Hereby, ALINCO,INC. declares that the radio equipment type DJ-PAX4 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: http://www.alinco.com/Ce/

# Manufacture: **ALINCO, INC.**

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## **ALINCO**

DJ-PAX4

## **Quick Guide**

Thank you for purchasing your new Alinco transceiver. Please read this manual carefully before using the product to ensure full performance, and keep this manual for future reference as it contains information on after-sales service. In case addendum or errata sheets are included with this product, please read those materials and keep them together with this Quick Guide for future reference.

#### Introduction

Thank you very much for purchasing this excellent Alinco transceiver. Our products are ranked among the finest in the world. This radio has been manufactured with state of the art technology and it has been tested carefully at our factory. It is designed to operate to your satisfaction for many years under normal use.

Please read this Guide completely from the first page to the last, to learn all the functions the product offers. It is important to note that some of the operations may be explained in relation to information in previous chapters. By reading just one part of the Guide, you may risk not understanding the complete explanation of the function.

### Before transmitting

There are many radio stations operating in the frequency ranges this product covers. Be careful not to cause interference when transmitting around such radio stations.

#### Lightning

Any person is not safe outdoor during thunderstorm and lightning. This condition is getting worse if somebody keeps a hand-held radio; chances of being hit by lightning are doubled since lightning may hit a radio antenna as well. At this time, there is no hand-held radio having any kind of protection against lightning current (which is higher than 10 kA.). Note also that no car provides adequate protection of its passengers or drivers against lightning as well. Therefore, Alinco will not take responsibility for any danger associated with using its hand-held radios outdoor or inside the car during lightning.

### ■ IP67 Dust and waterproof

About IP67 rating

- Dust tight / No ingress of dust; complete protection against contact. Test duration of up to 8 hours based on air flow using specified powders.
- 7: No water penetration / Submerge the device for 30 minutes at a depth of 1 meter from the fresh water's surface.

The IP67 designation provides for limited dust and fresh water proofing of the radio, antenna and battery pack when integrated, perspecified above. This compatibility is factory guaranteed for a period of one year provided all specified conditions of use are respected, any accessories connected must be specified genuine Alinco accessories and the device has not been disassembled by the consumer. The device is designed to remain operational when used in rain, severe weather or in accidental cases of dropping it in wet place when used in extreme conditions and is in no way stating that you should attempt to use the device under water or submerge the radio for cleaning. Warranty will not cover devices that are damaged due to negligence or misuse of the product. Never remove the small label attached on the rear chassis of this product, or cover it with other materials. This label is essential to adjust an air pressure inside to secure dustlwater proofing. A

**Note:** This model only waterproof when MIC-SP jack cover is tightly closed to body. periodical, professional maintenance is recommended when the ingress protection is very important to you.

### ■ Covering ranges

You may expect a range of approx. 1.5km(1 miles) or more when located on a flat, noise-free place like on a beach. However, it may vary drastically depending on how to wear and carry the radios, surrounding locations/conditions and static noise levels (below or near power transmission lines), etc. In urban areas with many buildings or inside a building, such covering range will become drastically short even to several tens of meters.

#### IMPORTANT NOTICE

#### Programming

The radio is preset and can be used immediately. If you want to change this initial setting, Please use utility software. An optional ERW-22 programming cable is required.

#### ■ RADIO FREQUENCY ENERGY SAFETY INFORMATION

This transceiver generates RF EME while transmitting. RF EME (Radio Frequency Electric and Magnetic Energy) has the potential to cause slight thermal, or heating effects to any part of your body less than the recommended 3cm distance from this radio transmitter's antenna. RF energy exposure is determined primarily by the distance to and the power of the transmitting device. In general, RF exposure is minimized when the lowest possible power is used or transmission time is kept to the minimum required for consistent

communications, and the greatest distance possible from the antenna to the body is maintained. This transceiver has been designed for and is classified for Occupational Use Only.

Never use this product in areas the use of transceiver is prohibited such as abord aircraft and inside medical facilities.

## WARNING

To prevent any hazard during operation of Alinco's radio product, in this manual and on the product you may find symbols shown below. Please read and understand the meanings of these symbols before starting to use the product.

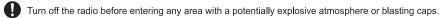
<u> Danger</u>	This symbol is intended to alert the user to an immediate danger that may cause loss of life and property if the user disregards the warning.	
Alert Alert	This symbol is intended to alert the user to a possible hazard that may cause loss of life and property if the user disregards the warning.	
<u> Caution</u>	This symbol is intended to alert the user a possible hazard that may cause loss of property or injure the user if the warning is disregarded.	
<u> </u>	Alert symbol. An explanation is given.	
0	Warning symbol. An explanation is given.	
<b>®</b>	Instruction symbol. An explanation is given.	



## Alert

#### ■ Environment and condition of use

- Use of this product may be prohibited or illegal outside of your country. Be informed in advance when you travel.
- It is recommended that you check local traffic regulations regarding the use of a radio equipment while driving. Some countries prohibit or apply restrictions for the operation of radios and mobile-phones while driving
- Do not use this product in close proximity to other electronic devices, especially medical ones. It may cause interference to those devices.
- Keep the radio out of the reach of children.
- In case a liquid leaks from the product, do not touch it. It may damage your skin. Rinse with plenty of cold water if the liquid contacted your skin.
- Never operate this product in facilities where radio products are prohibited for use such as aboard aircraft, in airports, in ports, within or near the operating area of business wireless stations or their relay stations.
- The manufacturer declines any responsibilities against loss of life and/or a property due to a failure of this product when used to perform important tasks like life-quarding, surveillance, and rescue.
- On not use multiple radios in very close proximity. It may cause interference and/or damage to the product(s).
- Risk of explosion if battery is replaced with an incorrect type. Dispose of, or recycle used batteries according to your local regulations.



Do not operate the radio, disassemble or charge the battery in the potentially flammable and explosive atmosphere(such as gas station, coal gas station, etc.).

The manufacturer declines any responsibilities against loss of life and property due to a failure of this product when used with or as a part of a device made by third parties.

Use of third party accessory may result in damage to this product. It will void our warranty for repair.

#### ■ Handling this product

Be sure to reduce the audio output level to minimum before using an earphone or a headset. Excessive audio may damage hearing.

Do not open the unit without permission or instruction from the manufacturer. Unauthorized modification or repair may result in electric shock, fire and/or malfunction and voids warranty.

Do not operate this product in a wet place such as in a shower room. It may result in electric shock, fire and/or malfunction, This product is splash-proof but not a complete water-proof.

Do not place the product in a container carrying conductive materials, such as water or metal in close proximity. A short-circuit to the product may result in electric shock, fire and/or malfunction.

#### ■ About chargers

Do not use adapters other than having the specified voltage. It may result in electric shock, fire and/or malfunction, Never turn on the radio while charging.

Do not plug multiple devices using an adapter into a single wall outlet. It may result in overheating and/or fire.

Do not handle adapter with a wet hand. It may result in electric shock.



Securely plug the adapter into the wall outlet. Insecure installation may result in short-circuit, electronic shock and/or fire.



Do not use the adapter if the plug or socket contacts are dirty. Overheating and/or short-circuiting may result in fire, electric shock and/or damage to the product.

## ■In case of emergency

In case of the following situation(s), please turn off the product, switch off the source of power, then remove or unplug the power-cord. Please contact your local dealer of this product for service and assistance. Do not use the product until the trouble is resolved. Do not try to troubleshoot the problem by yourself.

- When a strange sound, smoke and/or strange odor comes out of the product.
- When the product is dropped or the case is broken or cracked
- When a liquid penetrated inside.
- When a power cord (including DC cables, AC cables and adapters) is damaged



#### ■ Maintenance



Do not open the unit and its accessories. Please consult with your local dealer of this product for service and assistance



## Caution

#### ■ Environment and condition of use

Do not use the product in proximity to a TV or a radio. It may cause interference or receive interference.

Do not install in a humid, dusty or insufficiently ventilated place. It may result in electric shock, fire and/or malfunction.

Do not install in an unstable or vibrating position. It may result in electric shock, fire and/or malfunction when/ if the product falls to the ground.

Do not install the product in proximity to a source of heat and humidity such as a heater or a stove. Avoid placing the unit in direct sunlight.

Be cautious of a dew formation. Please completely dry the product before use when it happens.

Electronics devices such as solar panels and LED light bulbs may generate high levels of RF noise that may cause an interference. This is not a defect of receiver circuits of our product.

#### ■ About transceiver

Be cautious of the whip antenna when carried in your shirt-pocket etc. It may make contact with your eye and cause injury.

O not connect devices other than specified ones to the jacks and ports on the product. It may result in damage to the devices.

Turn off and remove the power source (AC cable, DC cable, battery, charger adapter etc.) from the product when the product is not in use for extended period of time or in case of maintenance.



Never pull the cord alone when you unplug AC cable form the wall outlet.



Use a clean, dry cloth to wipe off dirt and condensation from the surface of the product. Never use thinner or benzene for cleaning.



Check with your local waste officials for details on recycling or proper disposal of the electronics product, battery-packs and accessories in your area.

## RoHS

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#### STANDARD ACCESSORIES

## (( Standard Accessories

EBP-101 Li-ion battery pack (7.4V,1800mAh)
EDC-219 Rapid charger stand
EDC-221 AC Adapter
EBC-51 Belt Cilp
Quick Guide
Hand Strap

NOTE: Accessories may differ depending on the version you have purchased. Please contact your local dealer for details of standard accessories and the warranty-policy before purchase.

### **BATTERY INFORMATION**



## (( Charging Operation

The battery is not charged at the factory, so please charge it before use.

Charge the battery for the first time after purchase or extended storage (more than 2 months) may not bring the battery to its normal operating capacity. After repeating fully charge/ discharge cycle, the operating capacity will reach the best performance. The battery life is over when its operating time decreases even though it is fully and correctly charged and it must be replace to new one.

## Rattery Charger Type

Please use Alinco's designated charger, other models may cause explosion. After installing the battery pack, if the radio sounds "Low Voltage" prompt, please charge the battery.

## Notice for Charging Battery

- ▼ Do not shortcircuit the charger. Never attempt to remove the casing from the battery, otherwise the warranty is void and you risk serious damage to yourself and properties.
- ▼ The ambient temperature should be between 5°C and 40°C while charging. Charging outside this range may not charge the battery.
- ▼ Always switch OFF the transceiver before charging. Otherwise, it may not charge correctly.
- ▼ To avoid interfering the charging procedure, please do not cut off the power or take out the battery during charging.
- ▼ Do not recharge the battery if it is already fully charged. This may shorten the life of the battery or damage the battery.
- ▼ Do not charge the battery or transceiver when wet. Dry it before charging to avoid danger.

#### BATTERY INFORMATION

#### Caution:

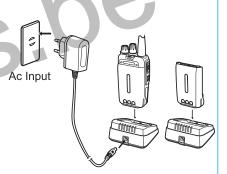
- ▼ Risk of explosion, generation of heat or leak of chemicals inside if the battery is replaced by an incorrect type or reverse polarity. Use always the recommended types of batteries in this manual only.
- ▼ The battery pack isn't fully charged when shipped. It must be charged before use.
- ▼ Charging should be conducted in a temperature range of +5°C to +40°C (+41°F to +104°F).
- ▼ Don't modify, dismantle, incinerate or immerse the battery pack in the water as this can be dangerous.
- ▼ Never short-circuit the battery pack terminals, as this can cause damage to the equipment or lead to heating of the battery which may cause burns.
- ▼ Unnecessary prolonged charging (overcharging) can deteriorate battery performance.
- ▼ The battery pack should be stored in a dry place where temperature is in -10°C to +45°C (-14°F to +113°F) range. Temperatures outside this range can cause the battery liquid to leak. Exposure to prolonged high humidity can cause corrosion of metal components.
- ▼ Battery-packs are a consuming part. When its operating time becomes considerably short after a normal charge, please consider that the pack is exhausted and replace it with a new one.
- ▼ The battery pack is recyclable. Check with your local waste officials for details on recycling options or proper disposal in your area.
- ▼ Use specified genuine chargers only to charge battery packs. Use of other chargers may cause damage to products, you and your property.
- ▼ Never carry battery packs together with conductive articles such as metals in a same bag to prevent from short-circuiting. Put the packs only in nylon bags to carry them safely.
- ▼ Even if you do not use the battery pack for a long time, charge it at least once every three months to prevent deterioration.

#### BATTERY INFORMATION

## **ALINCO**

## ((• How to Charge

- Plug the AC adaptor into the AC outlet, then plug the cable of AC adaptor into the DC jack, LED has no indicator (waits to charge).
- Slide the battery or transceiver with battery into the charger, make sure the battery terminals properly contact with charging terminals. LED indicator lights RED on (charging).
- 3. It takes about 4 hours to fully charge the battery, and LED indicator lights RED off when the charge is complete. Remove the battery or the transceiver equipped with battery from the stand charger.



NOTE: Please always turn off the unit while charging. When the unit is turned on, the charge can't be performed correctly.

#### **BATTERY INFORMATION**

#### NOTE:

- ▼ Trouble means battery heating, short-circuit or charger malfunction. Remove the battery pack from the charger immediately and contact to your local dealer for services.
- ▼ The max trickle pre-charging time is 30 minutes. In case the red indicator continues to blink longer, please stop charging and consult with your local dealer for services.
- ▼ It is known that Li-Ion battery packs heat up over 400°C by itself when kept in a temperature of over 80°C for extended period of time. Although the packs are protected against overheating with a protective circuit, never leave the battery packs in a car or similar locations in hot seasons.
- ▼ Li-ion packs may deteriorate by over 30% regardless of conditions after 3 years. This is a nature of Li-ion pack and not a defect of the product.
- ▼ The charger is to charge the battery pack only. It is not an AC adapter to operate the radio. Never attempt to transmit the radio with using the charger as it will cause the damage to the charger and a repair/replace may become necessary.
- ▼The charge should be conducted in an ambient temperature with a minimum proper airconditioning in an extremely hot or cold seasons.
- ▼ Try charging the battery pack only when having trouble charging with the radio. In case the radio may have troubles, the charge can't be conducted properly. If the battery pack can be charged alone, please take the radio to your local dealer for services.
- ▼ Battery pack discharges faster when it is attached to the radio. Please always remove it from the radio when not in use.

#### **BATTERY INFORMATION**

## ( How to Store the Battery

- 1. The battery should be kept in the status of 50%-100% charged when storing.
- 2. It should be kept in cool, dry environment and remove it from the transceiver.
- 3. Keep away from source of heat and direct sunlight.

#### WARNING

- **▲** Do not short circuit battery terminals.
- ▲ Never attempt to remove the casing from the battery pack.
- ▲ Never assemble the battery hazardous in explosive atmosphere as, spark may cause explosion.
- ▲ Do not put the battery in hot environment or throw it into fire, it may also cause explosion.

Note: Battery pack discharges faster when it is attached to the radio. Please always remove it from the radio when not in use.

### **PREPARATION**

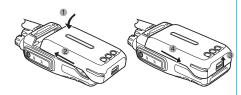
## ( Installing / Removing the Battery

■ Installing the battery

Align the catches on the unit with the grooves on the battery pack, slide the pack forward and close the latch until it clicks.

■ Removing the battery pack

Push the latch in the direction of the arrow, and pull out the battery pack.



## (( Installing / Removing the Belt Clip

- Installing the Belt Clip:
- 1. Put the belt clip on the back of the unit, and the screw clockwise until it stops.
- 2. Confirm that the belt clip is securely attached.
- \* Tighten up the screw occasionally.
- Removing the Belt Clip:

Turn the screw counter-clockwise to remove the belt clip. Caution: Use the screws of specified size only. Others may cause damage to the product. (screws size 2.5mm × 6.5mm)



#### **PREPARATION**

## ( Accessories

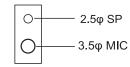
Unveil the MIC-SP jack cover and then insert the Microphone plug into MIC-SPjack.

#### Note:

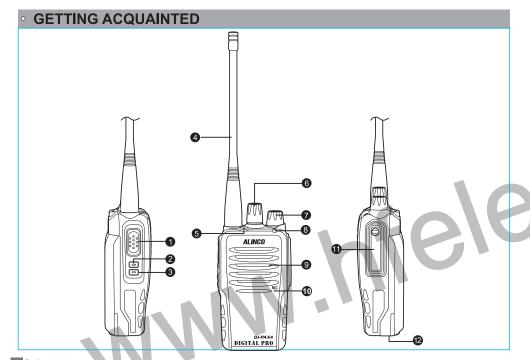
- 1.To keep the radio dust and splash resistant, the cover must be closed properly with the original supplied cover.
- 2. The radio is not dust and splash resistant while using the optional accessory risking that the water may penetrate inside through the plug.



**ALINCO** 



3. NEVER USE EARPHONE while adjusting audio level. The max audio output is 1W, and it's loud enough to hurt your eardrums. You may feel a static shock when wearing an earphone in a dry atomosphere but it's not a defect of product but a cause of nature. It is the same shock you feel typically when opening a door of a car in certain conditions



## **GETTING ACQUAINTED**

**ALINCO** 

- **1 PTT Key**: Press and hold this key to transmit. Release the key to receive.
- 2 PF1 Key: Programmable Function key 1
- 3 PF2 Key: Programmable Function key 2
- Antenna
- Top key.
- 6 Channel Selector Knob: Turn the selector knob to select desired channel. (Marked with Ch numbers)
- POWER I VOLUME Knob: To turn on/off the power and adjust the audio level. (Marked VOL)
- **8 LED indicator**: Turns green while receiving, red while transmitting.
- 9 Speaker
- Microphone (MIC)
- Optional accessory port
- Battery Lock

Note: Do not cover the microphone hole by labels or a finger while speaking, Always keep the mic hole clean. Closed mic hole will cause poor modulation sound.

### **GETTING ACQUAINTED**

## ( LED Indication

LED State	Operation
Red	Transmitting
Green	Receiving
Flashing Green	Writing data into radio.
Flashing Red	Reading data from radio.

## Programmable keys default setting

1	Press TOP Key	None
2	Press PF1 Key	Mode switch
3	Press PF2 Key	Monitor
4	Press and hold PF1 Key	None
5	Press and hold PF2 Key	None

These keys are programmable and can be assigned to any features as a shortcut. Manual programming is not supported so please contact your dealer if re-programming is necessary.

### **BASIC OPERATIONS**



## ( Switch on / off Transceiver

Turn [POWER] / [VOLUME] knob clockwise to power on. Turn it counterclockwise to power off.

## ( Adjusting Audio output level

Turn [POWER] / [VOLUME] knob clockwise to increase the audio level, counterclockwise to decrease.

The voice guidance or a channel beep can be used as sound level reference.

#### CAUTION:

Never use earphone while adjusting audio level. The max audio output is loud enough to hurt your eardrums. You may feel a static shock when wearing an earphone in a dry atomosphere but it's not a defect of product but a cause of nature. It is the same static shock you feel typically when opening a door of a car in certain conditions.

## ( Channels Selection

In stand-by state, turn the channel selector knob to select a desired channel. In case the voice guidance is activated, it announces the channel number in voice. If guidance is not in use, see a white line on the knob to identify the current channel. When an empty channel is selected, a beep sounds until a programmed channel is selected.

#### **BASIC OPERATIONS**

## ((• Receiving

When you receive a signal the LED indicator turns to green, and receiving voice is heard if signaling setting matches. In case the voice is not heard, use monitor function to temporary release signaling setting and squelch. (Analog channel)

## ((•Transmitting

Use monitor function if available or see the LED indicator is not lit green to make sure the channel is free. Press and hold [PTT] key then speak into microphone (MIC). Keep the distance of about 5cm between your lips and MIC, and speak at normal voice level.Release [PTT] key to receive. While transmitting the LED indicator turns red. Adjust the distance or voice level for the best transmitting audio. It takes a fraction of second until it actually sends out the voice signal so it is a good practice that you take a short moment before start speaking.

## (( Mode (CH Group) Selection

By PC-preprogramming, 80 channels can be assigned in total which are divided into 5 groups with 16 channels in each group.

The Mode switch function is assigned to PF1 by default setting.

## OPTIONAL ACCESSORIES

**ALINCO** 

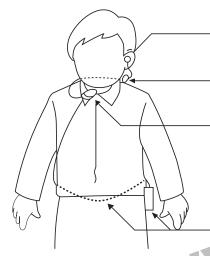
EBP-101 Li-ion battery pack (7.4V,1800mAh)

EDC-219 Rapid charger stand

EDC-221 AC Adapter (AC220V)

EBC-51 Belt Clip

## RECOMMENDED INSTALLATION OF EARPHONE MICROPHONE



Earphone

Use a clip to fix with collar.

Clip the PTT unit closer to your mouth.

Carry the radio on the side or the back of your body. and the cable should go around the back as shown. Clamp the excessive length of cable at your waist

## • SPECIFICATIONS

			General
		Frequency Range	446.0 - 446.2 MHz
		Channel Capacity	80 channels(16ch x 5groups)
		Channel Spacing	6.25kHz(Digital) 12.5 kHz(Analogue
		Operating Voltage	7.4V DC ±20%
		Battery Life	14 Hours(1800mAh), by TX 5(Sec)-RX 5(Sec)-Standby 90(Sec) working cycle
		Frequency Stability	±2.5ppm
	1	Operating Temperature	-20℃~+60℃
		Size (Approx)	120×59×38mm (with battery pack
	Weight (Approx)	238g (with battery pack and antenna)	
		Power Output	0.5W
		Audio Power Output	1000mW/10%

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## • ATTACHED CHART

## ( Preset Channel Frequency Chart

#### Mode1

Mode
Α
Α
Α
Α
Α
Α
Α
Α
Α
Α
Α
Α
Α
Α
Α
Α

#### Mode2

Channel Number	Frequency	CTCSS/ DCS Tone	Mode
1	446.10625	None	Α
2	446.11875	None	Α
3	446.13125	None	Α
4	446.14375	None	Α
5	446.15625	None	Α
6	446.16875	None	Α
7	446.18125	None	Α
8	446.19375	None	Α
9	None	None	None
10	None	None	None
11	None	None	None
12	None	None	None
13	None	None	None
14	None	None	None
15	None	None	None
16	None	None	None

#### Mode3

Modoo			
Channel Number	Frequency	ID	Mode
1	446.003125	1	D
2	446.009375	2	D
3	446.015625	3	D
4	446.021875	4	D
5	446.028125	5	D
6	446.034375	6	D
7	446.040625	7_	D
8	446.046875	8	D
9	446.053125	9	D
10	446.059375	10	D
11	446.065625	11	D
12	446.071875	12	D
13	446.078125	13	D
14	446.084375	14	D
15	446.090625	15	D
16	446.096875	16	D

## ATTACHED CHART

## **ALINCO**

## ( Preset Channel Frequency Chart

#### Mode4

Woden				
Channel Number	Frequency	ID	Mode	
1	446.103125	1	D	
2	446.109375	2	D	
3	446.115625	3	D	
4	446.121875	4	D	
5	446.128125	5	D	
6	446.134375	6	D	
7	446.140625	7	D	
8	446.146875	8	D	
9	446.153125	9	D	
10	446.159375	10	D	
11	446.165625	11	D	
12	446.171875	12	D	
13	446.178125	13	D	
14	446.184375	14	D	
15	446.190625	15	D	
16	446.196875	16	D	

Channel Number	Frequency	ID	Mode
1	446.00625	1	D
2	446.01875	2	D
3	446.03125	3	D
4	446.04375	4	D
5	446.05625	5	D
6	446.06875	6	D
7	446.08125	7	D
8	446.09375	8	D
9	446.10625	9	D
10	446.11875	10	D
11	446.13125	11	D
12	446.14375	12	D
13	446.15625	13	D
14	446.16875	14	D
15	446.18125	15	D
16	446.19375	16	D