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AVTech T2ULIP Wireless DMX TRX Extreme Quality Control

# AVTech T2ULIP Wireless DMX TRX Extreme Quality Control User Manual

**Contents**

**AVTECH**

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## Product Information

### Specifications

- **Mechanical Specification:** 62.5000 x 55.0000 x 106.0000 mm
- **Weight:** 257.3000 grams

### Technical Specifications

The product is a Wireless DMX TRX with a user-friendly interface providing detailed information for system setup and operation.

### User Interface

The interface displays signal strength, transmission mode, power status, and data reception indicators to facilitate proper system configuration and monitoring.

### Product Overview

- POWER IN
- DMX IN
- DMX OUT
- POWER OUT
- Holes for Wall Mounting

### Wireless DMX in a Nutshell

Wireless DMX enables point-to-point, point-to-multipoint, and multipoint-to-multipoint operations with a fixed latency of 5 ms, replacing traditional cabling setups.

## Product Usage Instructions

### Operation

**To establish a link:**

1. Press the green function button on the transmitter momentarily until the LINK LED starts flashing.

**Individual Unlink**

Press and hold the green function button on each receiver you wish to unlink for at least 3 seconds. The LINK LED will turn off.

**Group Unlink**

Press and hold the green function button on the transmitter for at least 3 seconds to unlink all currently powered receivers linked to it.

**Linking Multiple Transmitters with Multiple Receivers**

1. Repeat the individual linking process but turn off the receivers you do not wish to pair up.
2. Pair transmitters to receivers as needed without affecting previously paired devices.

## FAQ

**Q: Can the product be used outdoors?**

**A:** The product is recommended for indoor use only unless explicitly stated otherwise.

**Q: What is the purpose of the red function button?**

**A:** The red function button is used for specific operations like rapid linking and data synchronization. Refer to the user manual for detailed instructions.

## Safety information

1. Please read these instructions and safety instructions carefully before using this product.
2. Keep these instructions for future reference.
3. Never plug the product into the mains supply while it is still in its packaging. Never cover during use.
4. Only use indoors and in dry spaces, except where otherwise explicitly stated.
5. Verify that the product has not been damaged in transport before you make use of it.
6. Keep the product out of the reach of animals, children, and persons who require supervision.
7. This product is intended for professional use only.
8. Always place the product on a stable, solid, and flat base or safely secure it.
9. Do not use the product near hot surfaces or objects.
10. The main cable must be regularly and carefully checked for damage to the cable, the plug, and other parts. In the event of damage, the product must not be used until the main cable has been replaced.
    - If the product needs to be cleaned, the adapter or main cable must be disconnected from the main supply.
11. Repairs must only be carried out by a qualified person.
12. Note that the connected voltage and current correspond to the sticker on the product.
13. Never submerge the product or the mains cable in water or any other liquid, to prevent electric shocks, fire,

injury, and other hazards.

14. Never carry the product by the cables and do not put the cord around sharp edges.

## Specification

**Mechanical Specification**
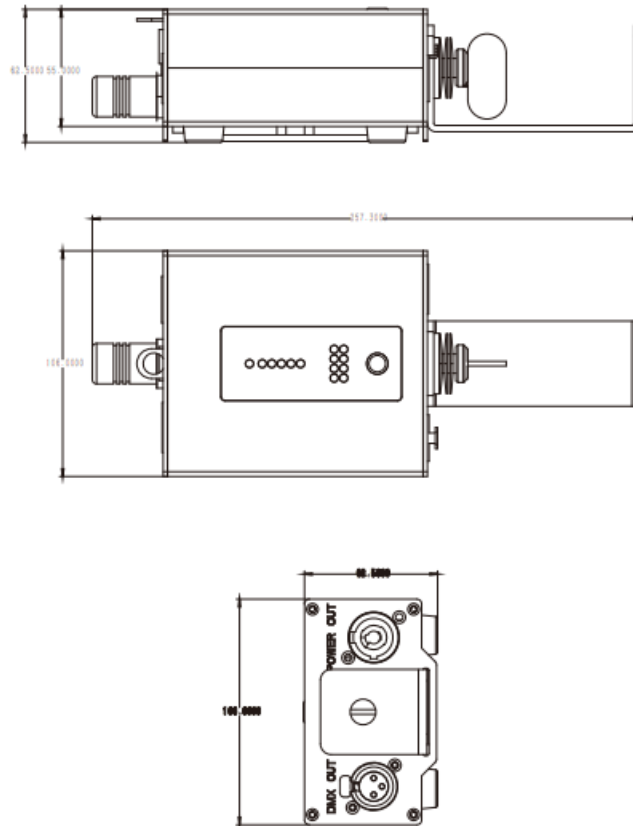


**Technical specifications**

- **DMX latency:** < 5 ms
- **Max.Universes** in coexistence: 32
- **Input/Output** opto isolation
- **Error correction** (Invisi-Wire)
- **W-DMX** G3 & G4S compatibility:2.4 GHz,& 5.8 GHz
- **Standard range:** Up to 400 meters (line of sight)
- **Normal Power** Mode 2.4 GHz: 100mW
- **Maximum Power** Mode 2.4 GHz: Up to 450mW
- **DMX Connectors:3/5** pin input and output
- **AC Input**: European plug with Powercon 3-pole,2.5mm 100 – 250VAC & 50/60 Hz (0.35A
- **@ 115VAC –** 0.2A @ 240VAC)
- **Supplied Accessories:** 2dBi, black, omi-directional antenna
- **Net Weight:0.8** KG
- **Gross Weight:** 1.5 KG
- **Packed Dimensions:** L160 x W 110 x H 65 mm
- **Installation:** 1. Metal panel for mounting on the wall
- **2Omega wit**h fast lock

- **3M10 hole**s for C clamp
- **4. Self-test belt** for fix any column
- **Temperature Range:**;-20 °C-45°C
- **IP Rating:** IP20

## User Interface

Though the interface display appears simple, there is a lot of information you can read back, which will help you properly set up your system and help you understand how your devices are operating.
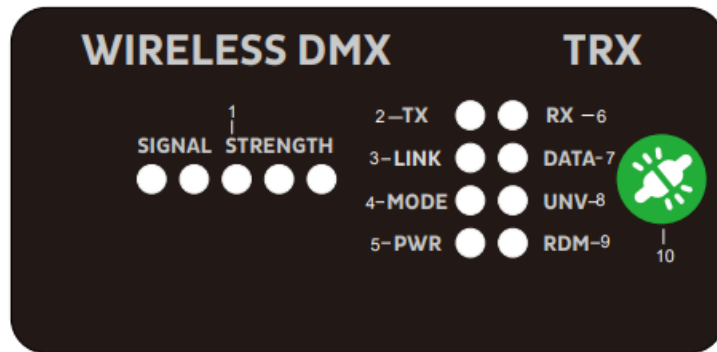


1. SIGNAL STRENGTH On a receiver; indicates the received signal quality. On a transmitter; indicates the configured output power.
2. TX Device is operating as a transmitter.
3. LINK On a transmitter; states it's ready to establish a link.
   - **On a receiver**
   - **Off:** not linked to any transmitter
   - **On:** active link from a transmitter
   - **Blinking:** Linked to a transmitter but the link is lost [either the transmitter is out of range or turned off].
4. **MODE** Indicates the radio mode.
5. **PWR** States the power condition of the device.
6. **RX** Device is operating as a receiver.
7. **DATA**
   - **Off:** No data
   - **Green:** DMX data
     **Red:** RDM activity
8. UNV
9. RDM Flashes when there is RDM traffic activity.
10. Function button

## Product Overview
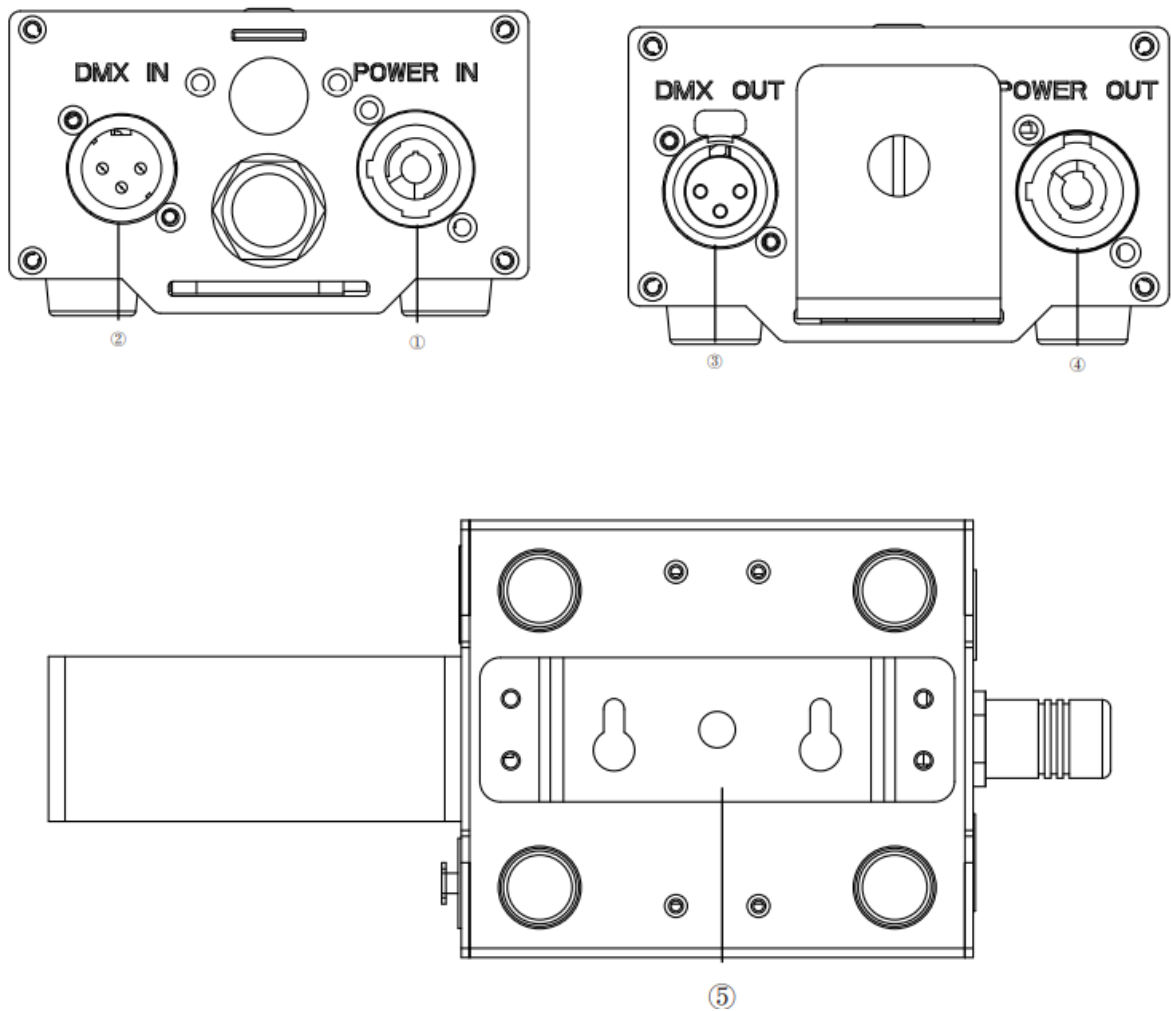
1. POWER IN
2. DMX IN
3. DMX OUT
4. POWER OUT
5. Holes for Wall Mounting

## Wireless DMX in a nutshell

Wireless DMX can be used in many different setups, may it be one single universe being transmitted from one point over a distance to one receiver. This is what is called point-to-point, and is a common scenario when shooting wireless DMX over a distance where cable is not possible. The cable is simply replaced with a wireless cable with a fixed latency of 5 ms.
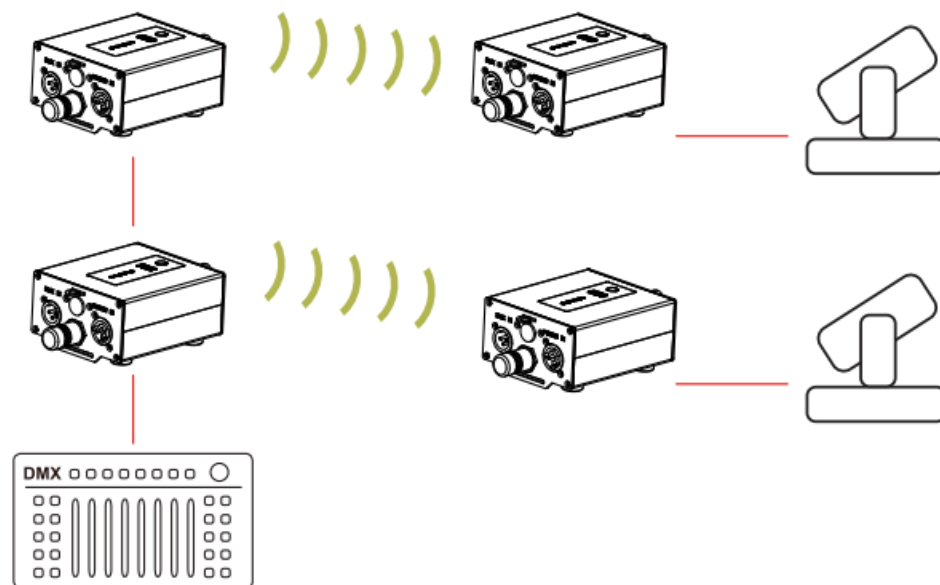
**Point-to-point operation:**
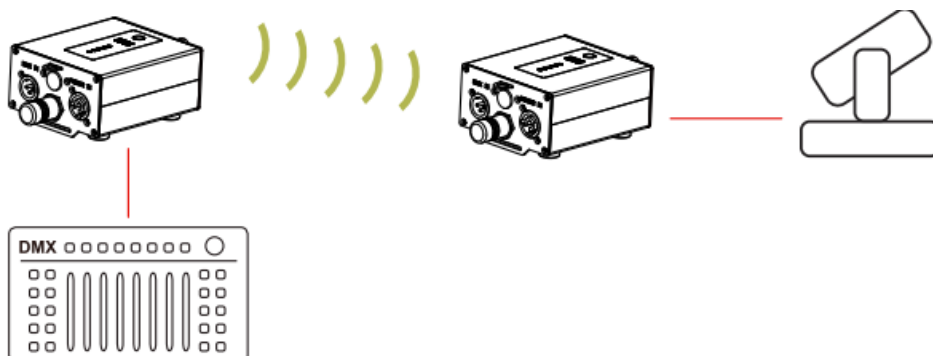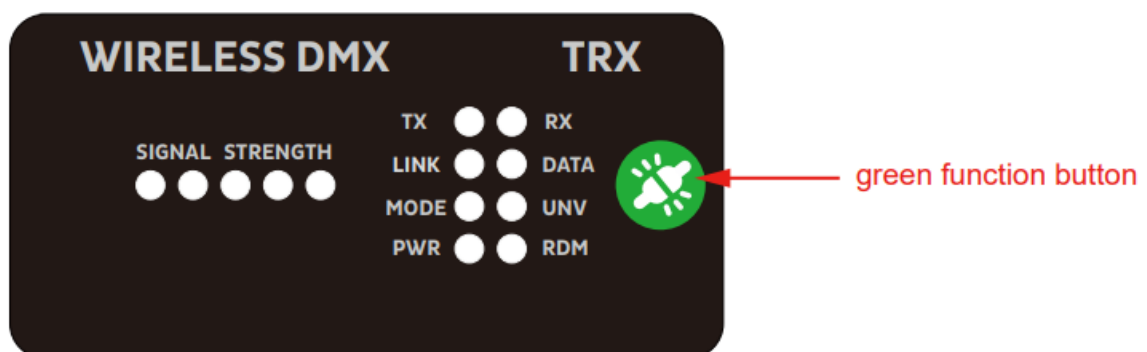
**Point-to-multipoint operation:**
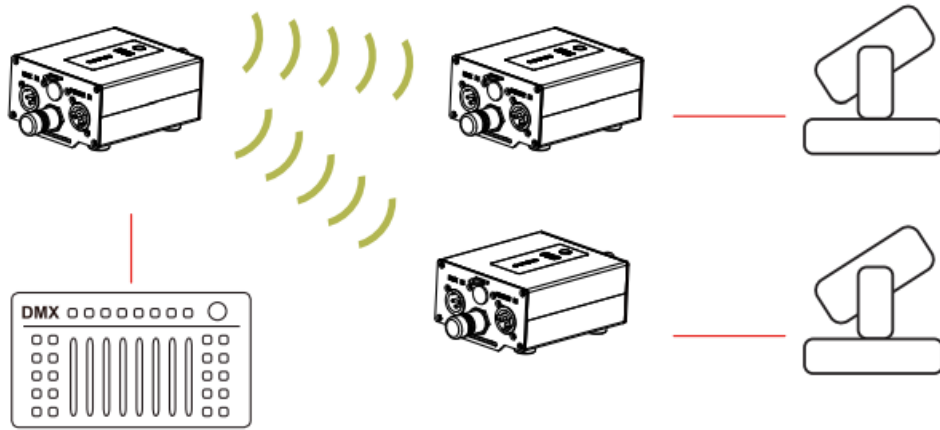


**Multipoint-to-multipoint operation:**



## Operation

1. **Basic setup – Linking devices**
   - A basic setup is defined by the link between two devices. This means that, to send data from a transmitter to a receiver, it's necessary to link the devices:
   - Press the green function button, on the transmitter momentarily and the LINK LED starts flashing.



   - **NOTE:** All available (currently unlinked) receivers, as long as they are turned on and compatible with the transmitter's radio mode, will pair with this transmitter.
   - The LINK LED of each receiver will flash for 5 seconds, and then stay static once linked up.
   - There is no limit to the number of receivers that can link up with a transmitter – there can be an infinite

number of receivers all paired with a single transmitter.

2. **Unlinking devices**
   - There are two ways to unlink devices – individual unlink, or group unlink:
   - **Individual unlink:**
   - Press and hold the green function button, on each receiver that you wish to unlink, for at least 3 seconds. The LINK LED will turn off.
   - **Group unlink:**
   - Press and hold the green function button on the transmitter for at least 3 seconds. This will unlink all currently powered receivers that are linked to this transmitter.

3. **Linking multiple transmitters with multiple receivers**
   - When multiple receivers need to be linked up with different transmitters, repeat the process in 6.1., but turn off all receivers you do not wish to pair up.
   - **For example:**
   - If you have 2 transmitters and 10 receivers, pair the first transmitter to 5 receivers, while the last five are turned off.
   - After that, turn the last five receivers, and pair them to the second transmitter.
   - **NOTE:** This will not affect any receiver that has already been paired up.

4. **Switching FLEX mode**
   - All units identified as a transceiver can be changed between transmitter or receiver
   - the units capable of operating in both modes are listed in Chapter 2.
   - FLEX mode determines if the unit is used in transmit mode (TX) or receive mode (RX):
   - Press the red function button rapidly 5 times.
   - Press and hold the red function button for at least 3 seconds.
   - The LINK and DATA LEDs will flash alternating.
   - Each time you press the red function button you will step through the available modes, this will be indicated by a flashing RX or TX LED.
   - Press and hold the red function button.

## Compatibility

- There have been two major wireless DMX systems on the market for a while – CRMX® and W-DMXTM.
- They have historically not been fully compatible due to different technologies being used. However, CRMX receivers have been able to receive the W-DMX G3 protocol.
- However, your new CRMX Aurora or CRMX Luna can be operated in different modes when in transmitter mode;

1. **CRMX** – transmit CRMX data to compatible receivers.
2. **W-DMX** G3 – transmit W-DMX G3 protocol.
3. **W-DMX** G4S – transmit W-DMX G4S protocol.

- For W-DMX receivers, please use the W-DMX G3 mode for maximum compatibility.
- **Note:** This mode can also be used with CRMX receivers, but security and DMX fidelity are not as good as when running CRMX mode.

| Mode | CRMX receivers | Older CRMX receivers | W-DMX receivers |
|---|---|---|---|
| **CRMX** | Yes | Yes | No |
| **W-DMX G3** | Yes | Yes | Yes |
| **W-DMX G4S** | Yes | No | Yes |

When operated as receivers, CRMX Aurora and CRMX Luna will automatically detect and link using the protocol used by the transmitter at the time of linking.

**Linking key**

**What is Linking Key**

- The Linking Key is a user-defined 8-digit key code. It can be used as a password to the link credentials of a CRMX link.
- It can be used to tell two (or more) different transmitters to set up identical links.
- This is what we call cloned transmitters.
- It can also be used to link a receiver to a transmitter that has an active link using the same linking key.
- This allows for easy addition of a receiver to a network where the transmitter might be inaccessible for instance, without the need to initiate a linking process from the transmitter.

**Cloning transmitters**

- By cloning transmitters, by entering the same Linking Key into both transmitters, you can place them at separate physical locations and move receives between the locations without the need to relink.
- **Note:** The transmitters must be separated, otherwise receivers may end up creating a link with any of the transmitters, which may lead to undefined behavior.

**Linking an RX by Linking Key**

- In receivers that support it, it is possible to enter the linking key of the transmitter to join that network without the need to perform a linking procedure from the transmitter.
- Enter the same Linking Key into the receiver as you have entered into the transmitter and the receiver will automatically link to the transmitter when it is within range.

**Tips & tricks**

There are limitations to how wireless waves propagate through air. Physical barriers like glass, concrete, and walls will limit the transmission range. Always try to have a clear line of sight between transmitters and receivers.

700m

400m

100m(concrete)
300m(dry-wall)
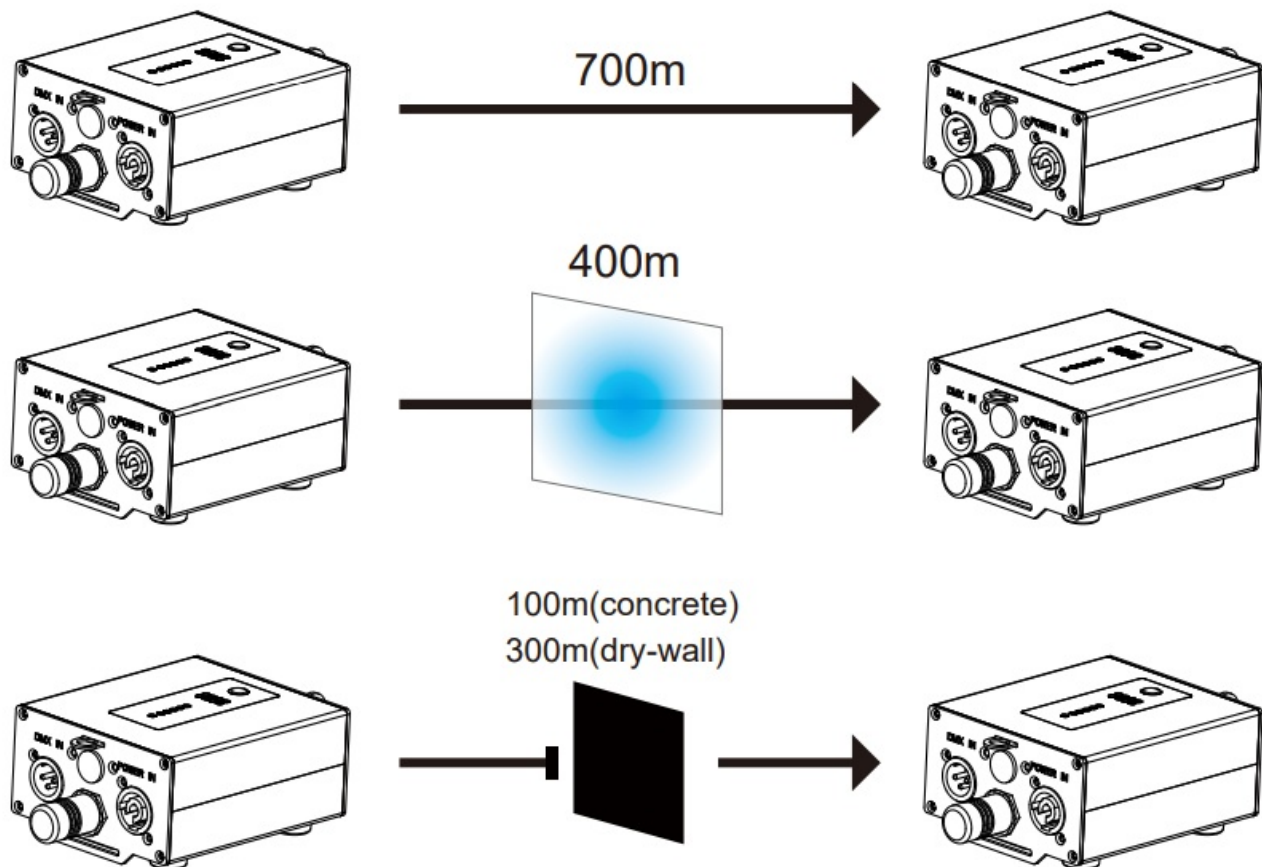
**Safety information**

- This device is suitable for indoor use only.
- All modifications to the device will void the warranty.
- Repairs are to be carried out by skilled personnel only.
- Use only fuses of the same type and original parts as spare parts.
- Protect the unit from rain and humidity to avoid fire and electric shocks.
- Make sure to unplug the power supply before opening the housing.

**FOR SAFE AND EFFICIENT OPERATION**

- Be careful with heat and extreme temperature
- Avoid exposing it to direct rays of the sun or near a heating appliance.
- Not put it in a temperature below 32°F /0°C, or exceeding 131°F /55°C.
- Keep away from humidity, water, and dust
- Do not place the set in a location with high humidity or lots of dust.
- Containers with water should not be placed on the set.
- Keep away from sources of hum and noise
- Such as transformer motor, tuner, TV set, and amplifier.
- To avoid placing in an unstable location
- Select a level and stable location to avoid vibration.
- Do not use chemicals or volatile liquids for cleaning
- Use a clean dry cloth to wipe off the dust, or a wet soft cloth for stubborn dirt.
- If out of work, contact the sales agency immediately

- If any troubles arise, remove the power plug soon, and contact an engineer for repair, do not open the cabinet by yourself, it might result a danger of electric shock.

**Take care with the power cable**

- Never pull the power cable to remove the plug from the receptacle, be sure to hold the plug. When not using the device for an extended period, be sure to disconnect the plug from the receptacle.
  **Important:** Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems.
- Make sure the electrical connection is carried out by qualified personnel. All electrical and mechanical connections have to be carried out according to the European safety standards.

## Documents / Resources

| | |
|---|---|
| T2ULIP <br> USER MANUAL | **AVTech T2ULIP Wireless DMX TRX Extreme Quality Control** [pdf] User Manual <br> T2ULIP Wireless DMX TRX Extreme Quality Control, Wireless DMX TRX Extreme Quality Control, TRX Extreme Quality Control, Extreme Quality Control, Quality Control, Control |

## References

- **User Manual**