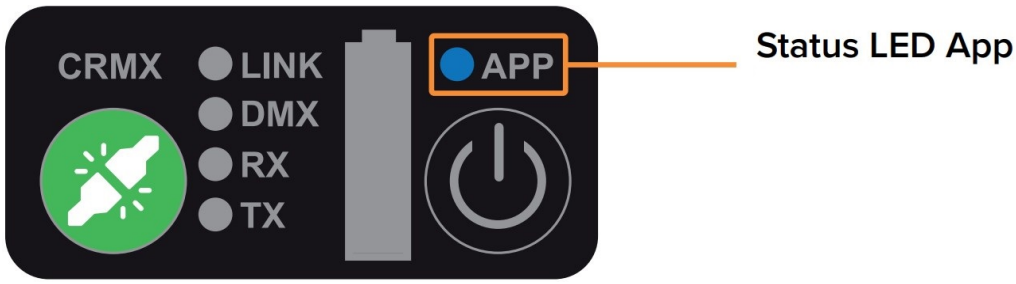
Connect AsteraBox as BTB



To control your lights with the AsteraApp, first connect a Bluetooth Bridge (BTB). It forwards the AsteraApp signal to paired lights. Please power on the AsteraBox. Connect the AsteraBox directly from the AsteraApp main menu by following the instructions there. The app will automatically guide you through connecting to Wi-Fi if necessary

Status LED App

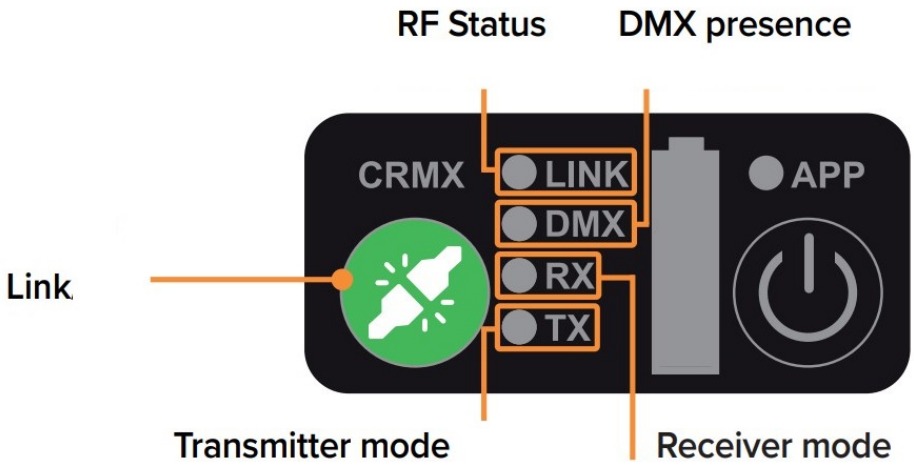
The app LED flashes blue at different speeds to indicate the respective status.



Flashing slow (~0.5Hz): Not connected to AsteraApp
Flashing fast (~1.5Hz): Connected to AsteraApp

AsteraBox as wireless DMX transceiver

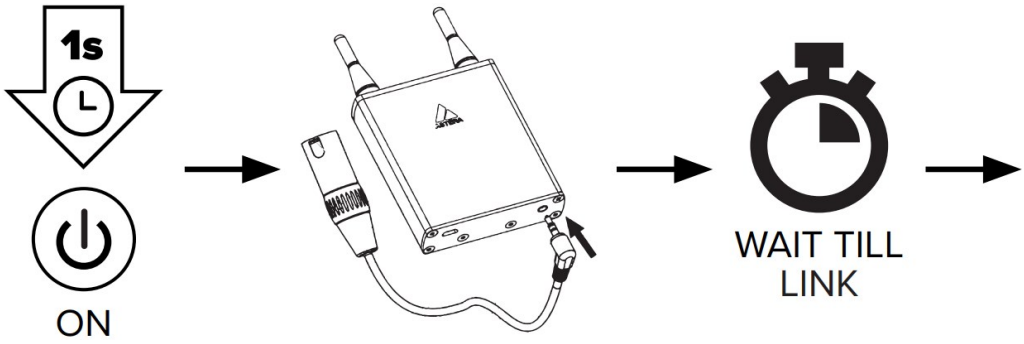
With the built-in CRMX module, the AsteraBox can be used either as a transmitter or receiver of wireless DMX. The left side of the control panel shows which mode the AsteraBox is in and provides information about the respective status.



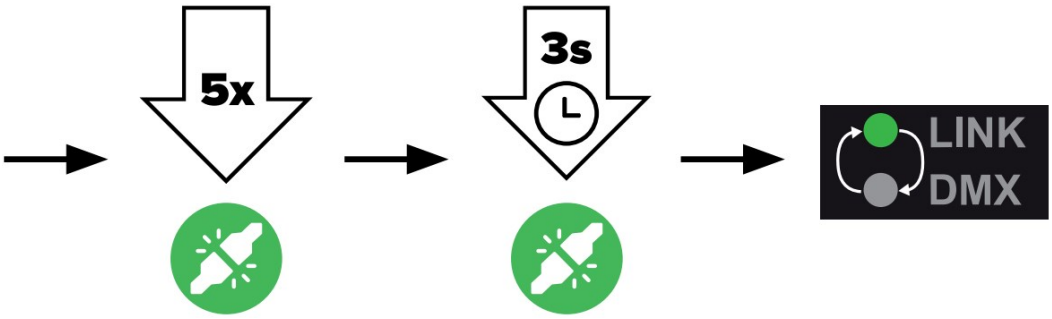
Switching between transmitter and receiver mode

Follow these steps to switch between transmitter (TX) and receiver (RX) mode: Turn on the AsteraBox and plug in the DMX adapter cable. Wait a short time until the link LED stops blinking. Press the green link button 5 times in a row and hold it for about 3 seconds until the DMX and link LEDs flash alternately. A short press on the link button now switches between transmitter mode (TX) and receiver mode (RX). To confirm the respective mode, hold the link button again for about 3 seconds until the DMX and link LEDs stop flashing alternately.

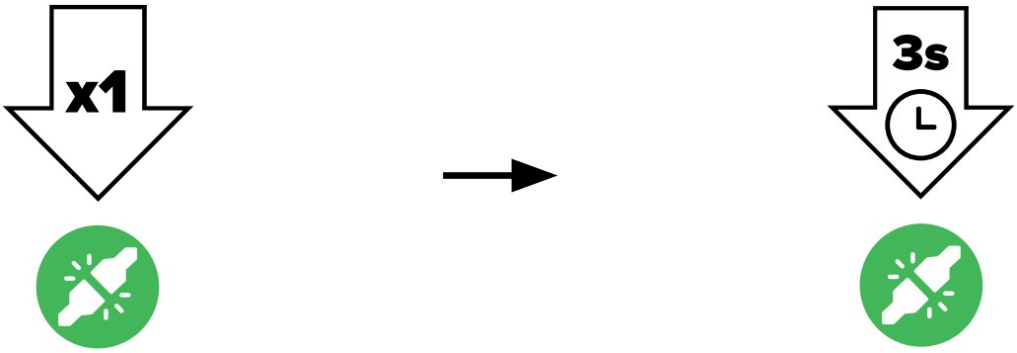
Turn on



Switch

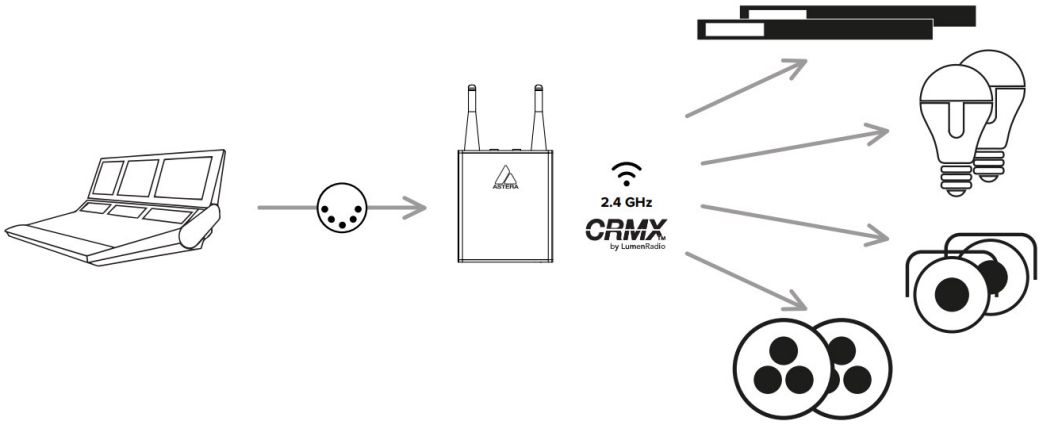


Selection /Confirmation

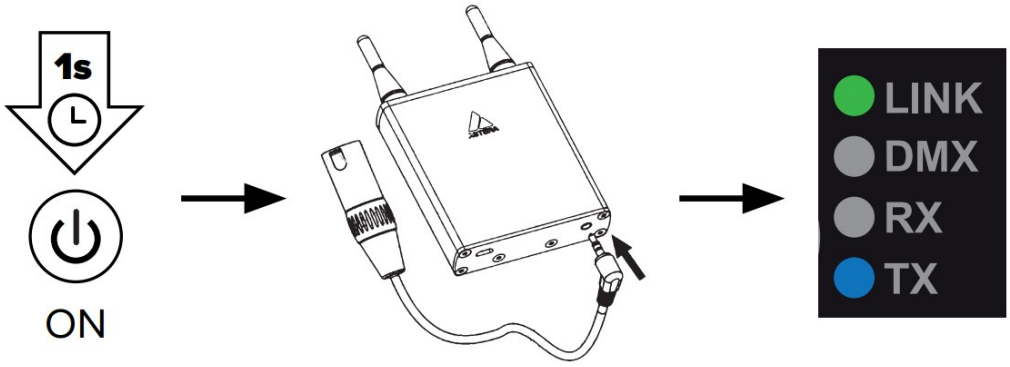


Use AsteraBox as CRMX transmitter

To use the AsteraBox as a transmitter for wireless DMX it can be connected to a DMX controller with the included DMX adapter cable. PLEASE NOTE: There is an on/off switch in the DMX socket of the AsteraBox, so the CRMX module is only switched on when the adapter cable is plugged in.



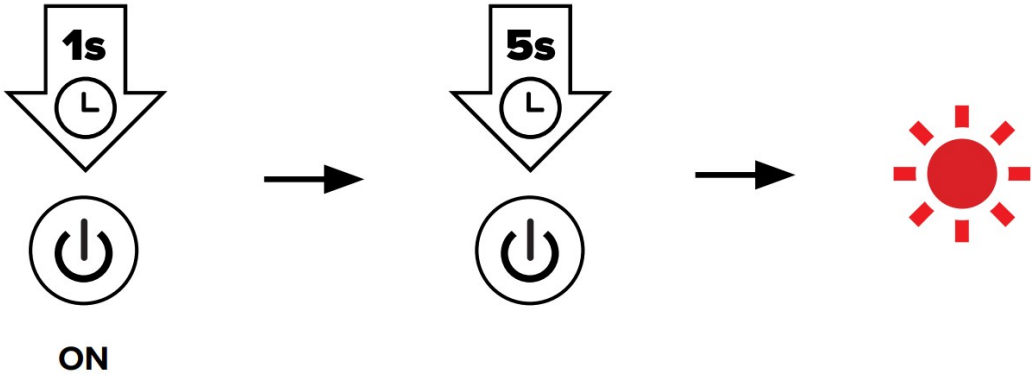
Turn on the AsteraBox and plug in the adapter cable. To work as a transmitter the link LED should be green and the TX LED should be blue. If this is not the case, please see the previous chapter how to change the mode. The DMX LED lights up as soon as a DMX signal is received from a controller.



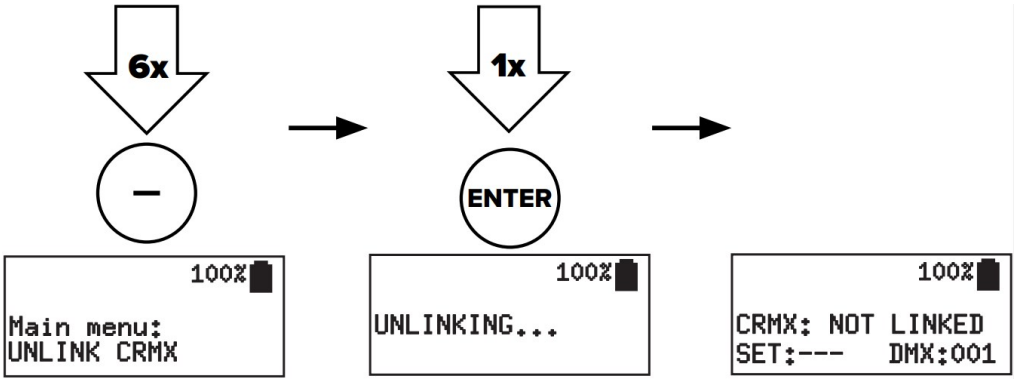
Linking lights to a CRMX transmitter

Once the AsteraBox is in TX mode, you can pair the lights to the CRMX module in the AsteraBox. First make sure that the lights are not connected to another transmitter by unlinking them once: fixtures without display should light up red, lights with display should show “CRMX: not linked” in the display. Then press the green link button once and wait approx. 10s until the linking process is completed. During this process the link LED will blink fast.

Astera lights without display



Astera lights with display



RF Status in transmitter mode

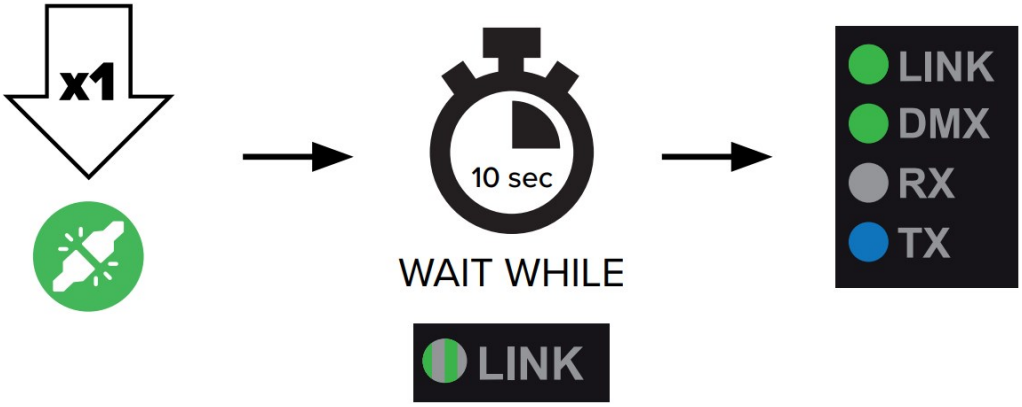
ON: Normal operation
Flashing fast (~3Hz): Linking
Flashing slow (~1Hz): Unlinking

Unlinking lights from CRMX transmitter

To unlink all connected lights from the CRMX transmitter, please press and hold the link button for 3 seconds until the green link LED starts to flash slowly. PLEASE NOTE: this will affect all lights that were currently linked to this transmitter and are in range/ switched on

Use AsteraBox as CRMX Receiver

The AsteraBox can be set to receive CRMX data and output DMX data to lights that are connected to it via the DMX adapter cable. Turn on the AsteraBox and plug in the adapter cable. To work as a receiver the RX LED should be orange. If this is not the case, please see chapter 6 how to change to receiver mode (RX). The link LED lights up as soon as the AsteraBox is linked to atransmitter and the DMX LED lights up as soon as a DMX signal is received from a CRMX transmitter



Unlinking AsteraBox from CRMX transmitter

To unlink the AsteraBox in receiver mode from a CRMX transmitter hold the Link button for 3 seconds. The green Link LED should turn off.

RF Status in receiver mode

ON: Linked with RF signal
Flashing fast (~3Hz): Linking or linked, but with lost RF signal
OFF: Unlinked

INTRODUCTION

The AsteraBox can be connected to a mobile device via Bluetooth or Wi-Fi and thus be used as a BluetoothBridge (BTB) to forward the signals of the AsteraApp to the paired lights via UHF. In addition, with the built-in CRMX module, the AsteraBox can be used as a transmitter or receiver of wireless DMX. For this purpose it is equiped with a 3,5 mm jack as DMX input. With its belt clip and the built-in battery the AsteraBox enables an easy and time-saving setup. It has a built-in microphone on the bottom to trigger the AsteraApp's music-controlled programs. The AsteraBox has an IP20 rating. Do not shake the device. Avoid brute force when installing or operating the device. When choosing the installation spot, please make sure that the device is not exposed to extreme heat or dust. Avoid direct sunlight for a longer period of time. The specified ambient temperature must be maintained. Keep away from direct insulation (particularly in cars) and heaters. Never use the device during thunderstorms connected to the power mains. Overvoltage could destroy the device. Always disconnect the device during thunderstorms. Operate the device only after having become familiarized with its functions. Please consider that unauthorized modifications on the device are not allowed due to safety reasons! If this device will be operated in any way different to the one described in this manual, the product may suffer damages and voids the warranty. The disclaimer includes all damages, liability or injury resulting from failure to follow the instructions in this manual. Furthermore, any other operation may lead to dangers like shortcircuit, burns, electric shock, crash etc. This device is not for household use and is not suitable for permanent installation.

SAFETY INFORMATION

Before you operate this unit read the manual carefully. Always make sure to include the manual if you pass/ rent/

sell the unit to another user. Please use your own caution when operating. This product is for professional use only. It is not for household use.

- Do not operate the unit in areas of high temperature conditions or under direct sunlight. It may cause abnormal behavior or damage the product.
- Only authorized personal may service the battery.
- Always follow local safety requirements.
- Do not place in fire or heat.
- Do not use or charge the unit if it is damaged.
- Avoid bumping or plunging, it may cause fire or explosion.
- Never store the battery when fully drained. Always recharge immediately when empty. Please do not charge unattended.
- Make sure to fully charge all units before storing them.
- Partially charged batteries will lose capacity.
- Fully recharge every 2 months if not used.
- The battery may only be replaced with an original spare part from Astera.
- It is recommended to charge at a temperature between 15°C and 35°C.

 **Warning:** In extreme cases, abuse or misuse of standard/ rechargeable batteries can lead to:

- Explosion
- Fire development
- Heat generation or smoke and gas development
- Do not open the product housing.
- Do not apply power if the unit is damaged.
- Do not submerge the unit into any liquid.
- Keep all liquids far away from the product.
- Caution, risk of electric shock.

Warning: risk of electric shock – Do not open device.

- Do not cover the device.
- Allow all units to cool before touching.

CLEANING AND MAINTAINING

Caution: Liquids entering the housing of the device can cause a short circuit and damage the electronics. Do not use any cleaning agents or solvents. Only clean using a soft damp cloth.

 **DISPOSAL**

- The unit contains a lithium ion battery.
- Don‘t throw the unit into the garbage at the end of its lifetime.

- Make sure that disposal is carried out in accordance with local ordinances and/or regulations to prevent pollution of the environment!
- The packaging is recyclable and can be disposed.

MANUFACTURER DECLARATION

Hereby, Astera LED Technology GmbH declares that the type of transceiver AsteraBox complies with directive 2014/35 / EU. The full text of the EU Declaration of Conformity is available at the following Internet address: **www.astera-led.com/asterabox/** Astera LED Technology GmbH declares that 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 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 deter-mined 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.

FCC Caution:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user‘s authority to operate this equipment.

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.

FCC RF Radiation Exposure Statement Caution:
To maintain compliance with the FCC’s RF exposure guidelines, the distance between ART7-WIFI and nearby persons must be at least 20cm

SPECIFICATIONS – TECHNICAL DATA

Order Code	ART7-Wifi
DC Input	5 VDC / 1.5 A
Battery Voltage	3.7 V
Charging Time (nominal)	8h
Battery Runtime	72 h (App)8-10 h (CRMX)
Ports	Micro-USB for charging 3.5mm jack for DMX input
Wireless Frequencies	UHF, CRMX, Bluetooth, WiFi
Range	CRMX: up to 300 m / 547 yrd UHF: up to 300 m / 328 yrd Bluetooth: up to 3 m / 3.3 yrd
Microphone	Built-in
Housing Material	Aluminium
IP Rating	IP 20
Ambient Temperature	0 – 40 °C / 32 – 104 °F
Weight	0.23 kg / 0.51 lbs
Dimensions	144 mm x 78 mm x 30 mm /5.7” x 3.1” x 1.2”

RF CHARACTERISTICS

Wireless Modules	Modulation	(T ERPransmitter)	Channel Count
EU: UHF***(863-870MHz)	FHSS	<25mW	47
USA: UHF (917-922.20MHz)	FHSS	<25mW	53
AUS: UHF (922.30-927.50MHz)	FHSS	<25mW	53
SGP: UHF (920.50-924.50MHz)	FHSS	<25mW	41
KOR: UHF (917.9-921.5MHz)	FHSS	<25mW	10
RUS: UHF (868.75-869.12MHz)	FHSS	<25mW	6
JPN: UHF (922.80-926.40MHz)	FHSS	<25mW	19
CRMX (2402-2480MHz)	FHSS	<100mW	79
Bluetooth 5.0 LE (2402-2480MHz)	FHSS	<10mW (BLE)	40
WiFi (2412-2472MHz)	DSSS, OFDM	<100mW	13

General allocation of frequencies for use by short-range radio applications Spectrum usage regulations:

Frequency range in MHz1)	Maximum equi- valent radiant power (ERP)	Additional parameters / frequency access and interference mitigation techniques
865 – 868	25 mW	Requirements for frequency access and mitigation techniques3)Alternatively, a maximum duty cycle2) of 1% can be used.
868,0 -868,6	25 mW	Requirements for frequency access and mitigation techniques3)Alternatively, a maximum duty cycle2) of 1% can be used.
868,7 -869,2	25 mW	Requirements for frequency access and mitigation techniques3)Alternatively, a maximum duty cycle2) of 0.1% can be used.
869,40 -869,65	500 mW	Requirements for frequency access and mitigation techniques3)Alternatively, a maximum duty cycle2) of 10% can be used.
869,7 –870,0	25 mW	Requirements for frequency access and mitigation techniques3)Alternatively, a maximum duty cycle2) of 1% can be used.

1. The use of adjacent frequency bands within this table as a single fre- quency band is permitted, provided that the specific conditions for each of these adjacent frequency bands are met.
2. „duty cycle“ means the ratio of Σ(Ton)/(Tobs) expressed as a percentage, where ‚Ton‘ is the ‚on-time‘ of a single transmitting device and ‚Tobs‘ is the observation period Ton is measured in an observation frequency band (Fobs). Unless otherwise specified in this general allocation, Tobs is a conti- nuous period of one hour and Fobs is the applicable frequency band in this general allocation (table).
3. Frequency access and interference mitigation techniques shall be used whose performance level at least meets the essential requirements of Directive 2014/53/EU or the Radio Equipment Act (FuAG). Where relevant techniques are described in harmonised standards, the references of which have been published in the Official Journal of the European Union pursuant to Directive 2014/53/EU, or parts thereof, performance shall be ensured which is at least equivalent to those techniques.

Documents / Resources

	ASTERA ART7-WIFI Transmitter Box [pdf] User Manual ART7-WIFI, ART7WIFI, X55ART7-WIFI, X55ART7WIFI, ART7-WIFI Transmitter Box, Transmitter Box

References

- Commercial Lighting and Lighting Controls | Current - GLI Brands
- Wireless LED Lighting Film & Event by Astera
- Transmitter box by Astera
- Transmitter box by Astera