

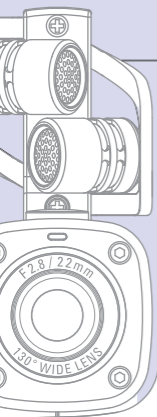
Sound Laboratory
ZOOM[®]

Q4

Handy Video Recorder

User Guide

Safety and Operation
Precautions must be read
before using the unit.



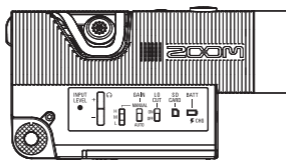
Handy Video Recorder **ZOOM**

Q4

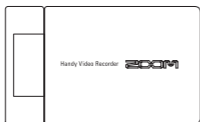
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Included items



• **Q4** main unit



• LCD unit



• Lithium-ion battery
(BT-02)



• USB cable



• Hairy windscreen



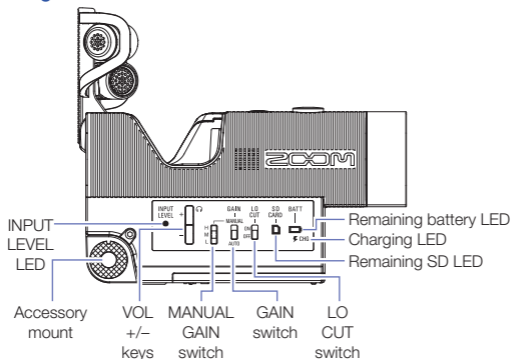
• Hairy
windscreen
attachment
screw



• User Guide
(this document)

Parts of the recorder

Right side view



Remaining battery LED

Green	50% or more remaining battery charge
Orange	20-50% remaining battery charge
Red	20% or less remaining battery charge
Blinking red	Almost no remaining battery charge

Charging LED

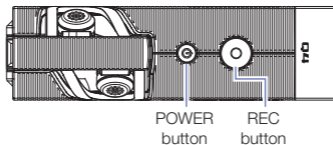
Red	Battery charging
Unlit	Charging complete or not charging

Remaining SD LED

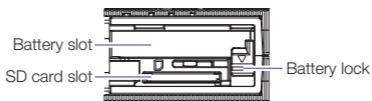
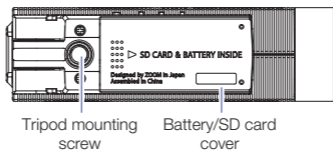
Green	50% or more SD card space open
Orange	20-50% space open
Red	20% or less space open
Blinking red	No space open or unusable
Unlit	No SD card loaded

Parts of the recorder (continued)

Top



Bottom

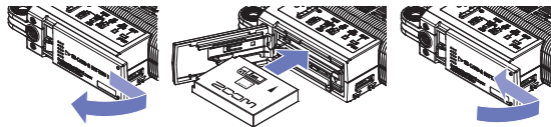


Installing the battery

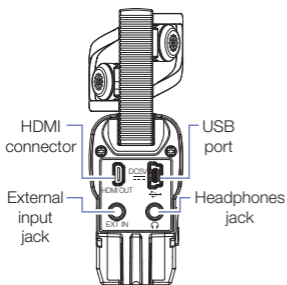
Open the battery/SD card cover. Make sure the battery is facing the correct direction and push it in completely until it locks.

After confirming that the battery is locked, securely close the battery/SD card cover.

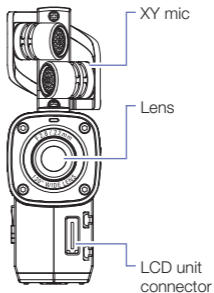
Unlock the battery before removing it.



Back

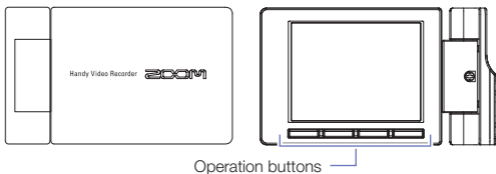


Front



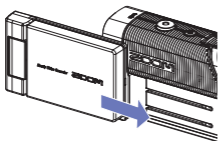
XY mic
Raise when recording.

LCD unit



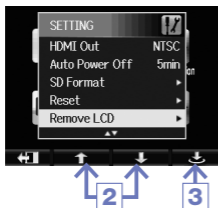
Parts of the recorder (continued)

■ Attaching and detaching the LCD unit



Attaching the LCD unit

1. Align the LCD unit with the guide rail and push it in until it is attached.



Detaching the LCD unit

1. On the menu screen, select SETTING and press .
(See "Working with menus" on page 7.)

2. Use / to select "Remove LCD".

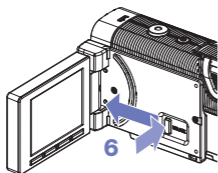
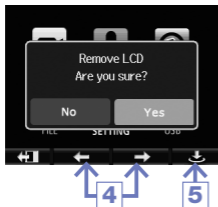
3. Press .

4. Use / to select "Yes".

5. Press .

The LCD becomes blank.

6. While pressing the UNLOCK button in the recorder connection area, slide the LCD unit off.



NOTE

Recording is possible when the LCD unit is detached.



Status icon

This shows the current operation status.

Level meters

These show the volume of the input audio. If the volume is too loud, peak indicators will stay lit.

Timecode

When recording, this shows the recording time. When paused, this shows the possible recording time.

Remaining battery charge

This shows the amount of remaining battery charge.

Monitoring volume

This shows the volume level (when using the VOL +/- keys).

Video quality setting

This shows the video size and number of frames.

Audio quality setting

This shows the audio format and bit rate.

Navigation buttons

These icons show the functions of the LCD unit operation buttons. They change according to the operation state.

SCENE setting

This shows the camera SCENE setting (VIDEO menu).

Input settings

This shows the audio input setting (built-in mic, external mic or line input).

LO CUT setting

This shows the use of noise reduction.

Mic gain

This shows the recording level setting.

NOTE

You can use the \oplus/\ominus navigation buttons to change the angle of view.

\oplus : Make the angle of view narrower.


\ominus : Make the angle of view wider.

Working with menus

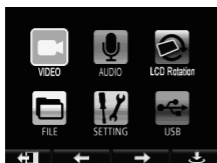
Use the menu to make detailed settings.

■ Open the menu screen



1. Press  while the main screen is open.

This opens the menu.

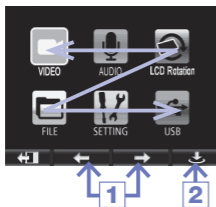


NOTE

If the LCD unit is turned, the navigation button display will change according to the positions of the unit operation buttons.

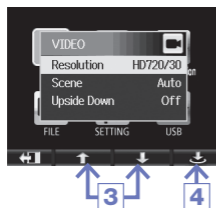


Working with menus



1. Use ← / → to select a menu item.
2. Press to confirm a menu selection.

The setting item list opens.



3. Use ↑ / ↓ to select a setting item.
4. Press to confirm a setting selection.

The setting value list opens.

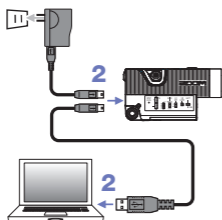


5. Use ↑ / ↓ to select a setting value.
6. Press to confirm a setting value.

A check mark appears on the selected setting value.

7. To return to the main screen, press several times.

Charging the battery



1. Turn the **Q4** off.
2. Connect to a USB power supply (running computer or ZOOM AD-17 AC adapter (sold separately)).
The Charging LED stays lit while the battery is charging.
3. After charging completes, disconnect the cable from the USB power supply.
After charging completes, the Charging LED becomes unlit.

NOTE

Charging a battery to 100% requires about three hours when connected to a computer and about two hours fifteen minutes when using an AC adapter.

(The amount of time required will vary depending on the conditions.)

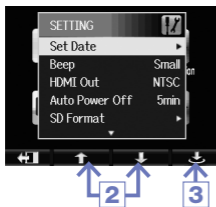
CAUTION

- The recorder does not charge when it is on.
- The surrounding temperature should be between 5°C and 35°C (41°F and 95°F) when charging. At other temperatures, the battery could become hot, damaged or weakened.
- Do not leave the cable connected for a long time after charging completes.
- You must also follow the handling instructions in "Warnings and requests regarding safe battery use" on page 30.

Setting the time



When the date and time are set, the recorder can store accurate recording date and time information in files.

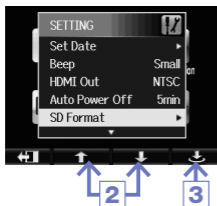






1. On the menu screen, select SETTING and press .
2. Use / to select Set Date.
3. Press .
4. Use to select each item.
5. Use / to set the values for the current date and time.
6. After completing the setting, press .

Formatting SD cards






SD cards must be formatted by the **Q4** for use with it.



1. On the menu screen, select SETTING and press .
2. Use  /  to select SD Format.
3. Press .



4. Use  /  to select "Yes".
5. Press .

The SD card will be formatted.

Select "No" to return to the SETTING menu.

After formatting completes, "Done" will appear and the SETTING menu will reopen.

NOTE

If the SD card's write-protection switch is ON, the card cannot be formatted.

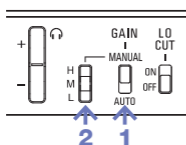
CAUTION

- After purchasing a new SD card, always format it using the **Q4** to maximize performance.
- Be aware that all data previously saved on the SD card will be deleted when it is formatted.

Adjusting the recording level

You can adjust the recording level to suit the recording conditions.

Adjusting the recording level manually



1. Slide the GAIN switch to the MANUAL position.

This turns automatic recording level adjustment off.

2. Use the MANUAL GAIN switch to adjust the recording level.

H High sensitivity (for field recording)

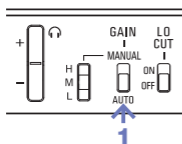
M Medium sensitivity (for solo and chamber music performances)

L Low sensitivity (for band performances and concerts)

NOTE

The MANUAL GAIN setting also affects external mics and line inputs.

Adjusting the recording level automatically



1. Slide the GAIN switch to the AUTO position.

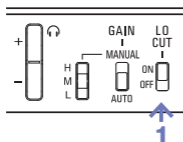
The **Q4** will automatically set a suitable recording level.

NOTE

Use the AUDIO menu Auto Gain item to set how the recording level is automatically adjusted. (See "AUDIO settings" on page 15)

Reducing noise

Turn the low-cut filter on to reduce wind sounds and other noise.



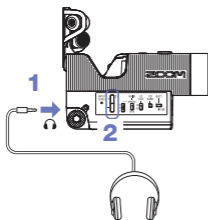
1. Slide the LO CUT switch to ON.

NOTE

Cover the mic with the included windscreen to further reduce noise.

Monitoring audio

Using headphones, you can monitor the audio being recorded.

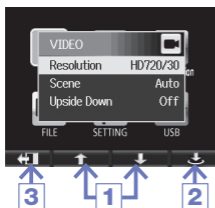


1. Connect headphones or other audio equipment to the headphones jack on the back of the recorder.
2. Use the VOL +/- keys to adjust the monitoring volume.

VIDEO settings



You can set the resolution, frame rate and other recording settings. Increasing the resolution decreases the possible recording time.



1. Use \uparrow / \downarrow to select an item.
2. Press \rightarrow .
3. After completing the setting, press \leftarrow .

Resolution: resolution and frame rate used when recording

Setting	Picture dimensions	Frames/second	Main applications	File size
HD1080/30	1920 x 1080	30	Playback on HD TVs	Larger \updownarrow
HD720/60	1280 x 720	60	Recording fast movement	
HD720/30	1280 x 720	30	Playback on HD TVs and computers	
WVGA/60	848 x 480	60	Saving SD card space and recording fast movement	Smaller
WVGA/30	848 x 480	30	Saving SD card space	

Scene: Camera setting for lighting conditions when recording

Setting	Main applications
Auto	Adjusts to lighting conditions automatically.
Concert Lighting	Best setting for live shows, concerts and other situations with bright lights.
Night	Best setting for night and other dark situations.

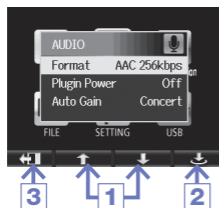
Upside Down: Reverse vertical orientation when recording

Setting	Main applications
On	Video will be saved with the image rotated 180°. Use when the Q4 is recording upside down, for example.
Off	The image is not rotated.

AUDIO settings



You can set the audio quality to use when recording video. Increasing the audio quality decreases the possible recording time.



1. Use \uparrow / \downarrow to select an item.
2. Press \odot .
3. After completing the setting, press \leftarrow .

Format: audio quality when recording video

Setting	Description	File size
WAV 96kHz/24bit	Record in an uncompressed WAV format when audio quality is important. The higher the sampling frequency (kHz) and bit rate, the better the audio quality.	Larger \updownarrow
WAV 96kHz/16bit		
WAV 48kHz/24bit		
WAV 48kHz/16bit		
WAV 44.1kHz/24bit		
WAV 44.1kHz/16bit		
AAC 320kbps	Record in a compressed AAC format when you need to save SD card space. The higher the bit rate (kbps), the better the audio quality.	Smaller
AAC 256kbps		
AAC 192kbps		
AAC 128kbps		
AAC 64kbps		

Plugin Power: supply power to an external mic connected to the external input jack

Setting	Description
On	Activate plug-in power
Off	Deactivate plug-in power

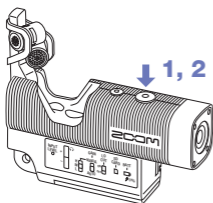
Auto Gain: setting used to adjust recording levels automatically


Setting	Main applications
Concert	Use for band performances, concerts and other loud situations.
Solo	Use for solo performances and other quiet sounds.
Meeting	Use for meetings and field recordings.

Recording video




From the main screen, you can start recording video by pressing a single button.



1. After preparing to record, press .

This starts video recording.

2. Press  again to stop recording.

NOTE

- If the transfer speed to the card is not fast enough during audio/video recording, “Low Speed Card!” appears on the screen and recording stops. To avoid this, we recommend using cards that are Class 4 or faster. Information about SD cards that can be used with this unit can be found at www.zoom.co.jp.

Playing recordings



You can play back recorded video.



1. Press **▶** on the main screen.

This starts playback of the last recorded video.



2. Use **◀▶** if you want to play a different file.

3. Press **◀|** to stop playback.

The main screen reappears.

● Functions of other buttons

Play previous/next recording ...	Press ◀▶ during playback
Search backward/forward	Press and hold ◀▶ during playback
Pause	Press ⏸ during playback
End pause	Press ▶ when paused
Adjust the volume	Press +/-

NOTE

- The **Q4** can only play back videos that it recorded.
- By connecting an HDMI cable (sold separately) to the HDMI OUT, video can be output to an external device. (See "HDMI output" on page 21)
- The FILE menu shows a thumbnail list of videos that you can use for playback selection. (See "FILE list" on page 24)

Deleting recordings



You can delete videos to increase the open space on the media.



1

1. Press on the main screen.

A list of videos appears.



4

2

3

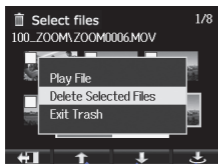
2. Use / to select the video that you want to delete.

3. Press .

A check mark appears on the selected video.

Repeat steps 2 and 3 to add check marks to multiple videos.

4. Press / .



5

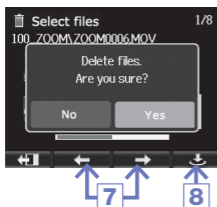
6

5. Use / to select "Delete Selected Files".

6. Press .

You can also use "Play File" to play a selected file.

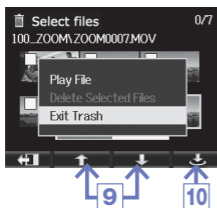
Deleting recordings (continued)




7. Use ← / → to select "Yes" .

8. Press .

The selected video will be deleted.
Select "No" to cancel.

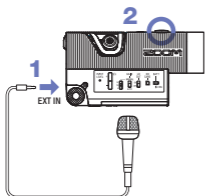



9. Use ↑ / ↓ to select "Exit Trash" and press  to return to the main screen.

10. Press .

Connecting to the external input jack

Audio from an external mic or other audio equipment can be input and recorded.



1. Connect an external mic or other audio equipment to the EXT IN jack.
2. Press .

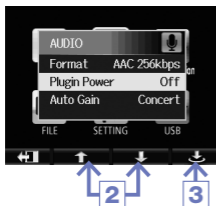
This starts recording.





NOTE

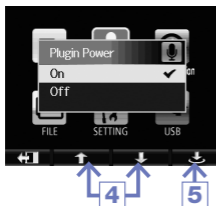
When an external device is connected to EXT IN, the built-in XY mic is disabled.




■ When using a mic that supports plug-in power

Make the following setting before connecting the mic.



1. On the menu screen, select AUDIO and press .
2. Use  /  to select "Plugin Power".
3. Press .



4. Use  /  to select "On".
5. Press .

Headphones/line output jack

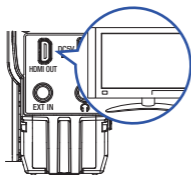
You can listen to the audio with headphones or an external audio amplifier.



1. Connect headphones or audio equipment to the **Q4** headphones jack using a stereo mini plug cable.
2. Start video playback on the **Q4**.

HDMI output

Use an HDMI cable to connect with an HDMI TV to show recordings in high definition.



1. Connect the **Q4** HDMI jack with a TV using an HDMI cable (commercially-available).
2. Start video playback on the **Q4**.

NOTE

Some TVs support different audio formats, so correct playback might not be possible with them.



CAUTION

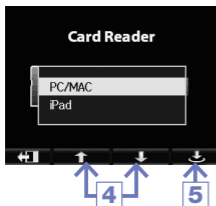
The **Q4** HDMI jack uses a Type D Micro connector. When using an HDMI cable (sold separately), be sure to use a High Speed HDMI (category 2) cable that has a Type D Micro connector on one end to connect to the **Q4** and a connector that matches your TV's HDMI input on the other.








USB connections



By connecting with a computer or iPad using a USB cable, you can use this recorder as a USB mic and to stream audio and video as a web camera.

■ Using as a card reader or mic (computer/iPad)



1. Select USB on the menu screen and press .
2. Use  /  to select "Card Reader" or "USB Mic".
3. Press .
4. Use  /  to select "PC/MAC" or "iPad" according to the type of device connected.
5. Press .
6. Use a USB cable to connect a computer or an iPad.
7. To end use, conduct the necessary procedures to end the USB connection from the computer and then disconnect the USB cable.

NOTE

- Use the EXIT TO HOME menu item to return to the main screen.
- When connected to a computer, power can be supplied by USB. When connected to an iPad, power cannot be supplied by USB.
- An iPad Camera Connection Kit (sold separately) is necessary to connect an iPad.





USB connections (continued)

■ Using as a web camera (computer)

NOTE

Download the audio driver necessary for use as a web camera from the ZOOM website (www.zoom.co.jp).





1. Use the USB cable to connect to the computer, select USB on the menu screen and press .
2. Use  /  to select "WebCam".
3. Press .
4. Use the **Q4** as a web camera for computer streaming and other applications.
5. To end use as a web camera, stop streaming on the computer and disconnect the USB cable.

NOTE

- Use the EXIT TO HOME menu item to return to the main screen.
- The recorder can simultaneously transmit video of up to HD720p and 48kHz/16bit quality PCM audio to a computer.
- The **Q4** cannot output computer playback signals.

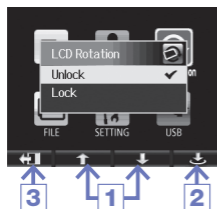
Delay setting

When using the recorder as a web camera, if the streaming application does not have a lip synchronization function, you can use  /  to set the audio delay time so that it matches the timing of the video.

LCD Rotation settings



You can lock the rotation of the LCD screen.



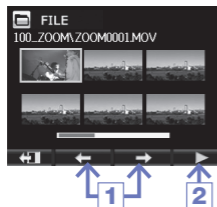
1. Use \uparrow / \downarrow to select an item.
2. Press ⏻ .
3. After completing the setting, press ⏪ .

Setting	Description
Unlock	Rotate the screen according to LCD unit orientation.
Lock	Keep the screen in the current state.

FILE list



Use this menu to view video files saved on the SD card in a thumbnail list and play them back.

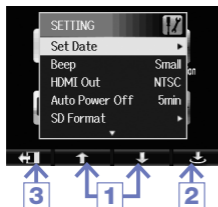


1. Use \leftarrow / \rightarrow to select a video.
2. Press ▶ to start playback of the selected video.
3. Press ⏪ to return to the FILE menu from video playback.
4. Press ⏪ to return to the menu screen.

System settings



Make settings related to the **Q4** system.



1. Use **↑** / **↓** to select an item.
2. Press **→**.
3. After completing the setting, press **←**.

Setting	Description
Set Date	Set the date and time of the Q4 internal clock. (See "Setting the time" on page 10.)
Beep	Set whether a beep sound is made when the Q4 starts and is operated. Select Off, Small or Large.
HDMI Out	Set the format of the video output from the HDMI jack to NTSC or PAL.
Auto Power Off	Set whether the power turns off automatically when running on batteries if no recording or other operation has occurred for some time. Select Off or 2, 5 or 10 minutes.
SD Format	Format an SD card. (See "Formatting SD cards" on page 11.)
Reset	Restore video resolution, audio quality, scene and other settings to the Q4 factory default values.
Remove LCD	Select before removing the LCD unit during operation. (See "Attaching and detaching the LCD unit" on page 5.)
Information	View the Q4 system version and space available for recording.






Upgrading the firmware version


Upgrade the firmware version when necessary.

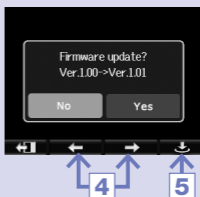
NOTE

You can check the firmware version using the Information item in the Setting menu.



- Copy the file for upgrading the firmware to the root directory on the SD card.
 - The latest version of the firmware can be downloaded from www.zoom.co.jp.
- Insert the SD card into the unit's card slot.
- While pressing and holding , press  until the unit starts and the Firmware update screen opens.
- If the contents of the version update shown are as desired, use  /  to select "Yes".
- Press .

- When updating the version completes and "Complete!" appears, press  for at least one second to shut down.



CAUTION

Upgrading the firmware version is not possible if the remaining battery power is low.

Specifications

Recording media	SD/SDHC/SDXC cards (up to 128 GB)
Image sensor	1/3-inch 3-megapixel CMOS sensor
Lens	Fixed focus (55cm – ∞), F2.8, focal distance about 22 mm (35 mm equivalent)
Video format	MPEG-4 AVC/H.264 (MOV)
Video resolutions	HD 1080p 30fps, HD 720p 60fps, HD 720p 30fps, WVGA 60fps, WVGA 30fps
Audio formats	WAV (16/24-bit quantization, 44.1/48/96kHz sampling frequency) AAC (64–320kbps bit rate, 48kHz sampling frequency)
Audio functions	Low-cut filter, auto gain (Concert/Solo/Meeting)
Image functions	Angle of view adjustment, scene selection (Auto/Concert Lighting/Night)
Display	2.0" full-color LCD
Built-in mic	XY stereo format (120°) Maximum sound pressure input: 130 dB SPL Input gain: +7db – +47dB
Input connector	Combined line/mic stereo mini jack (can supply plug-in power) Input gain: +0db – +26dB
Output connector	Combined line/headphones stereo mini jack Type D micro HDMI
Built-in speaker	400mW 8 mono speaker
USB	Mini B type Operation as mass storage Class: USB 2.0 High Speed Operation as audio interface Class: USB 1.0 Full Speed Specifications: 44.1kHz sampling rate, 16-bit Operation as webcam Specifications: WVGA/720p video size, 48kHz 16-bit audio Note: Operation as audio interface and mass storage supported with iPad Note: USB bus power supported
Power supply	Lithium-ion battery: DC 4.2V maximum voltage, DC 3.7V nominal voltage, 1050mAh capacity AC adapter (ZOOM AD-17, sold separately): DC 5V/1A
Recharging times	By USB: about 3 hours Using ZOOM AD-17: about 2 hours 15 minutes
Battery operation time	3 hours (when recording 720p/30fps video with LCD unit detached)
External dimensions	Recorder: 106.4 mm (W) × 57.8 mm (H) × 30.4 mm (D) (when XY mic stored), 167 g (without battery) LCD unit: 40.1 mm (W) × 48.4 mm (H) × 73.6 mm (D), 51 g
Included accessories	User guide (this document), LCD unit, Lithium-ion battery (BT-02), USB cable, Hairy windscreen, Hairy windscreen attachment screw

Safety Precautions

In this User Guide, symbols are used to highlight warnings and cautions that you must read to prevent accidents. The meanings of these symbols are as follows.



Warning

Something that could cause serious injury or death



Caution

Something that could cause injury or damage to the equipment

Other symbols used



An action that is mandatory



An action that is prohibited



Warnings

■ Operation using an AC adapter

- ❗ Use only a ZOOM AD-17 AC adapter (sold separately) with this unit.
- ❗ Do not do anything that could exceed the ratings of outlets and other electrical wiring equipment.

■ Alterations

- ⊘ Do not open the case or modify the product.



Precautions

■ Product handling

- ⊘ Do not drop, bump or apply excessive force to the unit.
- ⊘ Be careful not to allow foreign objects or liquids enter the unit.

■ Operating environment

- ⊘ Do not use in extremely high or low temperatures.
- ⊘ Do not use near heaters, stoves and other heat sources.
- ⊘ Do not use in very high humidity or where it could be splashed by water.
- ⊘ Do not use in places with frequent vibrations.

■ AC adapter handling

- ❗ When disconnecting the power plug, always pull on the power plug itself.
- ❗ When not using the unit for a long time, disconnect the power plug from the outlet.

You might need this User Guide in the future.
Always keep it in a place where you can access it easily.

Usage Precautions

■ Interference with other electrical equipment

In consideration of safety, the **Q4** has been designed to minimize its emission of electromagnetic waves and to suppress interference from external electromagnetic waves. However, equipment that is very susceptible to interference or that emits powerful electromagnetic waves could result in interference if placed nearby. If this occurs, place the **Q4** and the other device farther apart.

With any type of electronic device that uses digital control, including the **Q4**, electromagnetic interference could cause malfunction, corrupt or destroy data and result in other unexpected trouble. Always use caution.

■ Cleaning

Use a soft cloth to clean the exterior of the unit if it becomes dirty. If necessary, use a damp cloth that has been wrung out well.

Never use abrasive cleansers, wax or solvents such as alcohol, benzene or paint thinner.

■ Breakdown and malfunction

If the unit becomes broken or malfunctions, immediately disconnect the AC adapter, turn the power OFF and disconnect other cables. Contact the store where you bought the unit or ZOOM service with the following information: product model, serial number and specific symptoms of breakdown or malfunction, along with your name, address and telephone number.

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Warnings and requests regarding safe battery use

Carefully read the following warnings in order to avoid serious injuries, burns, fires and other problems caused by leaking, heat generation, combustion, rupture or accidental swallowing.

DANGER

-  Do not charge the lithium-ion battery (BT-02) in any way other than using the **Q4** and either an AD-17 (sold separately) or a USB port.
-  Do not disassemble the battery, put it in fire, or heat it in a microwave oven or conventional oven.
-  Do not leave the battery next to a fire, in strong sunlight, inside a vehicle that has become hot or similar conditions. Do not recharge in conditions like these.
-  Do not carry or store the battery with coins, hairpins or other metal objects.
-  Do not allow the battery to be made wet by water, seawater, milk, soft drinks, soapy water or other liquids. Do not charge or use a battery that is wet.

CAUTION

-  Do not hit the battery with a hammer or other object. Do not step on it or drop it. Do not otherwise impact or apply force to the battery.
-  Do not use the battery if it becomes deformed or damaged.
-  Do not remove or damage the outer seal. Never use a battery that has had all or part of its outer seal removed or a battery that has been torn.

Please recycle batteries to help conserve resources. When discarding used batteries, always cover their terminals and follow all laws and regulations that are applicable to the location.

The contents of this document and the specifications of the product could be changed without notice.

FCC regulation warning (for U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

For EU Countries



Declaration of Conformity:
This product complies with the requirements of
EMC Directive 2004/108/EC and
RoHS Directive 2011 / 65 / EU



Disposal of Old Electrical & Electronic Equipment (Applicable in European countries with separate collection systems)

Products and batteries that have been marked with the symbol of a crossed-out wheeled waste bin must not be disposed of with household waste.

Old electrical/electronic equipment and batteries should be recycled at facilities that are able to process them and their byproducts.

Contact the local government for information about nearby recycling facilities. Conducting recycling and waste disposal properly helps conserve resources and prevents harmful impacts on human health and the environment.



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