Canon

HG20
HG21

HD Camcorder

Instruction Manual

PictBridge HDMI AVCHD

PAL

Important Usage Instructions

WARNING!

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING!

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK AND TO REDUCE ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

CAUTION:
DISCONNECT THE MAINS PLUG FROM THE SUPPLY SOCKET WHEN NOT IN USE.

The Mains plug is used as the disconnect device. The Mains plug shall remain readily operable to disconnect the plug in case of an accident.

While using the compact power adapter, do not wrap it or cover it with a piece of cloth, and do not place it in confined narrow spaces. Heat may build up, the plastic case may deform and it could result in electric shock or fire.

CA-570 identification plate is located on the bottom.

Using any device other than the Compact Power Adapter CA-570 may damage the camcorder.

European Union (and EEA) only.

These symbols indicate that this product is not to be disposed of with your household waste, according to the WEEE Directive (2002/96/EC), the Battery Directive (2006/66/EC) and/or your national laws implementing those Directives.
This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE) and batteries and accumulators. Improper handling of this type of waste could have a possible impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. Your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources.
For more information about the recycling of this product, please contact your local city office, waste authority, approved scheme or your household waste disposal service or visit www.canon-europe.com/environment.
(EEA: Norway, Iceland and Liechtenstein)

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Enjoying High-Definition Video with your Camcorder

Preserve your most treasured memories, be it unforgettable scenery or cherished moments spent with family and friends, with high-definition video recordings of a quality second only to actually being there.

What is High-Definition Video?

1,080 lines

Capture the finest detail, like the movement or shine of a single strand of hair

Your camcorder features a full high-definition image sensor (Full HD CMOS) that captures video at a resolution of 1,920 x 1,080 pixels[1]. This results in video recordings of unparalleled high quality, fine detail and lifelike vivid colors.

How does full high definition compare with standard-definition TV broadcasts?

5 Approximately 5 times the number of pixels.

1.9 Almost 90% more scanning lines.

"Full HD 1080" refers to Canon camcorders compliant with high-definition video composed of 1,080 vertical pixels (scanning lines).

FULL HD
1080

What is Cinema Mode?

Give your recordings a cinematic look by using the [Cine Mode] recording program (45). Combine this recording program with the 25 fps progressive frame rate [PF25] to get the enhanced effect of the 25p Cinema Mode.

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[1] Video is recorded at this resolution only when the recording mode is set to MXP or FXP mode. In other recording modes, the picture is resized to 1,440 x 1,080 pixels before being recorded. Even in that case, the picture captured is detailed enough to render richly detailed recordings.

What are the advantages of a hard disk?

Your videos and photos are recorded on the built-in hard disk or commercially available SD/SDHC memory cards[2] using AVCHD specifications[3]. This Double Media recording system gives you longer recording times for more high-definition videos and photos.

• You can shoot approximately 11 hours (**HG21** 120 GB HDD) or 5.5 hours (**HG20** 60 GB HDD) of video in MXP mode, which offers the highest video quality under AVCHD specifications.

• The camcorder records video and photos in unused space on the recording media so you need not worry about accidentally recording over important videos.

• You can immediately access the scenes you want to play back from an index menu.

• You can easily manage your video and photo collections with the supplied editing software: **ImageMixer 3** (movies) and **DIGITAL VIDEO Solution Disk** (photos).

Can I play back my high-definition video on other devices?

Needless to say, you can connect your camcorder to an HDTV to enjoy your recordings with family and friends (□ 79). You also have the following options:

• You can easily play back video recorded on the memory card by inserting the memory card directly into AVCHD-compatible TV sets and HDD or DVD recorders that feature an SD/SDHC memory card slot[4]. For details, refer to the instruction manual of your TV or digital video recorder.

• You can play back AVCHD discs of your recordings created using the optional DW-100 DVD Burner (□ 80) on the DVD Burner itself or on AVCHD-compatible DVD players or Blu-ray Disc players[5].

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[2] For details about memory cards that can be used with this camcorder refer to *Using a Memory Card* (□ 29).

[3] AVCHD is the new standard for recording high-definition video. With AVCHD specifications the video signal is recorded using MPEG-4 AVC/H.264 compression and the audio signal is recorded in Dolby Digital.

[4] Depending on the device used, correct playback may not be possible even if the device is AVCHD-compatible. In such case, play back the recordings on the memory card using the camcorder.

[5] AVCHD discs containing scenes recorded in MXP mode cannot be created with the optional DW-100 DVD burner. Use the supplied software ImageMixer 3 to back up such scenes.

Important Notes About the Hard Disk Drive

Your hard disk camcorder allows you to shoot and store many hours of video. However, there are differences between recording onto a hard disk and recording onto other media. Make sure to follow the points below when using your camcorder. For more details, refer to *Handling Precautions* (□ 113).

Back up your recordings periodically

Make sure to transfer your movies and photos to an external device such as a computer or digital video recorder (□ 80) and back them up regularly and especially after making important recordings. Canon shall not be liable for any loss or corruption of data.

Do not subject the camcorder to vibrations or strong impacts

The hard disk is a high-precision device. Vibrations, strong impacts or dropping the camcorder may result in permanent data loss.

Keep the drop sensor activated whenever possible

The drop sensor (□ 96) detects when the camcorder is dropped and activates a protection mechanism to help prevent hard disk damage. Turning this function off will disable the mechanism. Even if this function is set to [**ON** On] and the camcorder is dropped, hard disk damage can occur.

Do not disconnect the power source while the camcorder is on

Always turn the camcorder off before removing the battery or compact power adapter.

Do not turn off the camcorder while the camcorder is on and the ACCESS indicator is on or flashing or while the camcorder is in standby mode

Doing so may result in hard disk damage or permanent data loss.

Use the camcorder within its operating temperature range

If the camcorder's temperature becomes too hot or too cold, recording/playback may stop in order to prevent hard disk damage.

Do not use the camcorder at high altitudes

Turning on or using the camcorder in places with low atmospheric pressure, such as at altitudes higher than 3,000 m, may result in hard disk damage.

Initialize the hard disk when movies cannot be recorded/played back normally

As movies are recorded and deleted over time, hard disk fragmentation may occur, which may reduce performance. Initialize the hard disk should this happen.

Protect personal information on the hard disk

When the hard disk is initialized or recordings are deleted, stored data is not physically erased. Remember this when disposing of the camcorder or giving it to another person.

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■ Introduction

■ Preparations

■ Video

■ Photos

■ External Connections

■ Additional Information

About this Manual

Thank you for purchasing the Canon HG21/HG20. Please read this manual carefully before you use the camcorder and retain it for future reference. Should your camcorder fail to operate correctly, refer to *Troubleshooting* (□ 98).

Conventions Used in this Manual
- ❶ IMPORTANT: Precautions related to the camcorder's operation.
- ⓘ NOTES: Additional topics that complement the basic operating procedures.
- ⊚ POINTS TO CHECK: Restrictions or requirements regarding the function described.
- □: Reference page number within this manual.

> To complete some operations you will need to refer also to other instruction manuals. This will be indicated with the following icons:
> **DVSD** Refer to the "Digital Video Software" instruction manual, included as a PDF file in the supplied **DIGITAL VIDEO Solution Disk** CD-ROM.
> **DW-100** Refer to the instruction manual of the optional DW-100 DVD Burner.

- **HG21** : Text that applies only to the model shown in the icon.
- The following terms are used in this manual:
  "Screen" refers to the LCD and the viewfinder screen (**HG21** only).
  "Hard disk" and "HDD" are used interchangeably to refer to the camcorder's built-in hard disk drive.
  "Media" is used to refer collectively to either the built-in hard disk or an external memory card.
- The photos included in this manual are simulated pictures taken with a still camera. Unless indicated otherwise, illustrations and menu icons refer to the **HG21** .

Names of buttons and switches other than the joystick are indicated within a "button" frame.
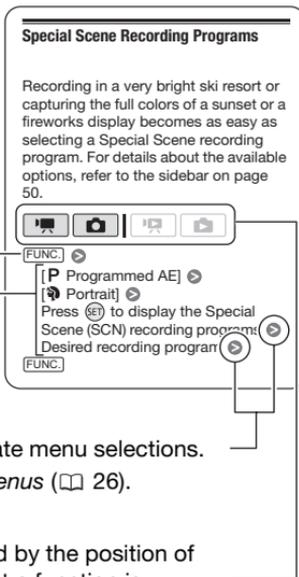For example FUNC. .

Brackets [ ] are used to refer to menu options as they are displayed on screen. In tables in this manual the default value is shown in boldface.
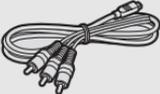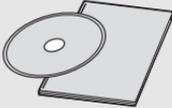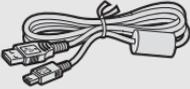For example **[On]**, [Off].

Special Scene Recording Programs

Recording in a very bright ski resort or capturing the full colors of a sunset or a fireworks display becomes as easy as selecting a Special Scene recording program. For details about the available options, refer to the sidebar on page 50.

FUNC. ◉
  [P Programmed AE] ◉
  [🏃 Portrait] ◉
  Press (SET) to display the Special Scene (SCN) recording programs ◉
  Desired recording program ◉
FUNC.

In this manual, the ◉ arrow is used to abbreviate menu selections.
For a detailed explanation refer to *Using the Menus* (🔲 26).

The camcorder's operating mode is determined by the position of the mode dial. In this manual, 🎥 indicates that a function is available and 🎥 indicates that the function is not available. When no operating mode icons are given, the function is available in all operating modes.

Supplied Accessories

	CA-570 Compact Power Adapter (incl. power cord)		BP-807 Battery Pack
WL-D88 Wireless Controller		Lithium Button Battery CR2025 for Wireless Controller	
	CTC-100/S Component Cable Red • Green • Blue plugs		Software CD-ROM[1] and Installation Guide **PIXELA ImageMixer 3 SE**
STV-250N Stereo Video Cable Yellow • Red • White plugs		Software CD-ROM[2] **DIGITAL VIDEO Solution Disk**	
	IFC-400PCU USB Cable		

[1] Software for saving, managing, editing and playing back movies on your computer (□ 80). The CD-ROM includes the instruction manual of the software (electronic version on PDF file).
[2] Software for saving, managing, retouching and printing photos (□ 84). The CD-ROM includes the instruction manual of the software (electronic version on PDF file).

Components Guide

Left side view

Right side view

Front view
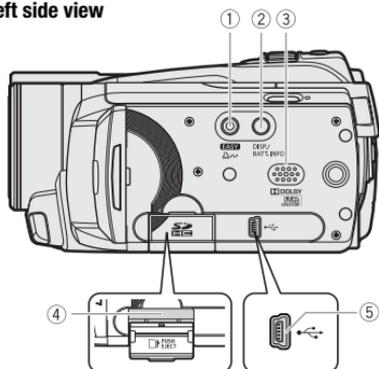
① [EASY] button (￼ 25)/
  ￼ ∼ (print/share) button (￼ 71, 84)
② DISP. (on-screen display) button
  (￼ 40, 51)/
  BATT. INFO button (￼ 20)
③ Speaker (￼ 37)
④ Memory card slot (￼ 30)
⑤ USB terminal (￼ 78)
⑥ HDMI OUT terminal (￼ 77, 79)
⑦ AV OUT/￼ terminal (￼ 77)
⑧ COMPONENT OUT terminal (￼ 77)
⑨ MIC terminal (￼ 54)
⑩ Strap mount (￼ 23)
⑪ Grip belt
⑫ Instant AF sensor (￼ 91)
⑬ Flash (￼ 64)
⑭ Stereo microphone
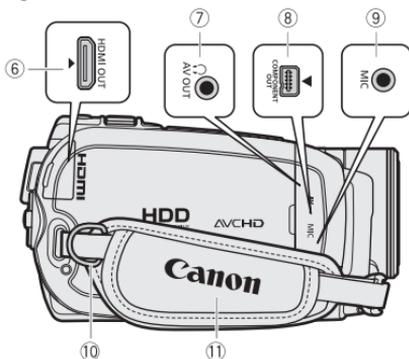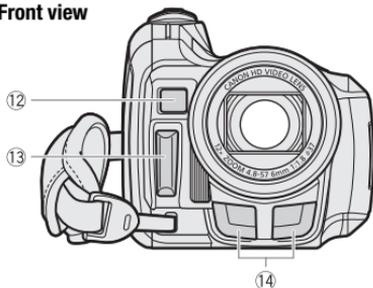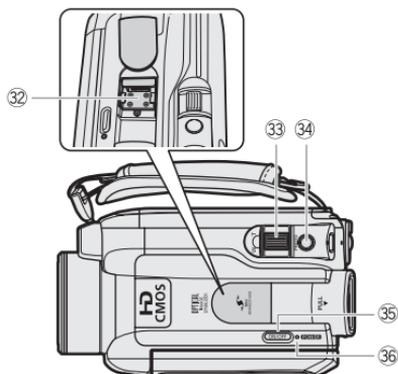
Back view
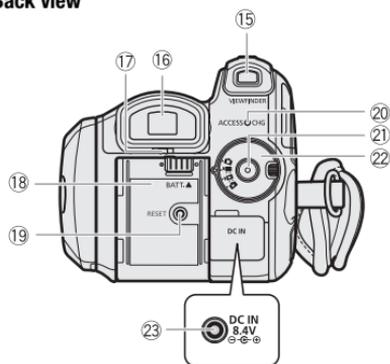
LCD panel
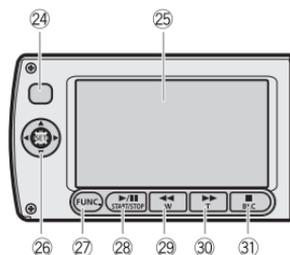
**Top view**

⑮ VIEWFINDER button* (◻ 33)

⑯ Viewfinder* (◻ 24, 33)

⑰ Dioptric adjustment lever* (◻ 33)

⑱ Battery attachment unit (◻ 21)

⑲ RESET button (◻ 101)

⑳ ACCESS indicator (◻ 32, 59)/
   CHG (charge) indicator (◻ 21)

㉑ Start/Stop button (◻ 32)

㉒ Mode dial
   🎥 Recording movies (◻ 32)
   📷 Taking photos (◻ 59)
   🎥 Playing back movies (◻ 36)
   📷 Viewing photos (◻ 61)

㉓ DC IN terminal (◻ 21)

㉔ Remote sensor (◻ 23)

㉕ LCD screen (◻ 24)

㉖ Joystick (◻ 26)

㉗ FUNC. button (◻ 26, 88)

㉘ ►/❙❙ (play/pause) button (◻ 36)/
   START/STOP button (◻ 32)

㉙ ◄◄ (fast reverse) button (◻ 36)/
   Zoom out **W** (wide-angle) button (◻ 34)

㉚ ►► (fast forward) button (◻ 36)/
   Zoom in **T** (telephoto) button (◻ 34)

㉛ ■ (stop) button (◻ 36)/
   BLC (backlight correction) button (◻ 46)

㉜ Mini advanced shoe (◻ 53)

㉝ Zoom lever (◻ 34)

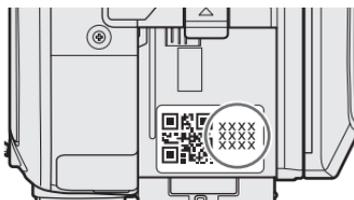㉞ PHOTO button (◻ 59)

㉟ ON/OFF button

㊱ POWER indicator

* **HG21** only.

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Bottom view
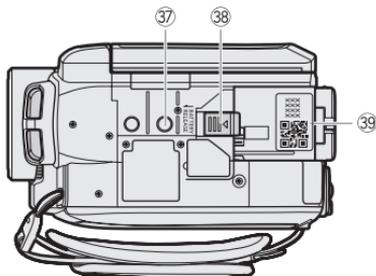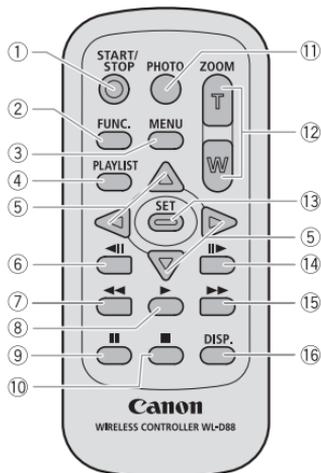

㊲ Tripod socket (🔲 114)

㊳ BATTERY RELEASE switch (🔲 22)

㊴ **Serial number**
   The serial number label is located on the top surface of the battery attachment unit. Remove the battery pack to find it.

Wireless Controller WL-D88

① START/STOP button (🔲 32)

② FUNC. button (🔲 26, 88)

③ MENU button (🔲 27, 90)

④ PLAYLIST button (🔲 56)

⑤ Navigation buttons (▲ / ▼ / ◄ / ►)

⑥ ◄❚❚ (frame reverse) button (🔲 37)

⑦ ◄◄ (fast reverse) button (🔲 37)

⑧ ► (play) button (🔲 36)

⑨ ❚❚ (pause) button (🔲 36)

⑩ ■ (stop) button (🔲 36)

⑪ PHOTO button (🔲 59)

⑫ Zoom buttons (🔲 34)

⑬ SET button

⑭ ❚❚► (frame advance) button (🔲 37)

⑮ ►► (fast forward) button (🔲 37)

⑯ DISP. (on-screen display) button (🔲 40, 51)

Screen Displays

Recording Movies
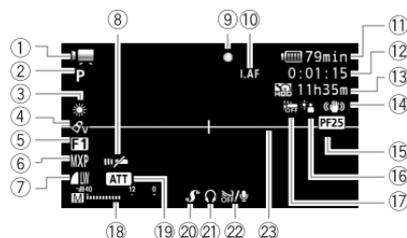
**Playing Movies
(During Playback)**

① Operating mode
② Recording program (☐ 43, 44)
③ White balance (☐ 48)
④ Image effect (☐ 49)
⑤ Digital effect (☐ 50)
⑥ Recording mode (☐ 33)
⑦ Photo quality/size
   (simultaneous recording) (☐ 66)
⑧ Remote sensor off (☐ 95)
⑨ Hard disk/memory card operation (☐ 20)
⑩ 🔲 Instant AF (☐ 91),
   MF Manual focus (☐ 47)
⑪ Remaining battery time (☐ 20)
⑫ While recording/during playback:
   Scene counter (hours : minutes : seconds)
   Record pause mode: Total number of
   scenes
⑬ Remaining recording time
   📷 On the hard disk
   📷 On the memory card
⑭ Image stabilizer (☐ 92)
⑮ 25F progressive frame rate (☐ 20)
⑯ Backlight correction (☐ 47)
⑰ Drop sensor off (☐ 96)
⑱ Audio level indicator (☐ 51)
⑲ Microphone attenuator (☐ 92)
⑳ Mini advanced shoe (☐ 53)
㉑ Headphone output (☐ 52)
㉒ Wind screen off (☐ 92)
㉓ Level marker (☐ 91)
㉔ Scene number
㉕ Data code (☐ 51)

◯ Recording Photos
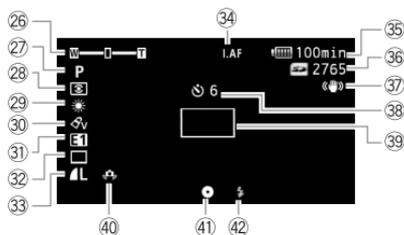
▶ Viewing Photos
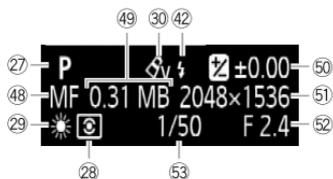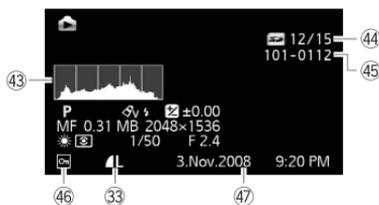
26 Zoom (☐ 34), Exposure ●━┃━○ (☐ 46)

27 Recording program (☐ 43, 44)

28 Light metering mode (☐ 67)

29 White balance (☐ 48)

30 Image effect (☐ 49)

31 Digital effect (☐ 50)

32 Drive mode (☐ 65)

33 Photo quality/size (☐ 60)

34 **I.AF** Instant AF (☐ 91),
MF Manual focus (☐ 47)

35 Remaining battery time (☐ 20)

36 Number of available photos
▦ On the hard disk
▱ On the memory card

37 Image stabilizer (☐ 92)

38 Self timer (☐ 46)

39 AF frame (☐ 92)

40 Camcorder shake warning (☐ 92)

41 Focus and exposure lock (☐ 59)

42 Flash (☐ 64)

43 Histogram (☐ 65)

44 Current photo / Total number of photos

45 Photo number (☐ 96)

46 Protected photo mark (☐ 68)

47 Date and time of recording

48 Manual focus (☐ 47)

49 File size

50 Manual exposure (☐ 46)

51 Photo size (☐ 60)

52 Aperture value (☐ 44)

53 Shutter speed (☐ 44)

⑨ **Hard disk/memory card operation**
● Record, ● ❚❚ Record pause,
▶ Playback, ❚❚ Playback pause,
▶▶ Fast playback,
◀◀ Fast reverse playback,
❘▶ Slow playback,
◀❘ Slow reverse playback,
❚❚▶ Frame advance,
◀❚❚ Frame reverse

⑪, ㉟ **Remaining battery time**

100%	75%	50%	25%	0%

- The icon shows a rough estimate of the remaining charge as a percentage of the full charge of the battery pack. The remaining recording/playback time of the battery pack is displayed, in minutes, next to the icon.
- When ▱ is displayed in red, replace the battery pack with a fully charged one.
- When you attach an empty battery pack, the power may turn off without displaying ▱.
- Depending on the conditions under which the camcorder and the battery pack are used, the actual battery charge may not be indicated accurately.
- When the camcorder is off, press (BATT.INFO) to display the charge status of a battery pack. The Intelligent System will display the charge status (as a percentage) and the remaining recording time (in minutes) for 5 seconds. If the battery pack is exhausted, the battery information may not be displayed.

⑬ **Remaining recording time**
When there is no more free space on the recording media, " 🗄 END" (built-in hard disk) or " 🗀 END" (memory card) will be displayed and the recording will stop.

⑮ **25F progressive frame rate**
Select the 25F progressive frame rate (🔲 45) to give your recordings a cinematic look. You can combine this frame rate with the [🎬 Cine Mode] recording program to enhance the effect.

㊱ **Number of available photos**
🖼 in red: No card
🗀 in green: 6 or more photos
🗀 in yellow: 1 to 5 photos
🗀 in red: No more photos can be recorded
- When viewing the photos, the display will always be in green.
- Depending on the recording conditions, the number of available photos displayed may not decrease even after a recording has been made, or may decrease by 2 photos at once.

㊺ **Photo number**
The photo number indicates the name and location of the file on the memory card. For example, the file name of a photo numbered 101-0107 is "IMG_**0107**.JPG", stored under the folder "DCIM**101**CANON".