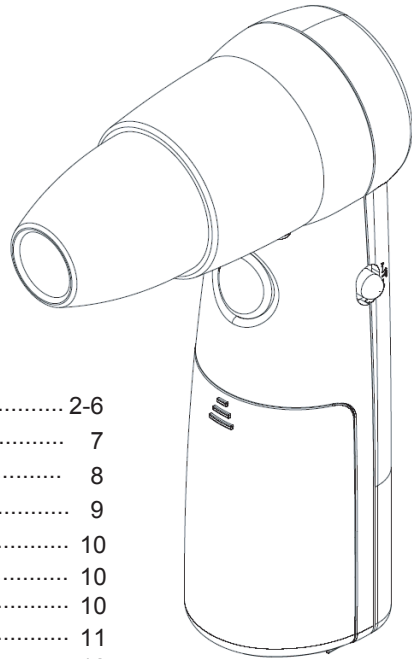


# Instruction Manual

Model No. **AirMicro**



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- Be sure to read this instruction manual thoroughly before using this unit in order to ensure correct use. In particular, be sure to read the “Precautions With Regard To Safety” (pages 2-6) to ensure that you are familiar with all aspects of safety in using this unit. After reading the instruction manual, keep it in a safe place together with the warranty for further reference when necessary.

# Precautions With Regard To Safety

Be sure to observe all of the warnings and cautions.

- Be sure to read these "Precautions With Regard To Safety" to ensure that you are familiar with all aspects of safety in using this unit.
- The manufacturer and vendor of this product take no responsibility for any personal injury or other accidental damage that may occur as a result of your using the product incorrectly or in an inappropriate manner.
- The warnings and cautions in this instruction manual are given in order to ensure that the product is used correctly and safely in a way that will prevent any injuries or other danger to you and others from occurring. They are classified as follows. Regardless of the classification, they represent important information which must be observed at all times in order to ensure safety.

## DANGER:

- Failure to follow the instructions will cause a dangerous situation which will almost certainly result in death or serious injury.

## WARNING:

- Failure to follow the instructions may cause a dangerous situation which could result in death or serious injury.

## CAUTION:

- Failure to follow the instructions may cause a situation which could result in moderate personal injury or physical damage to equipment and surroundings.

**DANGER:** Do not use this unit in the following situations or in the following ways.

Do not leave batteries in places which are exposed to high temperatures such as from direct sunlight (particularly inside vehicles during hot summer weather).

- If this is not observed, the batteries may leak, overheat, become alight or explode.

Do not disassemble or modify (e.g. by soldering) batteries, or apply pressure or heat to them or place them into fire.

- If this is not observed, the batteries may leak, overheat, become alight or explode.
- Batteries which are no longer useful (spent) should be disposed of according to the instructions provided by your local authorities.

Do not touch metallic objects (such as necklaces or hairpins) against the + or – terminals of the batteries.

- If this is not observed, the batteries may leak, overheat, become alight or explode.
- Keep batteries inside a plastic bag so that they will not come into contact with metallic objects.

If the batteries are leaking fluid

- Do not handle batteries with bare hands if they are leaking fluid.

# Precautions With Regard To Safety

**WARNING:** Do not use this unit in the following situations.

Insert the batteries securely as far as they will go.

- If the batteries are not properly inserted, fire or electric shocks may occur.
- Do not use batteries which are damaged in any way.

If you notice smoke or any abnormal heating, odor or noise coming from this unit, stop using this unit, turn off the power switch and remove the batteries.

- If this is not done, fire or electric shocks may occur.
- Contact the place of purchase.

If any water or foreign objects get inside this unit or of the outer casing is damaged in any way, stop using this unit, turn off the power switch and remove the batteries.

- If this is not done, fire or electric shocks may occur.
- Contact the place of purchase.

If lightning occurs, do not touch metallic parts of this unit or the batteries.

- If this is not observed, you may receive an electric shock from a lightning strike.

Do not insert metallic objects or flammable objects into this unit.

- If this is not observed, fire or electric shocks may occur.
- Keep this unit in a safe place away from the reach of young children.
- Do not place this unit onto unstable surfaces such as unsteady tables or sloping surfaces.
- If this unit falls down, injury or damage to this unit may occur.

Do not bring this unit close to electrical equipment which makes use of high-precision control devices or weak electrical signals.

- This unit may cause operating problems in other electrical equipment (including electronic devices used on your body for medical purposes).

Do not use this unit if you are not fully balanced.

- Always maintain a fully-balanced footing and posture during use.

Do not insert or remove the batteries with wet hands.

- If this is not observed, electric shocks may occur.
- Always be sure to dry your hands before handling the batteries.

Do not let water get onto this unit.

- If water gets inside this unit, fire, electric shocks or problems with operation may occur.
- If water gets inside this unit, contact the place of purchase.
- If using this unit while it is raining or snowing or while at the seaside or near water, be careful not to let it get wet.

# Precautions With Regard To Safety

## **CAUTION: Be sure to observe the following.**

If the images cannot be seen clearly, stop using this unit.

When it is used continuously for a long time, the battery compartment and the main unit may feel warm. If this happens, turn off the power and wait for a while before turning the power back on again.

Do not disassemble or modify this unit.

- If this is not observed, fire, electric shocks or problems with operation may occur.
- Ask the place of purchase to carry out any repairs and inspection of components.
- If it is necessary to remove and reinstall any components in order to carry out cleaning, be sure to follow the instructions given in the instruction manual at all times.

Do not leave this unit in places which are exposed to high temperatures.

- Temperatures can become particularly high (approx. 60 °C or higher) inside vehicles interiors and trunks during hot summer days. Never leave this unit or its batteries in such places. Heat may cause the outer case to warped and may damage the internal components, and fire or electric shocks may occur.

Remove the batteries when cleaning this unit or if not using it for a long period of time.

- If you accidentally touch the inside of the unit, electric shocks may occur. In addition, if you leave or store away the unit for long periods with the batteries still inserted, the insulation may deteriorate or the batteries may leak, and fire may occur as a result.

If using this unit inside an aeroplane, be sure to follow the instructions of the airline company.

- Electromagnetic waves emitted by this unit may interfere with the operation of aeroplane equipment
- If using the unit inside places such as hospitals, be sure to observe the relevant instructions on use there also.

Do not place heavy objects on top of this unit or stand on it.

- Heavy objects may bend the outer case and may damage the internal components, and fire or electric shocks may occur.

Do not use any batteries other than those specified.

- If any batteries other than those specified are used, leaks, overheating or explosions may occur and injuries could occur as a result.

Do not place cloth or other such objects over this unit while it is in use.

- Heat may cause the outer case to become warped and may damage the internal components, and fire or problems with operation may occur.

Do not let the lens directly toward the sun or other sources of strong light for any length of time.

- Concentrated light may damage internal components and fire may occur.

Avoid using this unit in places with a lot of oil fumes, steam, humidity or dust or in places with extreme vibration.

- \* Water or dust inside the unit or strong vibration may damage the internal components, and fire may occur as a result.

# Precautions With Regard To Safety

**CAUTION:** Be sure to observe the following.

**If any of the following occur, contact the place of purchase or the nearest service center.**

- If any liquids get spilled onto this unit or if any foreign objects get inside the battery compartment or main unit
- If this unit becomes wet from rain or other water
- If this unit is dropped or appears to be damaged in any way.
- If the performance of this unit shows any marked changes. (If this happens, it is a sign of a serious problem, Be sure to get this unit repaired.)

## **Replacing parts**

- If any parts have been replaced at the place of purchase, be sure to check that the parts which have been used for replacement are those specified by the manufacturer and that the replacement parts have the same characteristics as the original parts. If improper replacement parts are used, there is the danger that fire or electric shocks may occur. (Any problems occurring as a result of using batteries other than those supplied with this unit will not be covered by warranty.)

## **Safety inspections**

- After having this unit repaired or inspected by the place of purchase, be sure to ask the place of purchase to carry out a safety inspection to make sure that the unit is operating correctly.

## **Notes when using this unit**

**Avoid using this unit near objects which generate magnetic fields or electromagnetic waves.**

- If this unit is placed on top of or is operated near TVs, electromagnetic waves may affect TV reception and cause distortion in sound or pictures.
- Strong magnetic fields which are generated by speakers or large motors may damage recordings or cause screen distortion.
- If this unit is being affected by something which is preventing it from operating correctly, momentarily remove the batteries and then reinsert them, and then turn the power back on.

**Be careful not to use this unit in places where spray insecticides or other volatile chemicals are present.**

- Such chemicals may damage the outer case and cause the coating to peel off.

**When carrying this unit, be careful not to drop it or knock it against other objects.**

- If this unit is subjected to any strong shocks, it may break the outer case and cause operating problems or errors to occur. Do not use solvents such as kerosene, thinner or alcohol to clean the unit.
- Remove the batteries before cleaning the unit.
- If solvents are used for cleaning, they damage the outer case and cause the coating to peel off.
- Wipe the outer case with a soft, dry cloth. If the unit is particularly dirty, wipe it with a cloth which has been lightly moistened in a solution of neutral detergent and wrung dry, and then wipe it again with a soft dry cloth.
- If using a chemically-treated cloth to wipe the outer case, be sure to follow the instructions provided with the cloth.

**Be sure to note the following while handling this unit.**

- If this unit is used continuously for long periods, the temperature of the unit may rise, but this is normal and is not the sign of a problem with performance or quality.
- Turn on the power to operate the unit at least once every six months.

# Precautions With Regard To Safety

## Notes when using this unit

### **If not using this unit for long periods of time, be sure to remove the batteries.**

- If you leave the batteries in the battery compartment, a small amount of current will still be consumed even if the power is turned off. If the unit is left like this, the batteries will eventually become spent, and the rechargeable batteries may become over-discharged and no longer work correctly once they have been recharged. Furthermore, the batteries may leak and cause damage to the unit.
- The batteries may also become self-discharged when left for long periods, so either replace them with new ones or recharge them before use.
- Do not mix old and new batteries or batteries of different types.

### **Use care when using this unit in very cold or very hot regions.**

- The operating life of the batteries may be shorter than normal when this unit is used in very cold or very hot regions.

### **Note the following regarding condensation\*.**

#### **\* What is condensation?**

When a bottle is taken out of a refrigerator in summer, droplets of water can form on the outside of the bottle. This phenomenon is called "condensation". Condensation can cause the lens to become foggy and prevent normal operation from occurring. Try to make sure that condensation does not occur, and handle it correctly if it does.

#### **■ Carry out the following if condensation occurs on this unit.**

- Turn off the power and let this unit stand for an hour or so. Once it has become adjusted to the ambient temperature, the condensation should disappear by itself. If the condensation does not disappear, contact the place of purchase.

### **Handling the lens**

- Do not touch the lens directly. If the lens becomes dirty, clean it by using a Air blower. Articles such as cotton buds should never be used for cleaning, as they have sharp tips which can damage the lens and cause it to break or cause other problems with operation of the unit.
- If the lens becomes foggy, turn off the power and let this unit stand for an hour or so. Once it has become adjusted to the ambient temperature, the condensation should disappear by itself.

# Features and Configuration

## Features

- **Wireless communication method adoption**

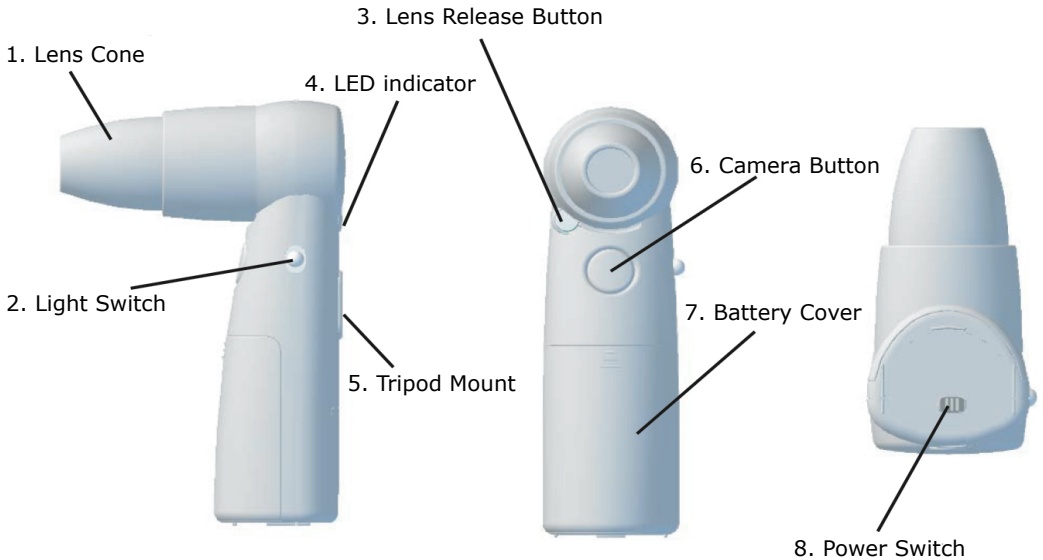
Because it is a radio method of 2.4GHz, a power supply cable and a video cable are unnecessary.

- **Battery-powered**

The power is provided by three AA-size batteries, so that this unit can be used in places where there are no electrical outlets available.

OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1)THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED. INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

# Components Name and Function

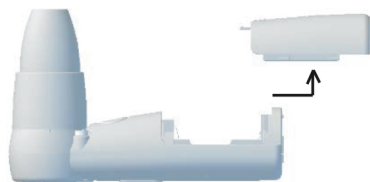


	Name	Function
1	Lens Cone	Focusing Position
2	Light Switch	For Illumination
3	Lens Release Button	Unlocks Lens for Removal
4	LED Indicator	Indicates power is ON
5	Tripod Mount	Connect to any standard tripod
6	Camera Button	Still picture capture or freeze
7	Battery Cover	For battery access and installation
8	Power Switch	Main Power Switch

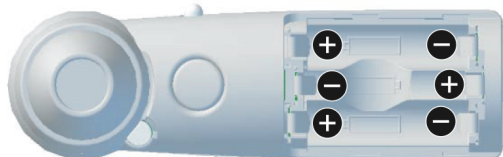


## Preparation before use

Slide off the battery cover and insert (3) AA batteries.



Battery cover removed.



Insert (3) AA batteries paying attention to the polarity. You may use alkaline or Ni-MH. Do not mix battery types or mix new batteries with old batteries. Rechargeable Ni-MH batteries are recommended for most economical use.

# Using the AirMicro

## Turning the Power ON OFF

Slide the power switch to the ON position, the LED indicator will light up.

Light up after once light turns on and off:

Resolution(QVGA)

Light up after twice light turns on and off:

Resolution(VGA)

Note - When the battery voltage decreases, the power source is cut off and the LED will go out. When this happens, please install fresh (or freshly charged) batteries for continued use.



## iPhone / iPod touch / iPad configuration

From your device or from a computer which is synced to your device, please visit the Apple iTunes App Store and download the FREE AirMicro app.

For iPhone and iPod touch - the app is called **AirMicro**.

For iPad - the app is called **AirMicroPad**.

To configure your Wi-Fi network settings for use with the AirMicro camera, follow these steps.

1. On your device, choose Settings.
2. Turn Wi-Fi ON.
3. Select AirMicro from the wireless network menu. Every AirMicro unit can be different, in this example the wireless network name is AirMicro119.



\* iPhone, iPod touch, and iPad are registered trademarks of Apple, Inc.

# Using the AirMicro

4. Configure the AirMicro network.  
Click on the arrow on the AirMicro network which opens a new screen.  
Click on the Static tab then click on the IP Address field and input 192.168.  
(3 digit AirMicro network number).  
(user selectable value between 2-254 which represents a unique IP address for this device.)

In this example the IP Address is  
192.168.119.100

Input Subnet Mask 255.255.255.0

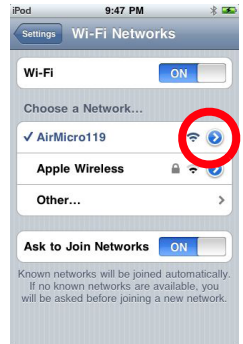
5. Press the Home button on your device to exit Settings.

## Camera Button configuration

The AirMicro or AirMicroPad app can be configured to use the Camera Button on the AirMicro to trigger image capture.

To turn the Camera Button capture function ON, please do the following....

1. On your device, choose Settings.
2. Select AirMicro (or AirMicroPad) from the menu.
3. Change the Camera Button setting to ON
4. Press the Home button on your device to exit Settings.



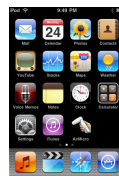
# Using the AirMicro

## AirMicro / AirMicroPad App operation

With the AirMicro camera ON and your AirMicro network configured correctly, launch the AirMicro (or AirMicroPad) app on your device.

When the AirMicro app is first launched, it will try to find your AirMicro camera. If it does not find your camera, the searching screen will appear until it finds the camera. Note - if the searching screen persists, check to make sure you have your AirMicro network selected.

After the AirMicro camera is found, it will start displaying a live image.

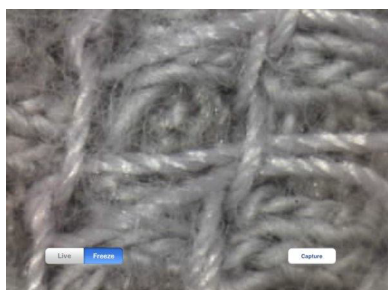


If the Camera Button function is turned **OFF**, live video will appear with a graphic overlay as shown below.

**Freeze:** Tap Freeze to freeze-frame an image.

**Live:** Tap Live to return to the live video image.

**Capture:** To capture a still image, tap the capture button in the lower right hand corner of the screen. Captured still images are stored in the Photos library on your device.



If the Camera Button function is turned **ON**, live video will appear without a graphic overlay as shown below.

**Freeze:** Press the Camera Button once to freeze-frame an image. You will see a Freeze graphic appear in the upper lefthand corner as confirmation.

**Live:** Press the Camera Button again to return to the live video image.

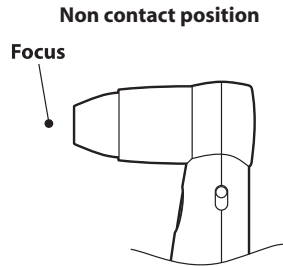
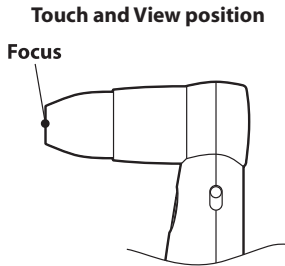
**Capture:** To capture a still image, press and hold the Camera Button until a still image is captured. Captured still images are stored in the Photos library on your device.



# Using the AirMicro

## Focusing guide

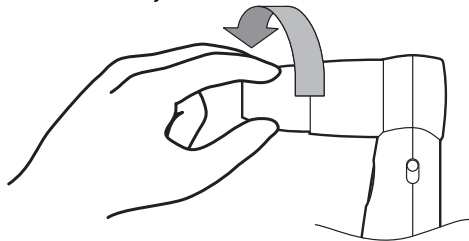
- Select either of the following two positions for the focusing guide of the lens unit supplied with the product:



**Touch and View Position**-The tip of the focusing guide is placed in direct contact with the object.

**Noncontact Position**-This position is selected to observe objects with significant surface roughness, or when the AirMicro is attached to a stand for observations.

Observations are made without placing the focusing guide into contact with the object.



Set to the Touch and View position by turning the lens unit counterclockwise until you hear a click. Set to the non-contact position by turning the lens unit clockwise.

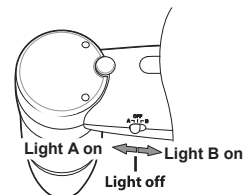
## Light switch

A - OFF - B ( depends on the attached lens)

A : OFF , or Reflectie LEDs

OFF : OFF

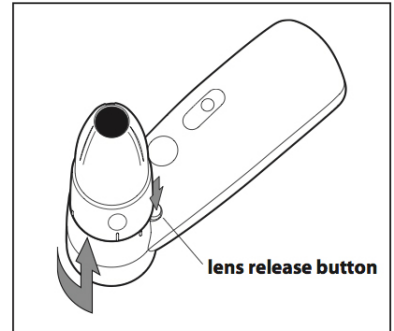
B : Reflective LEDs , or Non Reflective LEDs



# Removing and Installing a Lens

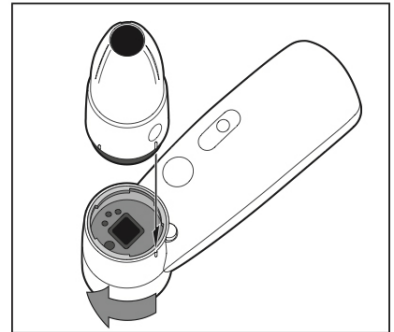
## Removing a Lens

To remove a lens, press the Lens Release Button while turning the base of the lens counter clockwise. When the hash mark on the lens and the hash mark on the AirMicro body line up, You can then gently pull the lens straight up and off.



## Installing a Lens

To install a lens, line up the hash mark on the lens and the hash mark on the AirMicro body, then press down gently until the lens is seated. Turn the base of the lens gently clockwise until the lens locks into position, you will hear a click. Do not force.



# Image Adjustments

## Adjusting the White Balance

The AirMicro has an adjustable White Balance. This adjustment is very subtle but can slightly improve the color balance of the viewed subject. To adjust the white balance, follow these steps.

1. Power ON the AirMicro and turn on the LEDs.
2. Launch the AirMicro app.
3. Press the AirMicro lens in touch view to a white sheet of paper.
4. Press and hold the Camera Button until the LED indicator begins flashing.  
Release the Camera Button after the desired white balance is achieved.  
The white balance setting is now stored even when the Power Switch is turned OFF.

*Note - If the Camera Button function is ON in the AirMicro app, a picture will be captured before white balance adjustment will begin.*

## Changing the Camera Resolution

The default resolution of the AirMicro is QVGA (320X240) but can be changed to VGA (640X480). To toggle between QVGA and VGA, do the following...

With the main Power Switch in the OFF position, press and hold the Camera Button while turning the Power Switch ON. As soon as you see the LED indicator flash, press the Camera Button again to switch between QVGA and VGA resolutions.

If the LED indicator quickly flashes once before turning solid, you'll know you have selected QVGA, or if it flashes twice you'll know you have selected VGA.

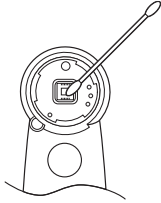
*Note - selecting VGA resolution will result in a slower frame rate but a higher resolution image.*

# Maintenance

## Maintenance

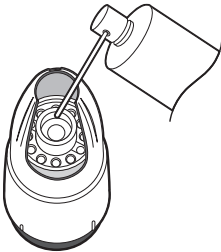
Clean the exterior of the AirMicro with a soft, dry cloth. In cases of heavy soiling, wipe the surface with cloth moistened with a dilute, neutral detergent. Never use thinner, benzene, or alcohol - such materials will damage the surface finish.

### Dust on the CMOS image sensor



Dust on the CMOS image sensor section may be removed via the aperture with a blower or dust gun, or carefully removed with a suitable applicator.

### Dust on the lens-unit



Dust on the lens-unit surface may be removed via the aperture with a dust gun.



# Troubleshooting

## ■ The AirMicro does not work. (The Power indicator does not lighten.)

- Check to make sure that the batteries spent.

## ■ The application program is on, but there is no picture.

- Check to make sure that the lamp of the lens-unit lighten rightly.

## ■ Captured still images and animation images are indistinct on the display screen.

- Images captured under fluorescent lighting may appear on screen together with lamp-light reflection components.
- Captured images containing dark spots or areas may result in red or green color noise.
- The CMOS image sensor section may be fouled. -Clean the CMOS image sensor section.
- The lens-unit is fouled. -Clean the lens-unit. (See P15)
- The image is out of focus. -Set the Focusing guide rightly.

# Specifications

Image sensor	1/4 inch 5Mp Color CMOS
Resolution	320x240 (QVGA) / 640x480 (VGA)
Capture	Still image capture by Application
White Balance	MWB
Gain	AGC
Frame Rate	QVGA about 15fps (It changes with radio wave environment and the use device.)
Camera button Functions	a) Freeze/Release b) Still image capture c) Push W/B after still image captured d) QVGA/VGA exchange e) Initialize for factory settings (Maintained after power supply is switched OFF)
Indicator LED	ON: The image is being transmitted OFF: Power OFF or Battery is low Flash 0.5sec: The W/B is being changed Flash 1sec: The resolution is being changed Flash 2sec: Initialize for factory settings
Light Switch	A-OFF-B (depends on the attached lens) A: OFF, or reflective LEDs OFF: OFF B: Reflective LEDs, or Non Reflective LEDs
Power Switch	ON/OFF Slide switch
Magnification	X50 (when standard lens is used) Approximate magnification when displayed on 14-inch monitor.
Support Protocol	Wi-Fi IEEE802.11b
Camera Operational Range	about 10m from a Wi-Fi connected device
Access Format	ad hoc mode
Antenna	Internal Chip Multilayer antenna
Frequency	2.4GHz band width
SSID	AirMicroNNN
IP Address	192.168.NNN.1
Camera Screw	1/4-20 UNC
Battery	AA(Alkaline, Ni-MH)x3
Power Consumption	about 2.5W with standard lens
Continuous Operation time	Alkaline: about 2 hours, Ni-MH about 3 hours with standard lens. (Depends on environment)
Operation Temp	0°C~40°C
Storage Temp	-10°C~60°C
Outside Dimensions	153mm(H)x46mm(W)x43mm(D) (without Lens)
Weight	130g (without battery, with Lens)
*	Specifications subject to change without notice.