

AIRCOM 126

126 Channel Wireless DMX Unit



USER MANUAL

Please read this manual carefully and proper take care of this manual.

TABLE OF CONTENTS

1. 1. INTRODUCTION	6
1.1. Unpacking.....	6
1.2. Accessories.....	7
2. FRONT & REAR PANEL.....	7
2.1. ID code and LED Color Correspondence	8
3. MAINS CONNECTIONS	8
4. OPERATING INSTRUCTIONS	8
4.1. ID Setting	8
4.2. Working condition.....	8
4.3. Establishing Communication.....	9
5. DMX CONNECTION.....	10
5.1. Building a Serial DMX Chain.....	10
5.2. DMX Terminator	11
5.3. 3-Pin vs 5-Pin DMX cables	11
6. SPECIFICATIONS	12
7. WARRANTY AND SERVICE	13
8. WARNING.....	13
9. DECLARATION OF CONFORMITY	14

IMPORTANT SAFETY SYMBOLS



The symbol is used to indicate that some hazardous live terminals are involved within this apparatus, even under the normal operating conditions, which may be sufficient to constitute the risk of electric shock or death.



The symbol is used in the service documentation to indicate that specific component shall be replaced only by the component specified in that documentation for safety reasons.



Protective grounding terminal



Alternating current/voltage



Hazardous live terminal

ON

Denotes the apparatus is turned on

OFF

Denotes the apparatus is turned off

WARNING:

Describes precautions that should be observed to prevent the danger of injury or death to the operator.

CAUTION:

Describes precautions that should be observed to prevent danger of the apparatus.

TAKING CARE OF YOUR PRODUCT

- ▶ Read these instructions
- ▶ Keep these instructions
- ▶ Heed all warning
- ▶ Follow all instructions

WATER / MOISTURE

The apparatus should be protected from moisture and rain and can not be used near water; for example near a bathtub, a kitchen sink, a swimming pool, etc.

HEAT

The apparatus should be located away from heat sources such as radiators, stoves or other appliances that produce heat.

VENTILATION

Do not block areas of ventilation opening. Failure to do could result in fire. Always

install according to the manufacturer's instructions.

OBJECT AND LIQUID ENTRY

Objects do not fall into and liquids are not spilled into the inside of the apparatus for safety.

POWER CORD AND PLUG

Protect power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two poles; a grounding-type plug has two poles and a third grounding terminal. The third prong is provided for your safety. If the provided plug does not fit into your outlet, refer to an electrician for replacement.

POWER SUPPLY

In case of external power supply, the apparatus should be connected to the power supply only of the type as marked on the apparatus or described in the manual. Failure to do could result in damage to the product and possibly the user. Unplug this apparatus during lightning storms or when unused for long periods of time.

FUSE

To prevent the risk of fire and damaging the unit, please use only of the recommended fuse type as described in the manual. Before replacing the fuse, make sure the unit turned off and disconnected from the AC outlet.

ELECTRICAL CONNECTION

Always disconnect from the power source before servicing or replacing fuse and be sure to replace with same fuse size and type. Cut off power before moving, repairing and cleaning the unit. Improper electrical wiring may invalidate the product warranty.

To avoid electric shock, all fixtures must be connected to circuits with a suitable ground. Do not power on and power off the fixture in a short time.

DMX CONNECTION

When use DMX controller, please make sure that there is no interference sources (e.g. intercom, high frequency radio waves and radiation source).

CLEANING

Clean only with a dry cloth. Do not use any solvents such as benzene or alcohol.

SERVICING

Do not implement any servicing other than those means described in the manual. Refer all servicing to qualified service personnel only. Only use accessories/attachments or parts recommended by the manufacturer.

I. INTRODUCTION

Thank you for purchasing our AIRCOM 126. You now own a professional 126 Channel Wireless DMX interface with following features:

- ▶ Both Transmitting and Receiving operation within same unit
- ▶ One transmitter can manage more receivers at the same time
- ▶ 7 groups ID code set table, User can use 7 groups individual wireless net without any interfere each other in the same place
- ▶ Each net contains 512 DMX channels
- ▶ 126 channels jumping frequency (7 groups x 18 channel frequencies) to avoid interferences.
- ▶ High anti-jamming ability to ensure working reliability.
- ▶ Work frequency range: 2.4 GHz ISM band (no license needed)
- ▶ Communication distance: 300 m
- ▶ Tricolor LED displaying for easy setup
- ▶ High quality power supply stage for maximum stability at wider range voltage input

The Aircom 126 transmits and receives standard DMX 512 protocol data by wireless way, which solve lighting control issues of wireless communication between lighting controllers and fixtures. It gets rid of relying on connecting cables completely, and also can ensure without any time delay when signal data is real time and reliable. It adopts global free 2.4GHz ISM frequency band and high effective GFSK modulation. Communication design is in 126 channels jumping frequency with high anti-jamming ability.

The product is therefore applied in many contexts, such as stage lighting disco hall, gymnasium lighting, portable stage performance, conference centers, theme parks, bar lighting, and so on. In short, a really useful tool to solve DMX connection problems quickly.


This user manual is made to provide both an overview of controls, as well as information on how to use them. In order to help you to understand the connections between the various controls, we have gathered in groups according to their functions.

I.I. Unpacking

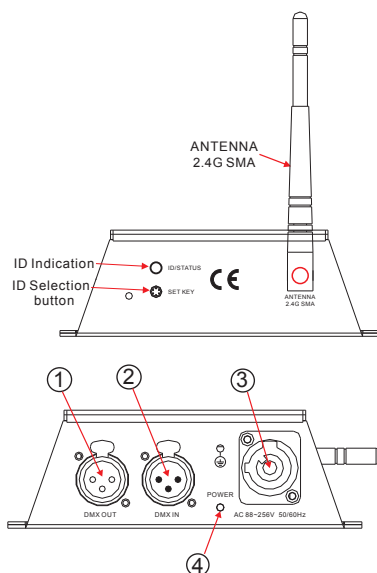
Your AIRCOM 126 was carefully packed to ensure safe transport. Despite this, we recommend you to carefully examine the package and its contents for any signs of physical damage, which can occur during transport. It is composed by following parts:

- ▶ 1x DMX Wireless box
- ▶ 1x Power cable
- ▶ 1x SMA antenna

► This User manual

 **ATTENTION: Packaging bag is not a toy! Keep out of reach of children!!! Keep in a safe place the original packaging material for future use.**

2. FRONT & REAR PANEL



1. **DMX Out:** This connector sends your DMX data to fixtures or other DMX devices.
2. **DMX In:** This connector accepts your DMX input signals.
3. **AC POWER INPUT:** Powercon® connector that accepts AC 88~256V - 50/60Hz.
4. **POWER LED:** Power On indicator.

2.1. ID code and LED Color Correspondence


DMX data communication occurs only if transmitter and receiver are both under same ID code. Each ID has a different assigned color as shown in next table.

ID	COLOR
1	Red
2	Green
3	Red + Green = Yellow
4	Blue
5	Red + Blue = Purple
6	Green + Blue = Cyan
7	Red + Green + Blue = White

 **NOTE (*): It is highly recommended to connect this terminal to main electrical earth for security reasons. Always pay attention to safety!**

3. MAINS CONNECTIONS

Connect the device to the mains with the supplied power-plug. Wires correspondence is as follow:

Cable	Pin	International
Brown	Live	L
Blue	Neutral	N
Yellow/Green	Earth	

 **Earth must be connected! Pay attention to safety! Before taking into operation for the first time, the installation has to be approved by an expert.**

4. OPERATING INSTRUCTIONS

4.1. ID Setting

- ▶ Press ID Selection button 1 time to indicate current ID setting
- ▶ Press it again to set ID
- ▶ Then press repeatedly to increase the ID value of 1 each time

4.2. Working condition

- ▶ LED constant lit up: NO DMX or wireless signal

AIRCOM 126 USER MANUAL

- ▶ Green LED flash: Receiving DMX Data
- ▶ Red LED flash: Transmitting DMX Data
- ▶ RF frequency: 2.400-2.4835 GHz with automatic searching
- ▶ ID Code "1-7" groups: Each group can contain up to 512 DMX channels.
- ▶ Communication between transmitter and receiver is on only under same ID code set on both units.

4.3. Establishing Communication

ONE TRANSMITTER + ONE RECEIVER

In order to operate, we assume the use of two AIRCOM 126 units. They are completely interchangeable, meaning that what determines transmitting or receiving function is simply the DMX connector used. The unit to which the DMX output of a control unit or other controller is connected to the DMX input of the AIRCOM 126 will work as a transmitter; the one to which a moving head or other fixture DMX input is connected to the AIRCOM 126 DMX out will work as a receiver.

Below are the steps to set up the system.

- ▶ Connect two AIRCOM 126 to mains using the supplied power cables. POWER LED will light on both units..
- ▶ Press ID Selection button to set same ID value on transmitter and receiver (see "2.1. ID code and LED Color Correspondence" at page 8).



NOTE: please use different ID values if you need to use more than 1 group wireless network at same time in same place.

- ▶ ID indication LED gets red and flashes when transmitter transmits DMX data by no interfered frequency channel, then receiver changes communicated frequency section. Green LED flash till received corrected same ID value, LED flash more fast once DMX data more fast.
- ▶ If same ID value is set on both devices and there are no interferences, LED on receiver turns green and flashes. The faster DMX data are, the faster it flashes

Then communication is established correctly.

ONE TRANSMITTER + MORE RECEIVERS

Please note that a transmitter can handle more than one receiver at the same time. Of course, the two or more receivers must be placed within 300m from the transmitter, and must be set to the same ID. The only limit in this case is that these receivers share the same 512 DMX channels as part of the same network.

This can be useful, for example, if in a venue with two dance floors (let's call the "zones") you want to control these two zones with the same controller. The only advise is that the fixtures in Zone A must use DMX channels other than those used in Zone B.

NOTE: If two transmitters are activated simultaneously on same ID value, although there is no risk of damage to the equipment, it is good to know that only the first activated transmitter will effectively control the devices in the network, and the second will be completely ignored. So we do not recommend to use two or more transmitters on same ID value, as this is absolutely useless.

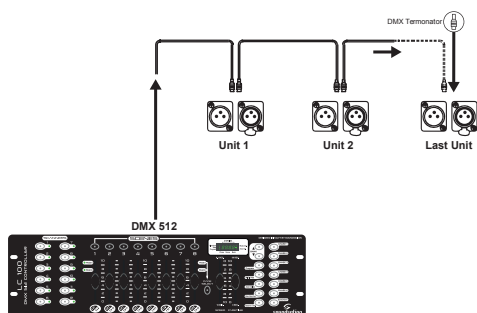
5. DMX CONNECTION

There are 512 channels in a DMX-512 connection. Channels may be assigned in any manner. A fixture capable of receiving DMX 512 will require one or a number of sequential channels. The user must assign a starting address on the fixture that indicates the first channel reserved in the controller. There are many different types of DMX controllable fixtures and they all may vary in the total number of channels required.

Choosing a start address should be planned in advance. Channels should never overlap. If they do, this will result in erratic operation of the fixtures whose starting address is set incorrectly. You can however, control multiple fixtures of the same type using the same starting address as long as the intended result is that of unison movement or operation. In other words, the fixtures will be slaved together and all respond exactly the same.

5.1. Building a Serial DMX Chain

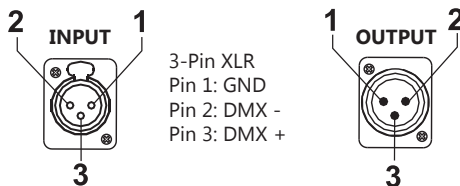
DMX fixtures are designed to receive data through a serial Daisy Chain. A Daisy Chain connection is where the DATA OUT of one fixture connects to the DATA IN of the next fixture. The order in which the fixtures are connected is not important and has no effect on how a controller communicates to each fixture. Use an order that provides for the easiest and most direct cabling.



AIRCOM 126 USER MANUAL

Connect fixtures using shielded 2-conductor twisted pair cable with 3-pin XLR male to female connectors. The shield connection is pin 1, while pin 2 is Data Negative (S-), and pin 3 is Data positive (S+).

DMX use of 3-Pin XLR Connectors



CAUTION: Wires must not come into contact with each other; otherwise the fixtures will not work at all, or will not work properly.

5.2. DMX Terminator

DMX is a resilient communication protocol, however errors still occasionally occur. In order to prevent electrical noise from disturbing and corrupting the DMX control signals, a good habit is to connect DMX output of last fixture in the chain to a DMX terminator, especially over long signal cable runs.

The DMX terminator is simply an XLR connector with a 120Ω (ohm), 1/4 Watt resistor connected across Signal (-) and Signal (+), respectively, pins 2 and 3, which is then plugged into the output socket on last projector in the chain. The connections are illustrated below.

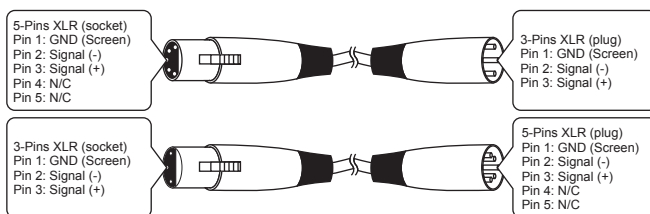
DMX Terminator



5.3. 3-Pin vs 5-Pin DMX cables

DMX connection protocols used by controllers and fixtures manufacturers are not standardized around the world. However, two are the most common standards: 5-Pin XLR and 3-Pin XLR system. If you wish to connect SCENESPLIT 6 TRUSS to a 5-Pin XLR input fixture, you need to use an adapter-cable or make it by yourself.

Following the wiring correspondence between 3-Pin and 5-Pin plug and socket standards



6. SPECIFICATIONS

Frequency Band	2.4GHz ISM
Modulation Type	GFSK Modulation
Frequency range	24,000 ~ 24,835 GHz
Channel Frequencies	126 jumping frequencies
Communication Distance	300 m
Receiver Sensibility	-106 dBm
Transmission Power	20 DBM
Antenna	100 mm helical SMA antenna
Protocols	DMX512
Number of DMX Channels	512 Channels in each ID
Power Input	AC88 ~ 256 Vac - 50/60 Hz.
Data Input/Outputs	3-pin XLR male (In) female (out) sockets
Data Pin Configuration	Pin 1 shield, Pin 2 (-), Pin 3 (+)
Unit Size (WxHxD):	150x50x76 mm
Unit Net Weight	0.27 kg
Packing Size (WxHxD):	175x87x98 mm
Packing Gross Weight:	0.5 kg

9. DECLARATION OF CONFORMITY



Importazione e Distribuzione Strumenti Musicali e Accessori

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TO: whom it may concern

EU DECLARATION OF CONFORMITY

We, FRENEXPORT SPA,
of Via Enzo Ferrari, 10 – 62017 Porto Recanati (MC) Italy

Declare under our sole responsibility that following products:

Description: Wireless DMX512 Transceiver

conform to the essential requirements of:

- Directive on the general safety of product 2001/95/EU
- European Low Voltage Directive 2014/35/EU
- European EMC Directive 2014/30/EU
- European Radio Equipment Directive (RED) 2014/53/EU

comply with the following standards:

- EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013
- ETSI EN 301 489-1 V1.9.2 (2011-09)
- ETSI EN 301 489-17 V2.2.1 (2012-09)
- ETSI EN 300 328-1 V1.8.1 (2012-06)

conform to RoHS directive 2011/65/EC
and related amendments.

Porto Recanati, 08/08/2017

Position: _____