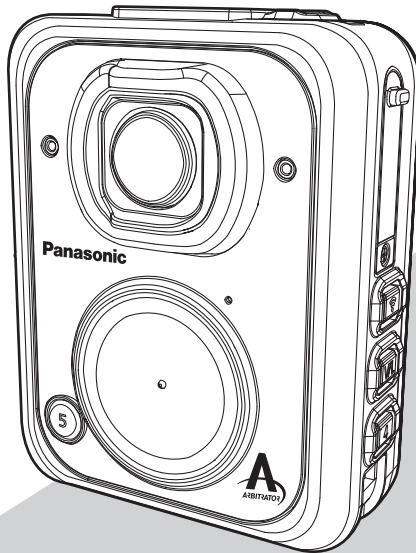


Panasonic[®]

Important Information

Body Worn Camera

Model No. **WV-TW370**



WV-TW370

Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

The model number is abbreviated in some descriptions in this manual.

For U.S.A.

WARNING:

- Batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.
- The installation shall be carried out in accordance with all applicable installation rules.
- The connections should comply with local electrical code.

CAUTION:

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

For U.S.A.

The model number and serial number of this product may be found on the surface of the unit.

You should note the model number and serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. _____

Serial No. _____

For U.S.A.

[Part 15 Subpart B]

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

[Part 15 Subpart C]

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. WV-TW370 has been tested and found to comply with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines.

[Part 15 Subpart E]

Compliance with FCC requirement 15.407(c)

Data transmission is always initiated by software, which is the passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinue transmission in case of either absence of information to transmit or operational failure.

Frequency Tolerance: within ± 20 ppm

MEDICAL:

Consult the manufacturer of any personal medical devices, such as pacemakers, to determine if they are adequately shielded from external RF (radio frequency) energy. (The unit operates in the frequency range of 2.412 GHz to 2.462 GHz, and the power output level is 0.1 watts.)

Do not use the unit in health care facilities if any regulations posted in the area instruct you not to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF (radio frequency) energy.

FCC RF Exposure Warning:

The Body Worn Camera may be carried and operated with only the tested clip. Other non-tested clips or similar body-worn accessories may not comply and must be avoided.

For Canada

CAN ICES-3(A)/NMB-3(A)

For Canada

[RSS-Gen]

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

[RSS-102]

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. WV-TW370 has been tested and found to comply with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules.

Les connaissances scientifiques dont nous disposons n'ont mis en évidence aucun problème de santé associé à l'usage des appareils sans fil à faible puissance. Nous ne sommes cependant pas en mesure de prouver que ces appareils sans fil à faible puissance sont entièrement sans danger. Les appareils sans fil à faible puissance émettent une énergie radioélectrique (RF) très faible dans le spectre des micro-ondes lorsqu'ils sont utilisés. Alors qu'une dose élevée de RF peut avoir des effets sur la santé (en chauffant les tissus), l'exposition à de faibles RF qui ne produisent pas de chaleur n'a pas de mauvais effets connus sur la santé. De nombreuses études ont été menées sur les expositions aux RF faibles et n'ont découvert aucun effet biologique. Certaines études ont suggéré qu'il pouvait y avoir certains effets biologiques, mais ces résultats n'ont pas été confirmés par des recherches supplémentaires. WV-TW370 a été testé et jugé conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC.

[RSS-247]

5150-5350 MHz band is restricted to indoor operation only.

La bande 5150-5350 MHz est restreinte à une utilisation à l'intérieur seulement.

High-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Les radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz, et ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

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Important safety instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water. (Common Trigger Box: WV-TW37003, Pairing Dock: WV-TW37004 and Multi-Dock Charger: WV-TC370 only)
- 6) Clean only with dry cloth. (Common Trigger Box: WV-TW37003, Pairing Dock: WV-TW37004 and Multi-Dock Charger: WV-TC370 only)
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. (Multi-Dock Charger: WV-TC370 only)
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Only use attachments/accessories specified by the manufacturer.
- 10) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

About the Battery

When Using the Battery

DANGER

- (1) Misusing the battery may cause the battery to get hot, explode, or ignite and cause serious injury. Be sure to follow the safety instructions listed below:
 - Keep the battery away from heat and fire.
 - Do not forcibly set or connect the battery in the reverse direction. The battery has a certain polarity.
 - Do not connect the positive terminal and the negative terminal of the battery to each other with any metal object (such as a wire).
 - To prevent damages or short-circuit of the metal terminal, tightly pack the battery into a case during transport.
 - Do not solder directly onto the battery.
 - Do not expose the battery to water or salt water, or allow the battery to get wet.
- (2) Do not disassemble or modify the battery. The battery contains safety and protection device which, if damaged, may cause the battery to generate heat, explode, or ignite.
- (3) Do not place the battery on or near fire, stoves, or other high temperature locations. Do not place the battery in direct sunlight, inside cars, or in hot water. Failure to observe this may cause the battery to generate heat, explode, or ignite.
- (4) Do not insert the battery into equipment designed to be hermetically sealed. In some cases, hydrogen or oxygen may be discharged from the cell resulting in rupture, fire, or explosion.

WARNING

- (1) Immediately discontinue use of the battery if, while using, charging, or storing the battery, the battery is giving out an unusual smell, feels hot, changes color, changes shape or appears abnormal in any other way. Contact your authorized dealer or Panasonic if any of these problems are observed.
- (2) Do not place the batteries in microwave ovens, high-pressure containers, or on induction cookware.
- (3) In the event that the battery leaks and the electrolyte gets into your eye, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.
- (4) If electrolyte leaks from the battery and adheres to the skin or clothes, immediately rinse with water. Otherwise, it may cause skin irritation.
- (5) If the battery is leaking or giving out an unusual smell, immediately keep away the battery from flames. Otherwise, it may be a cause of ignition, smoke, or rupture.

CAUTION

- (1) If the device is to be used by small children, an adult should explain the contents of the user's manual to the children. Provide an adequate supervision and ensure that the device is being used as explained in the user's manual.
- (2) When the battery is worn out, insulate the terminals with adhesive tape or similar materials before disposal.

While Charging

DANGER

Be sure to follow the instructions listed below while charging the battery. Failure to observe those may cause the battery to become hot, rupture, or ignite resulting in serious injury.

- (1) When charging the battery, either use a specified battery charger or otherwise ensure that the battery charging conditions specified by Panasonic are met.
- (2) Do not attach the batteries to a power supply plug or directly to a vehicle's cigarette lighter.

WARNING

Do not continue charging the battery if it does not charge within the specified time. Otherwise, it may cause the battery to become hot, rupture, or ignite.

CAUTION

- (1) The temperature range over which the battery can be charged is 0 °C to 60 °C {32 °F to 140 °F}. Charging the battery at temperatures outside of this range may cause the battery to become hot or to break. Charging the battery outside of this temperature range may also harm the performance of the battery or reduce the battery's life expectancy.
- (2) Do not charge the battery near flames or in a car parked under blazing sun. If the battery gets hot, the protection circuit will be activated and the battery may not be charged normally. Also, if the protection circuit is damaged, it may be a cause of an abnormal chemical reaction resulting in fire, smoke, heat generation, or rupture.

Battery Replacement

WARNING

The battery should be replaced only by personnel from Panasonic Service Center.

- (1) Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
- (2) Dispose of used batteries according to the instructions. (Refer to the instructions below for safe disposal of lithium ion polymer battery.)

When Discharging the Battery

DANGER

Do not discharge the battery using any device except for specified devices. When the battery is used in devices aside from the specified device, it may harm the performance of the battery or reduce the battery's life expectancy. Also, if the device causes an abnormal current to flow, it may cause the battery to become hot, explode, or ignite resulting in serious injury.

CAUTION

The temperature range over which the battery can be discharged is -20°C to 50°C $\{-4^{\circ}\text{F}$ to $122^{\circ}\text{F}\}$. Using the battery outside of this temperature range may also harm the performance of the battery or reduce the battery's life expectancy.

Safe Disposal of Lithium Ion Polymer Battery

- (1) Be sure to discharge battery cells before disposal.
- (2) If the battery is physically damaged, it is not recommended to discharge battery cells before disposal.
- (3) Battery must also be cooled off before proceeding disposal.
- (4) Submerge the battery into a bucket or tub of salt water. This container should have a lid but it does not need to be air-tight.
Allow the battery to remain in the tub of salt water for at least 2 weeks.
- (5) Remove the battery from the salt water and dispose of as hazardous waste.

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- (6) ANY CLAIM OR ACTION FOR DAMAGES BROUGHT BY ANY PERSON OR ORGANIZATION AS A PHOTOGRAPHED SUBJECT DUE TO VIOLATION OF PRIVACY CONCERNING A SURVEILLANCE CAMERA'S PICTURE OR SAVED DATA, FOR SOME REASON (INCLUDING USE WHEN USER AUTHENTICATION ON THE AUTHENTICATION SETTING SCREEN IS SET TO OFF), BECOMING PUBLIC OR BEING USED FOR ANY PURPOSE;
- (7) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE (INCLUDING INITIALIZATION OF THE PRODUCT DUE TO FORGOTTEN AUTHENTICATION INFORMATION SUCH AS A USER NAME AND PASSWORD).

Preface

WV-TW370 Body Worn Camera is battery-powered camera that is used to record images by being worn on a human body.

It has fisheye lens, which enables shooting with wide angles.

It is also possible to record images on the internal memory card of the camera.

Main functions

Panasonic's power-saving design and newly adopted battery enable long hour operation

A long hour operation without charging, such as in two-shift work system, is possible.

Wide angle

Wide angle shooting is achieved by adopting a fisheye lens and 1/2.86 type MOS image sensor.

Compliant with IEEE802.11ac standard, high-speed wireless communication function is provided.

The recorded data can be uploaded in a high speed via wireless communication.

BLE (Bluetooth Low Energy) enables low-power communication with peripheral devices

Low power consumption is achieved in communication with peripheral device.

GPS (Global Positioning System) is adopted

The camera positions can be recorded.

Robust designing for rough environment

- High falling shock resistance compliant with MIL-STS-810G is provided.
- IP67-compliant superior dust-proof and water-proof properties are provided.
- A scratch-resistant hard coating is applied to the surface of the fisheye lens.

About the user manuals

There is an operating instruction for the WV-TW370 as follows.

- Installation Guide: Explains how to install and connect devices.
The instructions for mounting the optional parts to be used with BWC are included.
- Important Information (this document): Provides basic information about the product.

The external appearance and other parts shown in this manual may differ from the actual product within the scope that will not interfere with normal use due to improvement of the product.

System requirements for a PC

For the system requirements for a PC, refer to “Operating Instructions” of Back-End Client (Back-End Application).

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- Refer to the “Open Source Software” leaflet for further information about open source software licenses and the source code.
- Please note that Panasonic shall not respond to any inquiries regarding the contents of the source code.

Network security

As you will use this unit connected to a network, your attention is called to the following security risks.

- ① Leakage or theft of information through this unit
- ② Use of this unit for illegal operations by persons with malicious intent
- ③ Interference with or stoppage of this unit by persons with malicious intent

It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this unit in a network secured by a firewall, etc.
- If this unit is connected to a network that includes PCs, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated anti-virus program, anti-spyware program, etc.).

Precautions

Turn off the power in air planes

Failure to observe this may interfere with the safety of the flight.

Do not bring the camera near medical devices (Do not bring it into an operating room, ICU, or CCU, etc.)

The waveform emitted from the device may affect the medical devices. It may cause malfunction resulting in an accident.

Refer installation work to the dealer.

Installation work requires technique and experience. Failure to observe this may cause injury, or damage to the product. Be sure to consult the dealer.

Turn the power off when do wiring of this product.

Failure to observe this may cause electric shock. In addition, short circuit or wrong wiring may cause fire.

Correctly perform all wiring

Short circuits in the wiring or incorrect wiring may cause fire or electrical shock.

Do not pull the cables

Failure to observe this may cause injury.

Do not damage the cables

If a heavy object is put on the cable or is pinched, the cable may be damaged and be a cause of injury.

Do not rub the edges of metal parts with your hand

Failure to observe this may cause injury.

Do not use this product in an inflammable atmosphere

Failure to observe this may cause an explosion resulting in injury.

The screws and bolts must be tightened to the specified torque

Failure to observe this may cause a drop resulting in injury or accidents.

Do not block the ventilation openings.

Failure to observe this may cause fire since blocking the ventilation openings can raise the temperature inside the product.

(Multi-Dock Charger: WV-TC370 only)

Do not strike or give a strong shock to this product

Failure to observe this may cause fire or injury.

Do not pour or wet the unit.

This may result electric shock or fire. Turn the power off immediately and contact qualified service personnel for service.

(Multi-Dock Charger: WV-TC370,
Common Trigger Box: WV-TW37003,
Pairing Dock: WV-TW37004 only)

Do not insert any foreign objects

Fire or electrical shock may be caused if water or any foreign objects, such as metal objects, enter inside the unit.

Turn the power off immediately and contact qualified service personnel for service.

Do not attempt to disassemble or modify this product

Failure to observe this may cause fire or electric shock.

Consult the dealer for the repair or inspections.

Periodic inspections shall be conducted.

Rust on the metal parts or screws may cause a fall of the product resulting in injury or accidents.

Consult the dealer for the inspections.

Turn the power off when cleaning this product.

Failure to observe this may cause injury.

Stop the operation immediately when something is wrong with this product.

When smoke goes up from the product, the smell of smoke comes from the product, or the exterior of the product has deteriorated, continued use will cause a fire or fall of the product resulting in injury, or damage to the product.

In this case, turn the power off immediately and contact qualified service personnel for service.

Do not throw into flame

Failure to observe this may cause ignition or rupture.

Refer disposal to experts

If burned, chemical substance may be discharged and hurt eyes, cause fire or burn.

Use a specified battery charger.

Failure to observe this may be a cause of leakage, heat generation, or rupture of the battery.

Do not throw into flame or heat up.

Failure to observe this may be a cause of leakage, heat generation, or rupture of the battery.

Use the same model or equivalent lithium ion polymer battery when replacement is required.

Failure to observe this may result in heat generation, rupture of the battery, or ignition.

Contact your dealer for replacement of the lithium ion polymer battery.

Do not directly touch the product with your skin when it has been turned on for an extended period.

Direct skin contact with high-temperature parts of the product for extended periods may cause low-temperature burns.

A lithium ion polymer battery that is recyclable powers the product you have purchased.

Please call 1-800-8-BATTERY for information on how to recycle this battery.

(L'appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion/lithium-polymère.

Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.)



[Precautions for use]

To keep on using with stable performance

Do not use this product in hot and humid conditions for a long time.

Failure to observe this causes component degradation resulting in life shortening of this product.

Do not expose this product to direct heat sources such as a heater.

Handle this product with care.

Do not drop this product, nor apply shock or vibration to the product.

Failure to observe this may cause trouble.

If a strong shock or vibration is applied to the enclosure, it may cause damage to this product.

About the battery

A battery is installed inside the camera. Do not leave the battery exposed in environments of excessive heat as a result of sunlight or fire.

The capacity of the battery is reduced each time it is used. In particular, recharging or using the battery in high-temperature locations increases deterioration.

Do not touch the lens with your bare hands.

A dirty lens causes deterioration of picture quality.

When an error is detected, this product will restart automatically.

This product will be inoperable for around 1 minute after the restart just as when the power is turned on.

Periodically images on the screen appear to be distorted

When the camera is installed in a location where it is subject to small vibrations (for example, when it is installed near devices that vibrate), images may appear distorted and stretched lengthways.

This phenomenon is a characteristic of image pickup devices that use MOS sensors and is caused by the relationship between the periodic movements of the camera and the timing that the image sensor reads images. This is not a problem with the camera.

About internal memory card

The internal memory card is consumables: Replace it in accordance with their operating lifetimes. It's operating lifetimes vary depending on the usage environment and conditions.

Make sure to contact a service engineer when replacing the internal memory card.

About the MOS image sensor

- When continuously shooting a bright light source such as a spotlight, the color filter of the MOS image sensor may become deteriorated and this may cause discoloration.

Even when changing the fixed shooting direction after continuously shooting a spotlight for a certain period, the discoloration may remain.

- When shooting fast-moving subjects or objects crossing the shooting area may look to be bending askew.

About the built-in microphone

- If moisture attach to the peristome of built-in microphone, the volume may decrease. Please leave it to air dry sufficiently before use.
- When cleaning the peristome of built-in microphone, do not use any sharp-ended object to stab it. Doing so may result in failure.

Cleaning this product body

Be sure to turn off the power before cleaning. Failure to observe this may cause injury.

Do not use benzine, thinner, alcohol, or any other types of solvents or detergents.

Otherwise, it may cause discoloration.

When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.

Do not loosen or remove screws unless instructed to do so in the product documentation.

Cleaning the lens

Use a lens cleaning paper (used to clean camera lenses or lenses of spectacles).

When using solvent, use an alcohol solvent and do not use a thinner or a glass cleaner.

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Equipment classification and power source indication label

Refer to the indication label on the rear side of this unit for the equipment classification, power source, and other information.

Product disposal/transfer

Data saved on this product or a storage device used with this product may lead to personal information leakage.

When it is necessary to dispose or give this product to someone, even when for repair, make sure that there is no data on this product.

Precautions for installation

Panasonic assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this documentation.

For information about the installation tasks, refer to the provided Installation Guide.

Do not place this product in the following places:

- Locations where a chemical agent is used such as a swimming pool
- Locations subject to moisture or oil smoke such as a kitchen
- Locations that have a specific environment that is subject to an inflammable atmosphere or solvents
- Locations where a radiation, an X-ray, a strong radio wave or a strong magnetic field is generated
- Locations near coasts directly subjected to sea breezes, or locations subject to corrosive gases such as from hot springs, volcanic regions, etc.
- Locations where the temperature is not within the specified range (–20 °C to +50 °C {–4 °F to 122 °F})
- Locations subject to condensation as the result of severe changes in temperature (In case of installing the product in such locations, the lens may become foggy or condensation may be caused on the lens.)

Sulfurization caused by rubber products

Do not place the product near rubber products (packing, rubber feet, etc.) that contain sulfur. There is a risk that sulfur components in rubber products may cause electrical parts and terminals, etc. to become sulfurized and corrode.

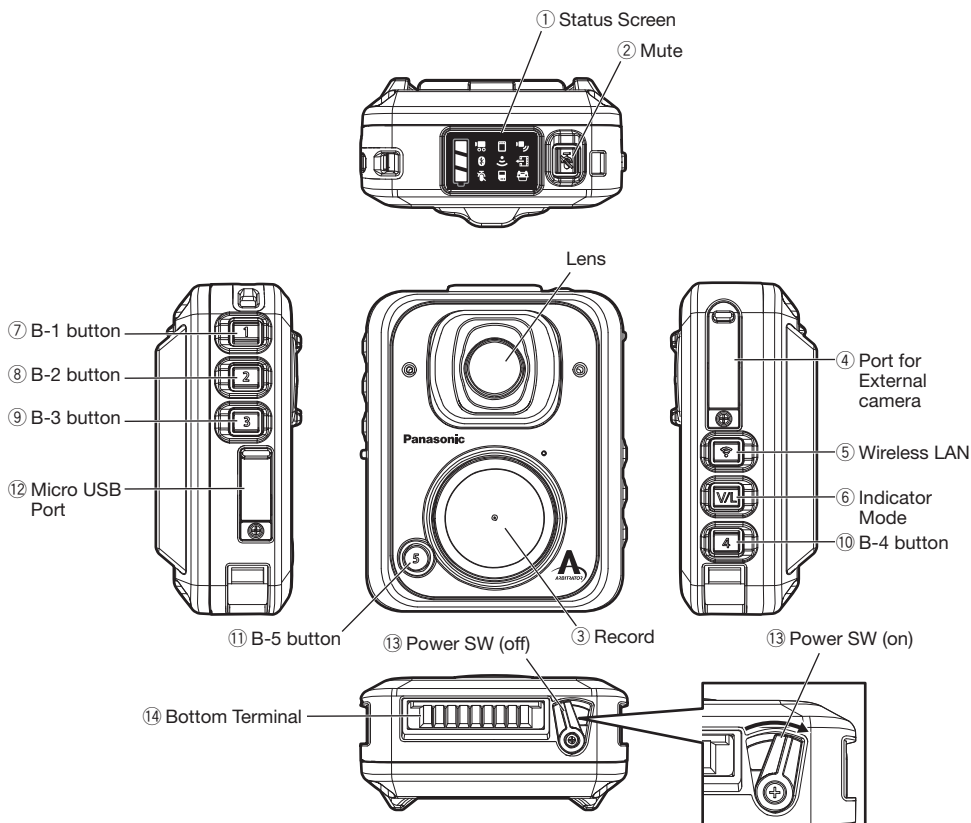
When noise disturbance may happen

Conduct the power distribution work to keep a distance of 1 m {3.28 feet} or more from the 120 V (for U.S. and Canada) or 220 V – 240 V (for Europe and other countries) power line. Or conduct the electric conduit work separately (Always connect the metal pipe with grounding).

Radio disturbance

When this product is used near TV/radio antenna, strong electric field or magnetic field (near a motor, a transformer or a power line), images may be distorted and noise may be produced.

Parts and functions



① Status Screen

The operating condition of the camera or a remaining amount of the battery is displayed. The following describes the display layout. Refer to page 20 for further information about details of the display.



② Audio mute

Press the mute button to mute the audio during recording.

③ **Record**

Start: When it's pushed.
Stop: Press and hold the Record button for more than two seconds(default) depending on the settings (2/3/5 seconds).

④ **Port for External Camera (Release in March, 2017)**

A terminal to connect an external camera. When an external camera is connected, the imaging circuit with a built-in camera will be automatically turned off.

⑤ **Wireless LAN**

Wireless LAN has 3 different modes as Station 1/ Station 2/ AP/ OFF.
Station1: For connecting with VPU (Video Processing Unit Recorder of ICV system).
Station2: For connecting with BES (Back end Server).
AP: AP (Access Point) mode for the live view of the system via smart phone application
OFF: Turn off the Wireless LAN

⑥ **Indicator Mode**

A display mode can be selected from the following:
LED and Vibrator Mode: Indicate the operation or status of system via LED and Vibrator.
LED Mode: Indicate the operation or status of system via LED indicator
Vibrator Mode: Indicate the operation or status of system via Vibrator
None Mode: It doesn't indicate the operation or status of system

⑦ **B-1 button/** ⑧ **B-2 button/** ⑨ **B-3 button/** ⑩ **B-4 button/** ⑪ **B-5 button**

There are configurable buttons on the camera.
Configurable button, Available functions for each button.

	B-1	B-2	B-3	B-4	B-5
Record Start/Stop	Default	N/A	N/A	OK	N/A
Classify 1	N/A	Default	N/A	N/A	N/A
Classify 2	N/A	N/A	Default	N/A	N/A
Classify 3	N/A	N/A	N/A	Default	N/A
Snapshot	OK	N/A	N/A	OK	Default

* **About Classify button**

The camera has a push switch to select the incidents type and also it has button to add the incidents type to the video data.

⑫ **Micro USB Port**

It will be used for charging and USB connection.

The charging time depends on the connected device,

PC: about 6 hours

Cigar charging adapter: about 3 hours

⑬ **Power switch**

Control power on/off

⑭ **Bottom Terminal (USB, Power)**

A terminal to be used when charging the camera by setting onto Multi-Dock Charger (WV-TC370 : option) or Pairing Dock (WV-TW37004 : option). Also, it is used when transferring recorded data to the PC.

• **BLE (Bluetooth Low Energy)** * Equipped inside the camera

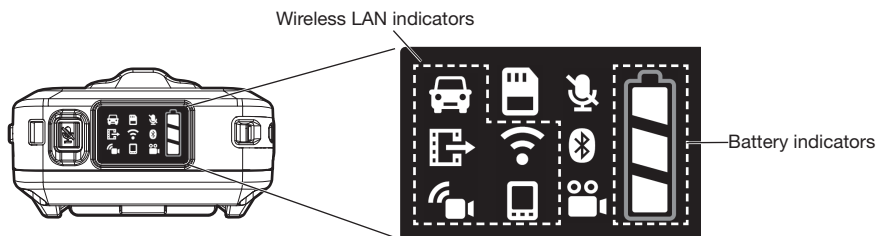
A function to be used for making wireless connection with peripheral devices such as Common Trigger Box (WV-TW37003 : option).

• **Wireless LAN** * Equipped inside the camera

A function to be used for making wireless connection with Access Point on IEEE802.11 a/b/g/n/ac mode.

Indicators

There are LED indicators in main controller like below details.



■ Wireless LAN indicators (ST1, ST2, ST3, AP, Wireless LAN)

• ST1 (Wireless LAN Station1 Mode Status LED)

Connection to Video Processing Unit (Recorder of ICV system)

□: On ■: Off

Display and meaning	Wireless LAN LED operation		ST1 LED operation	
 Not ST1 mode (LED off / Power off)	■	Off	■	Off
Searching Access Point (No link to Wireless LAN)	□⇔■	Blink green (0.5 sec: On 0.5 sec: Off)	□⇔■	Blink green (0.5 sec: On 2.5 sec: Off)
Has been linked to Access Point.	□	Lights green	□⇔■	Blink green (0.5 sec: On 2.5 sec: Off)
Has been linked to Video Processing Unit.	□	Lights green	□	Lights green
Transfer Data to Video Processing Unit.	□	Lights green	□⇔■	Blink green (0.5 sec: On 0.5 sec: Off)

• ST2 (Wireless LAN Station2 Mode Status LED)

Connection to Back End Server

□: On ■: Off

Display and meaning	Wireless LAN LED operation		ST2 LED operation	
 Not ST2 mode (LED off / Power off)	■	Off	■	Off
Searching Access Point (No link to Wireless LAN)	□⇔■	Blink green (0.5 sec: On 0.5 sec: Off)	□⇔■	Blink green (0.5 sec: On 2.5 sec: Off)
Has been linked to Access Point.	□	Lights green	□⇔■	Blink green (0.5 sec: On 2.5 sec: Off)
Has been linked to Back End Server System or completed uploading.	□	Lights green	□	Lights green
Uploading / Streaming / Data transferring	□	Lights green	□⇔■	Blink green (0.5 sec: On 0.5 sec: Off)

• ST3 (Wireless LAN Station3 Mode Status LED)



This indicator is not used (as of January, 2017).

• AP (Wireless LAN AP Mode Status LED)

Connected with smart phone

□: On ■: Off



Display and meaning	Wireless LAN LED operation		AP LED operation	
Not AP mode (LED off / Power off)	■	Off	■	Off
AP mode is selected, but not connected anything.	□↔■	Blink green (0.5 sec: On 0.5 sec: Off)	□↔■	Blink green (0.5 sec: On 2.5 sec: Off)
Connected with a smartphone	□	Lights green	□	Lights green
Streaming / Playback. A smart phone is connected.	□	Lights green	□↔■	Blink green (0.5 sec: On 0.5 sec: Off)

• Wireless LAN (Wireless LAN Link Status LED)

□: On ■: Off



Display and meaning	Wireless LAN LED operation	
Detect any hardware problems	□	Lights red
No link Wireless LAN off (LED off / Power off)	■	Off
Waiting to be linked	□↔■	Blink green (0.5 sec: On 0.5 sec: Off)
Has been linked to any client.	□	Lights green

■ Battery indicators

□: On ■: Off



	Power SW = On and at not Charging (Normally operating)		Power SW = On or Off and at Charging (Charging)	
□	Lights green	Remain = 100%	Lights green	Remain = 100%
□				
□				
□	Lights green	Remain ≥ Thresh (A)	Blink green	Remain ≥ Thresh (A)
□				
□				
■	Lights green	Thresh (A) > Remain ≥ Thresh (B)	Blink green	Thresh (A) > Remain ≥ Thresh (B)
□				
□				
■	Lights green	Thresh (B) > Remain ≥ Thresh (C)	Blink orange	Thresh (B) > Remain ≥ Thresh (C)
■				
□				
■	Blink orange	Thresh (C) > Remain > 5%	Blink orange	Thresh (C) > Remain > 5%
■				
□				
■	Fast blink red	Remain < 5% *1	Fast blink red	Remain < 5% *1
□				
■	Off	Indicator mode = LED off mode	Off	Indicator mode = LED off mode
■				

*1 BWC does not wake up.

The values of Thresh (A), Thresh (B), Thresh (C) can be changed with software.

The defaults are as follows:

Thresh (A): 50 %, Thresh (B): 30 %, Thresh (C): 15 %

Fore details, refer to “Operating Instructions” of Back-End Client (Back-End Application).

■ Others

• Internal memory card (Storage Status LED)

Remain recording time or card status.

□: On ■: Off

	Display and meaning	Internal memory card LED operation	
	LED off / Power off	■	Off
	Remain recording time > 3 Hours	□	Lights green
	3 Hours > Remain recording time > 1 Hour	□	Lights orange
	1 Hour > Remain recording time	□↔■	Blink red (0.5 sec: On 0.5 sec: Off)
	Card Full > Card Error/Corrupted card, No Card, Protected card	□	Lights red

• Mute (Audio mute LED) Audio Mute on/off

	Display and meaning	Mute LED operation	
	Audio mute off (LED off / Power off)	■	Off
	Audio Mute on	□	Lights orange
	Under connected with PC via USB	□↔■	Blink orange (0.5 sec: On 0.5 sec: Off)

• BLE (Bluetooth LED) Connect to Bluetooth device.

□: On ■: Off

	Display and meaning	BLE LED operation	
	No link/ Bluetooth off (LED off / Power off)	■	Off
	Searching Device	□↔■	Blink green (0.5 sec: On 0.5 sec: Off)
	No pairing information	□↔■	Blink green (2.5 sec: On 2.5 sec: Off)
	Connected to Bluetooth Device.	□	Lights green

• Rec (Recording LED)

□: On ■: Off

	Display and meaning	Rec LED operation	
	Not Recording / Recording stops (LED off / Power off)	■	Off
	During Recording	□	Lights red
	Snapshot is recorded	□→■	Flash once in the red
	Classify is recorded	□→■	Flash once in the red
	Fail to Start Recording	□□□→■	Blinking 3 times in the red
	When BWC receive the command from PC application.	□↔■	Blink red (0.5 sec: On 0.5 sec: Off)

Specifications

● Basic

Power source:	Rechargeable lithium ion polymer battery: 3400 mAh or more * Battery can be charged using Multi-Dock Charger (WV-TC370), Pairing Dock (WV-TW37004) or Cigar charging adapter (accessory) Can be charged from the PC connecting with a USB cable.
Power consumption:	DC 3.7 V/ Approx. 3.4 A/ Approx. 12.9 W
Continuous operating time *1:	17 hours (1280 × 720 30 fps mode, Wireless LAN: Off, GPS: On, REC: Off)
Full-charging term *2:	About 3 hours (by Multi-Dock Charger or Cigar charging adapter) About 6 hours (by PC USB connection)
Operating environment:	Ambient operating temperature: -20°C to +50°C {-4°F to 122°F} Ambient operating humidity: 10 % to 100 %
Storage environment:	Storage temperature: -30°C to +60°C {-22°F to 140°F} Storage humidity: 10 % to 95 % (no condensation)
Built-in microphone:	Nondirectional electret condenser microphone
Internal memory card:	64 GB
Terminals:	External Camera terminal micro USB terminal
Waterproof *3:	IP67/IP66 (IEC60529), Type 4X (UL50), NEMA 4X compliant
On-vehicle support:	Compliant with MIL-STS-810G
Dimensions:	70 mm (W) × 86 mm (H) × 31 mm (D) {2-3/4 inches (W) × 3-3/8 inches (H) × 1-7/32 inches (D)} (Excluding projections)
Mass:	Approx. 200 g {0.44 lbs}
Finish:	Main body: ABS resin, Lusterless black

*1 The measurement result is based on the Panasonic original standard. It varies depending on the operating environment and system configuration.

*2 Charging with a Multi-Dock Charger (WV-TC370), left at a room temperature. The battery charging time varies depending on the operating environment and the system configuration.

*3 Limited for the case when the cap of the external camera and the USB connector cap are properly closed.

● Others

Wireless LAN

Communication Standard:	IEEE802.11 a/b/g/n/ac
Access Control:	CSMA/CA
Frequency Band(STA):	2.4 GHz band (ISM) 2412 to 2462 MHz, 5 MHz step 11ch 5.3 GHz band 5280 to 5320 MHz, 20 MHz step 3ch (20 MHz BW), 5310 MHz (40 MHz BW) 5.6 GHz band 5500 to 5580 MHz, 20 MHz step 5ch (20 MHz BW), 5660 to 5720 MHz, 20 MHz step 4ch (20 MHz BW), 5510 MHz, 5550 MHz, 5670 MHz, 5710 MHz (40 MHz BW), 5530 MHz, 5690 MHz (80 MHz BW) 5.8 GHz band 5745 to 5825 MHz, 20 MHz step 5ch 5755 MHz, 5795 MHz (40 MHz BW), 5775 MHz (80 MHz BW)
Frequency Band(AP):	2.4 GHz band (ISM) 2412 to 2462 MHz, 5 MHz step 11ch 5.8 GHz band 5745 to 5825 MHz, 20 MHz step 5ch 5755 MHz, 5795 MHz (40 MHz BW), 5775 MHz (80 MHz BW)
SISO:	1x1, 1 stream

Bluetooth

Communication protocol:	BLE (Bluetooth4.1)
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GPS (Global Positioning System)

Geodetic system:	WGS-84
Communication protocol:	NEMA-0183
Positioning accuracy (Open air):	Single GPS: 2.2 m, CEP (5.3 m, 2DRMS)
Follow-up performance:	Speed: 200 km/h or less Acceleration: 2 G or less, Signal follow-up

Standard accessories

Important Information (this document)	1 pc.
Warranty card*1	1 pc.
Code label*2	1 pc.

- *1 This product comes with several types of warranties. Each warranty is only applicable to the products purchased in the regions indicated on the relevant warranty.
- *2 This label may be required for network management. The network administrator shall retain the code label.

Cigar charging adapter	1 pc.
USB charging cable	1 pc.
1st plate	1 pc.

Optional accessories

- Multi-Dock Charger:
(Up to eight cameras can be charged simultaneously) BC WV-TC370
- Body Worn External Camera (Release in March, 2017):
(Sub-camera to be connected with BWC) WV-TW37001
- Common Trigger Box:
(An I/O device to enable camera activation from external devices,
or to notify the external device of camera activation.) WV-TW37003
- Pairing Dock:
(Connected with the Common Trigger Box with a ethernet cable to
execute initial pairing of Bluetooth. Also, charging can be done
simultaneously.) BC WV-TW37004

BC : This product is compliant with APPLIANCE EFFICIENCY REGULATIONS of the California Energy Commission (CEC).

Disposal of Old Equipment and Batteries

Only for European Union and countries with recycling systems



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries must not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points in accordance with your national legislation.

By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment.

For more information about collection and recycling, please contact your local municipality.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



Note for the battery symbol (bottom symbol)

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

For U.S. and Canada:

Panasonic System Communications Company of North America, Unit of Panasonic Corporation of North America

www.panasonic.com/business/

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