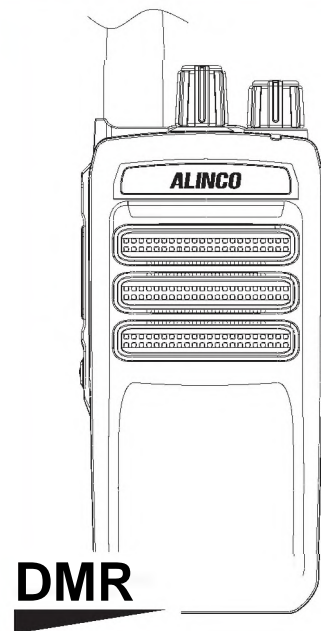




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ALINCO



UHF DIGITAL TRANSCEIVER

DJ-D45-PMR

Instruction Manual

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 instruction manual for future reference.

Introduction

This product is pre-programmed in 3 zones with different PMR frequencies. The programming cannot be changed by the customer

Please read this manual 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 other chapters. By reading just one part of the manual, you may risk not understanding the complete explanation of the function.

Before transmitting

There are many radio stations operating in proximity to 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.

About IP54 rating / Dust and splash resistant

About IP54 rating

- 5: Dust protected /Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact.
- 4: Splashing water! Water splashing against the enclosure from any direction shall have no harmful effect. Test duration: 5 minutes / Water volume: 10 liters per minute /Pressure: 80-100 kN/m²

The IP54 designation provides for limited dust and splash proofing of the radio per specified above. This compatibility is factory guaranteed for a period of one year provided all the jack covers are securely in place, any accessories connected must be specified genuine Alinco accessories and the radio has not been disassembled by the customer. The factory has tested and made the equipment compatible to IP54 certification during engineering. However, please understand that this equipment is NOT certified IP54 compliant but is designed to remain operational when used in hard conditions and is in no way stating that you should attempt to wash the radio for cleaning. Warranty will not cover radios that are water/dust damage due to negligence or misuse of the product.

Covering ranges

You may expect a range of approx 3km (2 miles) 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 may become drastically short even to several tens of meters.

Features

Output power 500 mW ERP

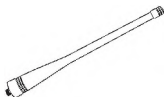
3 zones with PMR-446 (Zone 1 digital DMR DMO)

Voice guidances in English.

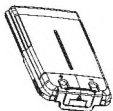
Up to 16 hours of operation time with 2000mAh battery pack.

STANDARD ACCESSORIES

Standard Accessories



Antenna
EA-266(UHF)
- fixed to radio



Li-ion Battery
EBP-102
7.4V 2000mA



Battery Charger
EDC-290



AC Adaptor
EDC-291



Belt Clip
EBC-52



Instruction
Manual



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

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Charging Operation

The battery pack is not fully charged before delivery. Please read this chapter very carefully to understand about the battery pack and its charging instructions. Misuse may result in damaging you, and your property .

Important Notice

- 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 fully charge the battery.
- 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 when wet. Dry it with a clean cloth before charging to avoid short-circuiting.

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.
- 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.
- 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

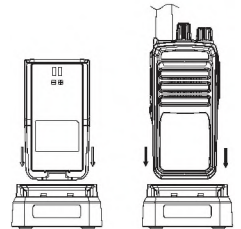
How to Charge

Charging should be conducted in a temperature range of 5°C to +40°C (+41°F to +104°F).

1. Connect the AC adapter to the DC input jack on the back of the charger.
2. Connect the AC adapter to an wall outlet. The indicator turns to green.
3. Be sure to turn off the unit and insert the unit to the charger as shown. The indicator turns to red. You may charge the battery pack alone as shown also.
4. When charging is completed, the indicator turns to green. It takes up to 6 hours to fully charge the battery. You may leave the unit for additional 1-2 hours on the charger to obtain the best charging performance.

Note:

- Use a clean, dry cloth to wipe off dirt and condensation from the surface of the battery pack occasionally. Even invisible dirt and grease on contact terminals cause malfunction of charging.
- Use specified genuine chargers only to charge battery packs. Use of other chargers may cause damage to products, you and your property.
- 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. 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.



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BATEERY INFORMATION

How to Store the Battery

- The best condition to store the battery pack is about 50% charged. Exhausted or fully charged state may cause faster deterioration.
- It should be kept in dry environment and the temperature should be in -10 to +35°C range. Keep away from source of heat and direct sunlight.
- Be always sure to remove the battery pack from the radio when not in use. The over-discharge causes faster deterioration.

PREPARATION

Attaching the Accessories

Attaching/Detaching the Antenna

Attaching the Antenna:

Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise until secure.

Detaching the Antenna:

Turn the antenna anticlockwise till the antenna separates the connector of the transceiver to remove it.

NOTE:

Do not use third-party antenna as it may radiate more RF that exceeds SAR limit guidances.

Attaching/Detaching the Belt Clip

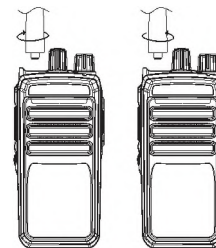
Attaching the Belt Clip:

Place the belt clip to the grooves on the back of the transceiver, and then fix it by provided screws. (screws size 2.5mmx6.5mm)

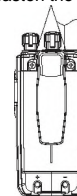
Detaching the Belt Clip:

When detaching, loosen the two screws on the belt clip and remove the belt clip. Never use screws of incorrect size.

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M2.5*6.5 screw to
fasten the belt clip



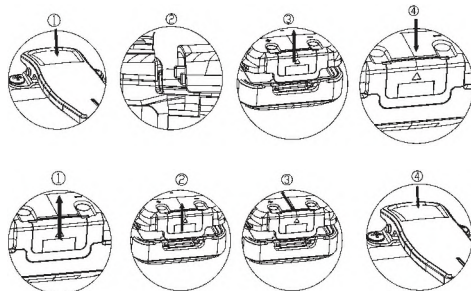
PREPARATION

Attaching/Detaching the Battery

Be always sure that the radio is turned off before charging.

Attaching the Battery

- (1) Slightly press the top of the belt clip as shown in ①.
- (2) Align the catches on the unit with the grooves on the battery pack, slide the pack forward as shown in ② and ③.
- (3) Lift up the latch as shown in ④ while pushing down the battery. Release the latch when it's placed in a right position.



Detaching the battery

- (1) Press the clip as explained above while pushing up the latch as shown in ①.
- (2) The pack removes, so slide it off of the body as shown in ②.
- (3) Slide to take out the battery along the direction as shown in ③. If there is belt clip, slightly press the belt clip top as shown in ④ to take out the battery.

PREPARATION

Attaching the Microphone (Optional)

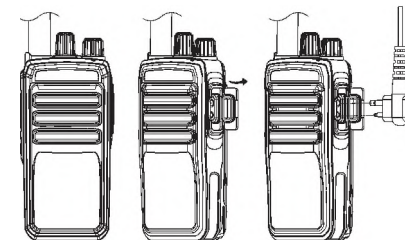
Open the earphone cover plate on the right and connect the accessory to the port.

NOTE:

To keep the radio dust and water resistant, the cover must be closed properly with the original supplied cover.

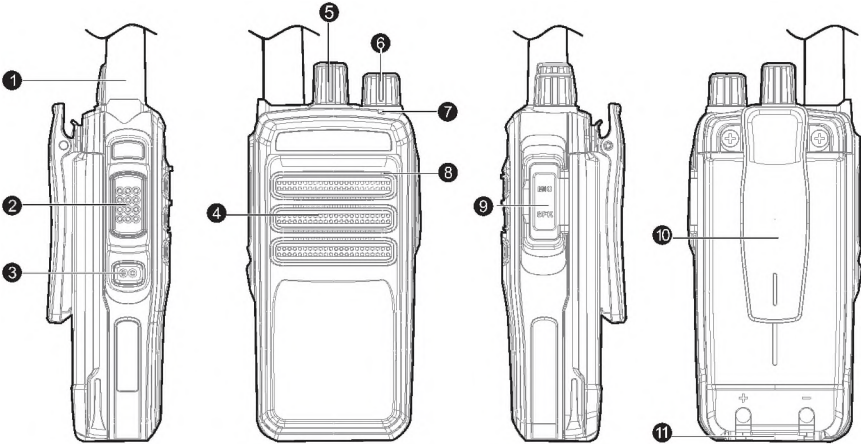
Even a smallest particle like a dust around the cover could cause water-leak into the radio.

Be very cautious when closing the cover.



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GETTING ACQUAINTED



NOTE: Please do not cover the microphone hole with labels, dirt, finger etc.

GETTING ACQUAINTED

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No.	Part Name
1	Antenna - Fixed to radio - Not detachable
2	PTT key Press to transmit, release to receive.
3	Side key - short press in analog mode is monitor . Long press switches zone1 to zone 3
4	Speaker
5	Channel Knob Rotate the knob to select channel 1-16.
6	Power/Volume Knob Turn clockwise to power on, counter-clockwise to power off. After turning on, rotate clockwise to raise the audio level.
7	LED Indicator See the next page for details.

GETTING ACQUAINTED

No.	Part Name
8	Microphone
9	External port Open the cover plate and connect the external speaker and microphone
10	Belt Clip
11	Battery Latch

Side Key

The default setting is the monitor function to temporary squelch off.

Long press switches between zone 1 to zone 3

GETTING ACQUAINTED

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LED indication

State	Operation
Red	Transmitting
Green	Receiving
Flashes red	Low battery
Flashes green	Channels are being scanned
Flashes orange	Digital call hang time and it will exit when the hang time is up
Orange	Blank channel which is not available. Switch to other channel to exit.

BASIC OPERATION

In this manual the phrase "Press ** key" means to press it firmly and quickly release the finger. Keep pressing the key may start different features.

Power on/off the Radio

Turn Power/Volume dial clockwise to power on.
Turn it counter-clockwise to power off.

Selecting the Channel

When the radio is on, rotate the channel knob to select channels.

Adjusting the Volume

When the radio is on, rotate the power/volume knob clockwise to increase the audio level and counter-clockwise to decrease.
Never use earphone while adjusting audio level for your safety.

Receiving

When a signal is received on the channel that you selected, the received signal can be heard.
The indicator turns green and turns off when the signal is gone. Unmatched analog-signaling

BASIC OPERATION

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Transmitting

Press the PTT key. The red indicator turns on while transmitting.
While holding down the PTT key, speak into the mic at normal voice from the distance of 5cm (2 inches).
Release the PTT key to receive.

NOTE:

- Speaking too loud, too close or too far from the radio may distort the audio.
- Do not close the microphone hole on the front panel with your finger. Be cautious specially when wearing gloves.

FEATURES AND OPERATIONS

TOT (time-out-timer)

The TOT prohibits users from transmitting after a certain period of time has elapsed. The radio automatically returns to receive, and an alarm sounds. Press PTT key once to stop alarm. The PTT becomes active again when the Time-out penalty time is elapsed. TOT penalty time is 150 s .

FEATURES AND OPERATIONS

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OPTIONAL ACCESSORIES

- EBP-102: Battery (Li-ion 7.4V 2000mAh)**
- EDC-290: Charger**
- EDC-291: AC Adapter**
- (220V) ERW-17: PC Cable**
- EBC-52: Belt Clip**

TROUBLESHOOTING



No.	Problem	Cause and Solution
1	Failed to power on	A. The battery is used up -charge the battery or change to a new battery. B. Possible hardware faulty. Contact your dealer.
2	Voice is low	A. Speak closer to the microphone or speal loud. B. wrong volume setting - turn the volume knob clockwise to increase the audio level.
3	Failed to transmit or receive	A: Not pressing the PTT key firmly enough. B: Check the Channel, group and signaling settings. C: Out of communication range.

SPECIFICATIONS

General	
Frequency Range (TX/RX)	DJ-D45-PMR: 446,0-446,2MHZ
Number of Channels	3 Zone / each 16 channels
Zone capacity	16
Channel Spacing	Digital : 12.5kHz Analog : 12.5
Operating Voltage	7.5V DC \pm 20%
Operating Temperature Range	-30°C to +60°C
Frequency Stability	\pm 1.5ppm
Antenna Impedance	50 Ohm - Fixed - not detachable
Dimensions (W x H x D Approx.) with battery pack / without antenna	54.0 x 116.0 x 31.0mm
Weight (Approx.) with battery pack & antenna	275g
'Projections are not included in the declared dimension values.	

SPECIFICATIONS

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Transmitting Part	
RF Power Output	500 mW ERP (DJ-D45-PMR)
Current Drain (MAX)	<1.8A
Spurious Emission	In compliance to 2014/53/EU
Modulation	16KOF3E/ 11KOF3E/ 7K60FXD / 7K60FXE
Vocoder	AMBE+2™

SPECIFICATIONS

Receiving Part	
Sensitivity (Analog/12dB SINAD)	0.25pV
Sensitivity (Digital/BER	0.25pV (5%)
Intermodulation	-65dB
Spurious Response	70dB
Audio Distortion	Less than 3% typical
Audio Output	1000mW/16Q
Current Drain (MAX)	<0.5A

PROGRAMMING INFO

ZONE 1 : Digital DMR DMO (MAAS PT-130 CH-25 - CH-40)

ZONE 2 : Analog (Maas PT-375 , PT-666 , Alinco PAX-4 , VX-46 , A446 , Kenwood TK-3401 , TK-3501 , TK-3701 ...

Zone 3 : Analog (Wintec LP-4502 - No CTCSS)

HINT : This radio is not compatible in digital mode with DPMR or DPMR446 radios !

For any question , feel free to contact our customer support