

Remote Kit/Remote
PODZ/Remote
Controller

FCC ID:NW75005T

5005(Transmitter), 5016

Revision History

Version	Date	Author	Description
1.0	2012-5-11	Kenny	Modification from previous NPFL
1.1	2012-5-16	Kenny	Modification based on the comments of internal meeting of May 15
1.2	2012-06-27	Kenny	Update the accessory content

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1. Introduction

Remote PODZ is an OEM product for **WWL**, branded **ion**. This document contains the product description and requirements for **Remote PODZ** including

1. Product characteristic
2. Functional Specification
3. Technical Specification
4. Operation flow
5. Accessories
6. Packaging

2. Detail Product Characteristics

2.1. Product Characteristics

The **ion** remote uses to control the **ion** camera wirelessly. The user is able to turn on/off, take photo and record video thru the remote. The button and switch logic of the remote is same as the camera so that the user can be easily get familiar with the control. The housing of the remote has waterproof capability up to 3 meters so that the user can use the remote for water activities.

Each remote is able to pair max 8 Remote PODZ at the same time so that the remote can control the cameras to react the same activity e.g. take photo at the same time.

2.1.1. Required Features

Remote

1. Powered by external battery (button cell)
2. Battery life is over 3 months for regular use (20 activations per day)
3. The pairing information of the remote will not be lost after the battery is removed
4. Powered on and off by button to save battery life
5. Control the camera to take photo (depends on the photo model setting of the camera)
6. Control the camera to start video recording (depends on the video mode setting)
7. Control the camera to stop video recording
8. Turn on and off the camera
9. With LED indication to reflect the button or slide switch action
10. Can work under water up to 3 meters
11. Can pair up to 8 Remote PODZs at one time
12. Allow to hook with hand/neck strap
13. Allow to loop with strap
14. Durable enough to pass 1.5 meter drop test

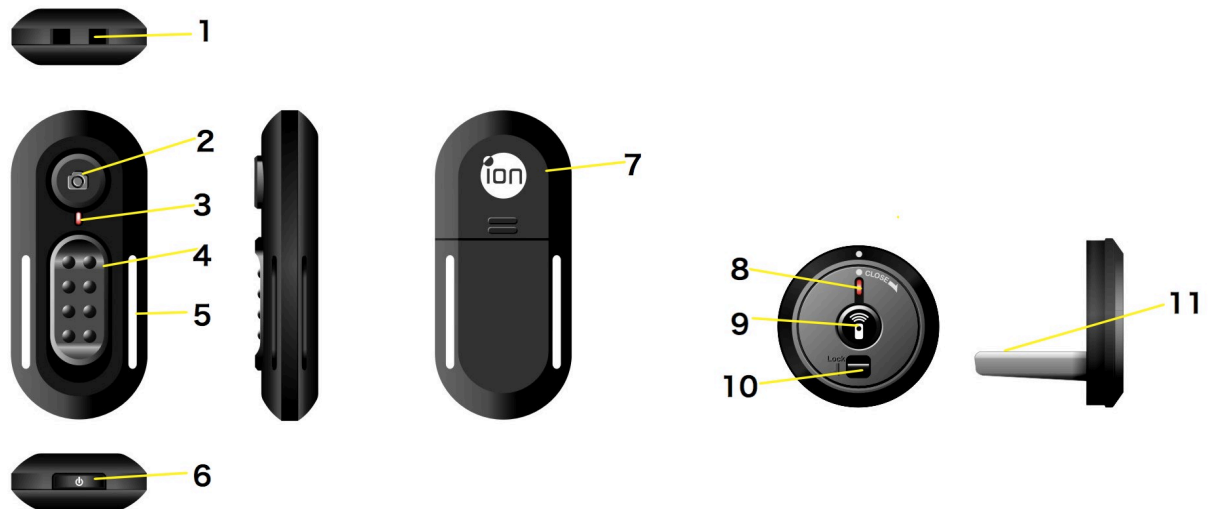
Receiver

1. Attach to the camera thru 19-pin PODZ connection
2. Receive the command from the remote and control the camera's reaction
3. Seal the camera and allow the camera to work under water up to 10 meters
4. No built-in battery and powered by the camera.
5. Need to function even the camera is off
6. The pairing information of the receiver will not be lost
7. Able to be paired by the remote
8. Can drop the pairing to the remote

Usability

1. Operation range of remote and receiver is up to 10 meters above water
2. Operation range of remote and receiver is up to 2 meters under water
3. Respond time should be immediately (less than 0.5 second)
4. The arm strap is enough long to loop on wrist or arm

2.2. Functional Description



ion Remote

1	Strap hole	Loop with wrist strap (included) or other similar type of straps
2	Shutter button	Control the power on, off and photo capture activities of the camera
3	LED light (Red)	Indicate the reaction of the remote
4	Slide switch	Control the REC/STOP activities of the camera
5	Strap vents	Loop with hand strap (included) or belt with similar width
6	Power button	Turn on and off the remote
7	Battery cover	Remove for replacement of battery

Remote PODZ (Will use PODZ at the rest of paragraph)





8	PODZ LED light (Red)	Indicate the status and reaction of the PODZ
9	PODZ button	Pair or drop pairing the remote
10	PODZ lock	Shield the camera
11	19-pin PODZ slot	Connect to the camera

2.3. Specification

Radio Frequency	ZigBee
Operating Distance	Up to 10 meters
Waterproof	Up to 3 meters
Battery	Button cell
Battery Life	3 months

2.4. Operation Flow

2.4.1. Icon Index

-  Power button of the remote
-  Shutter button of the remote
-  Slide switch of the remote
-  Pairing button of the PODZ

2.4.2. Pairing



If the remote and PODZ(s) are shipped in the same package, they will be pre-paired during production status. Every set will have unique pair code so that they will not be interfered by another remote/PODZ which is not paired. If they are shipped individually, pre-paired is not necessary.

Each PODZ can only be paired by one remote at the one time. When the PODZ pairs a new remote, it will over-write the pairing information of previous remote. The existing pairing data cannot be reset.

Each remote can only be paired by max 8 PODZs. If the remote has already paired with 8 PODZ, it will not be able to accept the new pairing and it will need to PODZ to cancel one pairing information from the remote in order for the remote to accept new PODZ

The pairing is implemented on the remote and PODZ. It disregards the camera. Therefore, when the PODZ is plugged to another camera, the new camera will be controlled by the remote.


The pairing step is as follow:

1. The pairing mode will only implement when the receiver is plugged into an **ion** Camera without MicroSD card
2. When the camera is turned on, Press  of the PODZ for 3 seconds and it will enter to pairing mode for 10 seconds automatically. The PODZ LED will flash in this period
3. Hold  of the remote for 5 seconds in order to enter pairing mode. The remote LED will light up when the remote entered the pairing mode. If the remote has been pressed for more than 10 seconds without receiving the pairing signal from PODZ, it will count as a false operation and the remote will exit the pairing mode and the LED will turn off.
4. The remote will detect if the PODZ has already been paired currently.
5. If they are a new pairing, the PODZ LED will flash quickly for 5 seconds and the camera will vibrate 5 seconds. The remote LED will flash to confirm the pairing succeeded. The time(s) of remote LED flashing represents below. Then it will then exit the pairing mode.


Once	First PODZ to pair
Twice	Second PODZ to pair
Three times	Third PODZ to pair
Four times	Forth PODZ to pair
Five times	Fifth PODZ to pair
Six times	Sixth PODZ to pair
Seven times	Seventh PODZ to pair
Eight times	Eighth PODZ to pair
Quick flash for 2s	Pairing fail due to pairing devices are full

6. If they are an existing pairing, drop pairing action will be proceeded. The remote and PODZ LED will both light up 3 seconds to confirm the drop of the pairing.
7. The pairing process is succeeded and completed.

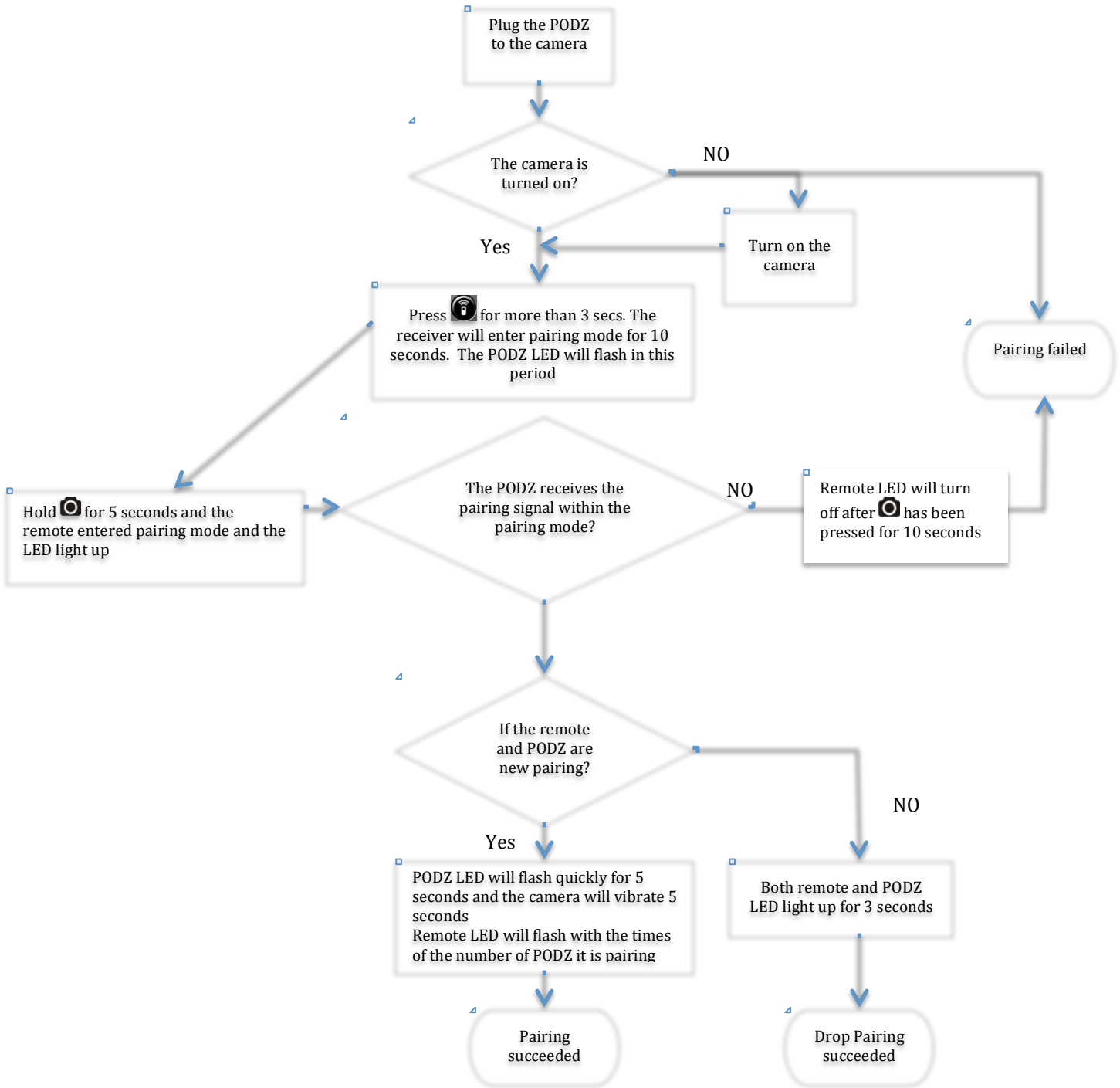
Status Summary

Status	Reaction	Remarks
In Pairing mode	PODZ LED will flash for 10 seconds	The flash will stop if the PODZ status is changed
Hold  for 5 to 10 seconds	Remote LED will light up	The LED will turn off if <ol style="list-style-type: none"> Receive the pairing signal from PODZ The buttons haven't been release for more than 10 seconds
Pairing completed	PODZ LED flashes quickly for 5 seconds and camera vibrates 5 seconds Remote LED flashes per number of PODZ paired	
Drop Pairing completed	Both LEDs light up for 3 seconds	

Special User Cases


1. Multi remotes and multi PODZs: If there is more than one remote or PODZ entering the pairing situation, e.g. pressing  of two PODZ at the same time, the pairing will count as false usage and the pairing will be false.

2.4.3. Pairing Flow Chart





2.4.4. Control Condition







Turn on the remote will not affect the camera status. When the remote is off

Remote Action	Remote Reaction	Remote LED indication	Remarks
Press 	Turn on the remote	After press released, light up for 2 sec After 1 sec, it will flash X times depend on X devices under paired	





Turn off the remote will not affect the camera status. When the remote is on

Remote Action	Remote Reaction	Remote LED indication	Remarks
Press  once	No action	No	
Press  and hold for 2 seconds or more	Turn off the remote	After press for 2 seconds, light up for 2 sec	If the remote is turned off, it will not react if the is continuously being pressed





When the camera is off

Remote Action	Camera Reaction	Remote LED indication	PODZ LED indication	Remarks
Press  and release ( at STOP)	Turn on the camera and take a picture	After press released, flash once	Flash once	
Press  and release ( at REC)	Turn on the camera and start recording	After press released, flash once	Flash once	
Slide  from STOP to REC	Turn on the camera and start recording	Flash once	Flash once	
Slide  from REC to STOP	No action	No	No	

When the camera is on and in standby mode

Remote Action	Camera Reaction	Remote LED indication	PODZ LED indication	Remarks
Press  once	Take a photo	Flash once	Flash once	
Press  and hold for 2 seconds or more	Turn off the camera	After press released, flash once	Flash once	
Slide  from STOP to REC	Start recording	Flash once	Flash once	
Slide  from REC to STOP	No action	No	No	

When the camera is video recording

Remote Action	Camera Reaction	Remote LED indication	PODZ LED indication	Remarks
Press  once	No Action	No	No	
Press  and hold for 2 seconds or more	Stop the recording and turn off the camera	After press for 2 seconds, flash once	Flash once	If the camera is turned off, it will not react if the is continuously being pressed
Slide  from STOP to REC	No action	No	No	
Slide  from REC to STOP	Stop the recording and the camera in photo mode	Flash once	Flash once	

2.4.5. Other conditions

1. Whenever the remote submits a signal, the LED will flash disregard the condition of the PODZ.
2. The remote and/or PODZ will not function when
 - a. The PODZ is not plugged into the camera
 - b. The camera is running out of battery
 - c. The remote is running out of battery
 - d. The remote and PODZ are over range
 - e. The remote and PODZ are not paired properly
 - f. Either or both remote and PODZ are out of order

3. Technical Specification

3.1. Specification

3.2. Testing Requirement

4. Accessories

4.1. Wrist Strap

Length: 20 -22cm



4.2. Arm Band Strap

Length:



4.3. Others

- Screw Driver
- Button Cell
- QSG
- Warranty card

5. Packaging

5.1. Packaging Specification

ion standard Kit (small) Giftbox Packaging

IMPORTANT REGULATORY INFORMATION

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 that is received, including any interference that may cause undesired operation.

WARNING:

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.