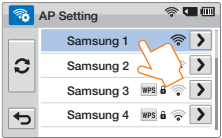


Connecting to a WLAN and configuring network settings

Connecting to a WLAN

You can connect to a WLAN using an AP (access point) in the wireless network service area.

- 1
- Press the [Home (🏠)] button → touch **Social Sharing**.
- 2
- Touch the AP setting (📶) tab.
 - The camcorder automatically searches for available AP devices.
- 3
- Touch an AP.
 - When you select an unsecured AP, the camcorder will connect to the network.
 - When you select a secured AP, input the required passwords with the virtual keyboard to connect to the WLAN. ➡ page 73
 - If you select a WPS profile supported AP, touch the ➡ tab → **WPS PIN**, and then enter the PIN code at the AP device. You can also connect to a WPS profile supported AP by dragging the current screen down, touching **WPS PBC**, and then pressing the [WPS] button on the AP device.
 - If there is not the desired AP on the AP devices list, drag the current screen down and then touch **Add Wi-Fi Network** to input and search the desired AP name manually.



Icon	Description
📶	Ad hoc AP
🔒	Secured AP
WPS	WPS AP
📶	Signal strength
➡	AP setting options
🔄	Refreshing connectable APs

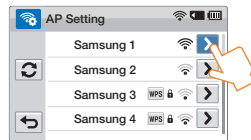
🔍 You can check the signal strength in the top right corner of the screen.

Icon	Signal strength
📶	Not connected
📶	Very weak
📶	Weak
📶	Normal
📶	Very strong

Connecting to a WLAN and configuring network settings

Configuring the network settings

- 1 Press the [Home (🏠)] button → touch **Social Sharing**.
- 2 Touch the AP setting (📶) tab.
 - The camcorder automatically searches for available AP devices.
- 3 Touch the ▶ tab next to an AP.



- 4 Touch each submenu and enter the required information.

item	Description
Authentication	Select an authentication type according to your AP's setting. (Open, Shared, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK). When you select Open or Shared , WPA is automatically set.
Data Encryption	Select an encryption type according to your AP's setting. (Disabled, WEP, TKIP, AES, TKIP/AES Mixed)
Network Key	Enter the password using the virtual keyboard. ➡ page 73
IP Setting	The default is Auto . Set the IP address manually.

- 5 Touch the **OK** tab.
 - The camcorder connects to the network via the selected AP.



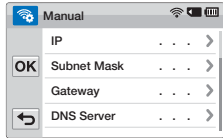
- Even if AP authentication and Data Encryption have been detected, set the authentication mode to **Open** or **Shared**.
- If the camcorder does not detect the AP automatically, you can set the network properties directly. ➡ page 72
- Data encryption settings by authentication type are below:
 - **Open** → **Disabled** or **WEP**
 - **Shared** → **WEP**
 - **WPA-PSK** → **TKIP**, **AES**, or **TKIP/AES Mixed**
 - **WPA2-PSK** → **TKIP**, **AES**, or **TKIP/AES Mixed**
 - **WPA-PSK/WPA2-PSK** → **TKIP**, **AES**, or **TKIP/AES Mixed**
- When the Data Encryption function is set to **WEP** or **TKIP** for 802.11n AP connection, you can access in the 802.11g mode. In the 802.11g mode, the network connection and speed are not guaranteed.

Connecting to a WLAN and configuring network settings

Manually setting the IP address

By entering the IP address, you can connect to a WLAN via an AP (access point) in the wireless network service area.

- 1 Press the **[Home (🏠)]** button → touch **Social Sharing**.
- 2 Touch the AP setting (📶) tab.
 - The camcorder automatically searches for available AP devices.
- 3 Touch the ➤ tab next to an AP.
- 4 Touch **IP Setting → Manual**.



- 5 Touch each submenu item and then enter the required value by using the virtual keyboard. ➡page 73

Item	Description
IP	Enter the static IP address.
Subnet Mask	Enter the subnet mask.
Gateway	Enter the gateway.
DNS Server	Enter the DNS address.

- 6 Touch the **OK** tab.
 - The camcorder connects to the network via the selected AP.



- For more information about the network settings, contact the network administrator or the service provider.
- The network settings may differ, depending on network conditions.
- Do not try to connect to a network that you have no permission to access.
- Use a fully charged battery while you are using network services.

Connecting to a WLAN and configuring network settings

Network connection tips

- Compatibility with an AP that has not been formally Wi-Fi certified cannot be guaranteed.
- The wireless network connection may not be stable, depending on the connected AP.
- When the distance from AP is large, the network connection takes longer and video stuttering may occur.
- If there is an electric device using the same frequency range as the network near the camcorder, you may experience wireless interference.
- If an AP device is named in a language other than English, it may not be displayed in the AP list or, if it is, it may appear in a corrupted format or font.
- For the network settings and password, contact the network administrator or the service provider.
- The letters and numbers used in passwords may differ, depending on the encryption type.
- You may not be able to connect to the wireless network, depending on the conditions.
- The AP search may find a printer that supports the wireless network, but you cannot use the printer to connect to the network.
- The service provider may charge you a fee for the wireless connection under the contract made between you and the service provider.
- Channels available for the networking differ according to the region (country).
- Some countries may restrict wireless networking under local radio regulation laws. We recommend you connect your camcorder to networks only inside the country where you purchased it.
- If your AP name is not in English, the camcorder may not be able to locate the device or the name may appear incorrectly.
- If a WLAN requires authentication from the service provider, you may not be able to connect to it. To connect the WLAN, contact your network service provider.

Entering text

You can use the virtual keyboard to enter your information and settings. Touch the desired characters, numbers, or symbols.



Item	Description
◀ ▶	Move the cursor.
@.	Enter '@.'.
✕	Delete the last letter.
123/Syn	In abc/ABC mode, switch to 123 mode. In 123 mode, switch to symbol mode.
Kr/En	Switch to Korean or English mode.
↶	Return to the previous screen.
↑	In ABC mode, change the case.
␣	Enter a space.
OK	Save the displayed text.

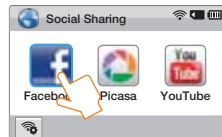


You can enter the information only in English or Korean, regardless of the language settings.

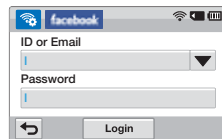
Using video or photo sharing web sites

Accessing a web site

- 1 Press the [Home (🏠)] button → touch **Social Sharing**.
- 2 Select a web site.
 - The camcorder will automatically attempt to connect to a WLAN via the most recently connected AP device.
 - If the camcorder has not previously been connected to a WLAN, it will search for available AP devices. ➡ page 70



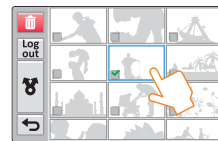
- 3 Enter your ID and password, and then touch the Login (Login) tab.
 - You may be logged in automatically, if you have previously logged in to the web site.



You must have an existing account on the file sharing web site to use this feature.

Uploading videos or photos

- 1 Access a sharing web site with your camcorder.
- 2 Touch files → the [📁] tab.
 - You can select up to 20 photos and the total size must be 10 MB or less.



- 3 Touch the Comment box → input your comments.
- 4 Touch the Upload (Upload) tab.



- The maximum photo resolution you can upload is 2M, and the longest video you can upload is 30 seconds at 480/60p resolution. If the selected photo resolution is higher than, it will be automatically resized to a lower resolution.
- The method of uploading videos or photos may differ depending on the selected web site.
- If you cannot access a web site because of firewall or user authentication settings, contact your network administrator or network service provider.
- The speed of your internet connection may affect how quickly videos or photos upload or web pages open.

Viewing videos or photos on an AllShare-enabled TV

View your videos or photos on a TV that supports the AllShare function. Your camcorder acts as a server and you can search for shared videos or photos with the TV remote control.



AllShare

AllShare is an international technology standard for sharing media files between networked devices in your home. With this technology, you can view your videos or photos on a widescreen TV.

1 Press the **[Home (⬆)]** button → touch **TV Link** → the **OK** tab.

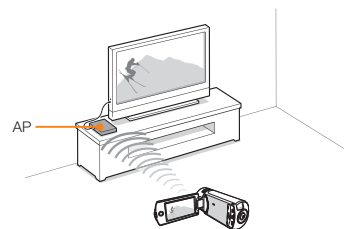
- The camcorder will automatically attempt to connect to a WLAN via the most recently connected AP device.
- If the camcorder has not previously been connected to a WLAN, it will search for available AP devices. ➡ page 70

2 Connect your TV to a WLAN via an AP device.

- Refer to your TV's user manual for more information.

3 On the TV, search for the camcorder and browse the shared videos or photos.

- For information about searching for the camcorder and browsing the videos or photos on the TV, refer to the TV user manual.



Wireless network (HMX-QF20 only) 75



- On a TV, you can play back only the videos and photos recorded by the camcorder.
- The effective network connection range between the camcorder and the TV may differ depending on the AP.
- If the camcorder is turned off abnormally (ex: network disconnection) while you are playing a video or photo on the TV, the TV considers itself still connected to the camcorder.
- Depending on the size of the video or photo file, it may take longer to connect to the TV and display.
- You cannot enable this function if there are no recorded videos or photos in your camcorder.
- When playing HD quality videos on a TV, use an 802.11n AP and set it to 802.11n. Important: If you set the Data Encryption function on your network to WEP or TKIP, the network defaults to 802.11g and the camcorder cannot play HD quality videos on the TV.
- You can select up to 1000 photos and videos files to watch through your TV. The more files you select, the slower the camcorder operates. We recommend selecting fewer than 1000 files.
- This function may not operate properly on a Samsung HDTV that has no AllShare™ mark on it.
- Video stuttering may occur, depending on the TV type and network status.
- If video stuttering occurs, record videos you intend to play through a wireless connection at lower video resolution.
- If video stuttering occurs frequently when you use a wireless connection, change to HDMI or AV cable. ➡ pages 80~81
- If you play back videos on a Samsung HDTV supporting AllShare™ and video stuttering occurs repeatedly for over 3 seconds, consult the Samsung call center. See the back cover for the phone number.

Using Auto Backup to send videos or photos

Installing the program for Auto backup on your PC

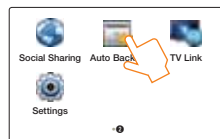
- 1 Connect the camcorder to a PC with the USB cable.
- 2 Turn on the camcorder.
 - The computer recognizes the camcorder and Intelli-studio launches automatically.
- 3 When the pop-up appears, touch **OK**.
 - The program will be installed automatically.



- Before install the program, ensure that the PC is connected to a network. ↗ pages 70~72
- If no internet connection is available, you must install the program from the provided CD.
- This program is for backing up files to the PC based on Windows OS.
- Refer to the Auto Backup instruction manual for more information.

Sending photos or videos to a PC

- 1 Press the [**Home** (🏠)] button → touch **Auto Backup**.



- 2 Touch the **OK** tab.

- The camcorder will automatically attempt to connect to a WLAN via the most recently connected AP device.
- If the camcorder has not previously been connected to a WLAN, it will search for available AP devices. ↗ page 70
- If your PC has turned on, the PC recognizes the camcorder and Intelli-studio launches automatically.
- If your PC supports the Wake on LAN (WOL) feature, you can turn on the PC automatically by searching for the PC from your camcorder. ↗ pages 77~78

- 3 The camcorder will prepare to send the files and send them to the PC.

- You cannot select individual files to send. This function is available only for newly stored files on the camcorder.
- The progress will be shown on the PC monitor.



- The camcorder will search for available access points even if you are connecting to the same access point again.
- If you turn off the camcorder or remove the battery while sending files, the file transfer will be interrupted.
- While you are using this feature, the buttons on the camcorder will be disabled.
- You can connect only one camcorder to the PC at a time for sending files.
- The backup may be canceled due to network conditions.
- Videos or photos can be sent to a PC one time only.
- Files cannot be sent again even if you reconnect your camcorder.

Using Auto Backup to send videos or photos

About the Wakeup on LAN (WOL) feature



WOL (Wakeup on LAN)

WOL is a technology that allows you to turn on a PC from another location over a network connection or Internet or to set a PC to wake up from sleep mode. With the WOL feature, you can automatically turn on or wake up a PC with your camcorder by touching **Auto Backup**.

Setting the PC to wake up from sleep mode

- 1 Click **Start**, and then open the **Control Panel**.
- 2 Configure the network connection.
 - Windows 7:
Click **Network and Internet** → **Network and Sharing Center** → **Change adapter settings**.
 - Windows Vista:
Click **Network and Internet** → **Network and Sharing Center** → **Manage network connections**.
 - Windows XP:
Click **Network and Internet Connection** → **Network Connection**.
- 3 Right click **Local Area**, and then click **Properties**.
- 4 Click **Configure** → the **Power manage** tab → **Allow this device to wake the computer**.
- 5 Click **OK**.
- 6 Restart the PC.

Setting the PC to turn on

- 1 Turn on the PC and press F2 while the PC is booting.
 - The BIOS setting menu will appear.
- 2 Select **Advanced** tab → **Power management Setup**.
- 3 Select **Resume on PME** → **Enabled**.
- 4 Press F10 to save your changes and continue booting.
- 5 Click **Start**, and then open the **Control Panel**.
- 6 Configure the network connection.
 - Windows 7:
Click **Network and Internet** → **Network and Sharing Center** → **Change adapter settings**.
 - Windows Vista:
Click **Network and Internet** → **Network and Sharing Center** → **Manage network connections**.
 - Windows XP:
Click **Network and Internet Connection** → **Network Connection**.

Using Auto Backup to send videos or photos

7 Select drivers related to network adapter.

8 Click **Advanced** tab and then set WOL menus.



Any changes to your PC's BIOS settings other than the ones described below may damage your PC. The manufacturer is not responsible for damage caused by your changing your PC's BIOS settings.



- You cannot use this feature across a firewall or if a security program has been installed.
- To turn on the PC with the WOL feature, the PC must have an active connection to the LAN. Ensure that the indicator light on the PC's LAN port is on, which shows that the LAN connection is active.
- Depending on your PC model, the camcorder may only be able to wake the PC.
- Depending on your PC's OS or drivers, the names of the WOL setting menu may vary.
 - examples of setting menu names: Enable PME, Wake on LAN etc.
 - examples of setting menu values: Enable, Magic packet etc.



Using with other devices

Learn how to connect your camcorder to your TV, VCR or DVD/HDD recorders, photo printer, or computer.

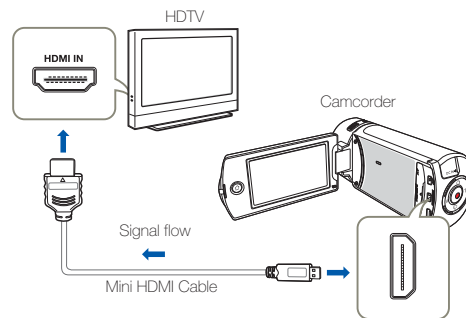
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Dubbing videos to VCR or DVD/HDD recorders	83
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Transferring files by connecting the camcorder as a removable disk.....	91

Connecting to a TV

Connecting to a high definition TV with HDMI

You can view High Definition (HD) quality videos recorded in HD resolution on an HDTV using an HDMI connection. This camcorder supports HDMI output to deliver high-definition video transfer.

Using a mini HDMI cable



- 1 Select **HDMI TV Out**. ➔page 98
- 2 Turn on the camcorder.
 - If you do not turn on the camcorder first, the camcorder may fail to recognize the connected TV.
 - Use the AC power adaptor to power the camcorder when you attach it to a TV.
- 3 Connect the camcorder to the TV with a mini HDMI cable.

- 4 Set the TV's input or source selector to the HDMI input you've attached the camcorder to.
 - Refer to the TV's instruction manual to see how to select the TV's input or source.
- 5 Select the playback mode on your camcorder, and then start to play back videos or photos. ➔pages 57~62



Understanding the HDMI

HDMI (High Definition Multimedia Interface) is a compact audio/video interface for transmitting uncompressed digital data.

What is Anynet+ function?

The Anynet+ function lets you control all devices that support the Anynet+ function with the same remote. You can use the Anynet+ function on the camcorder if the camcorder is connected with an HDMI cable to an Anynet+ supported TV. For more information, refer to the Anynet+ supported TV's user manual.



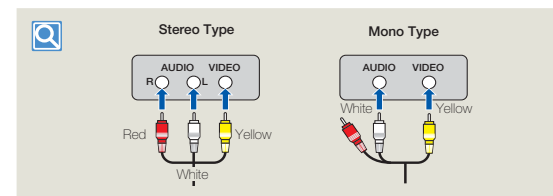
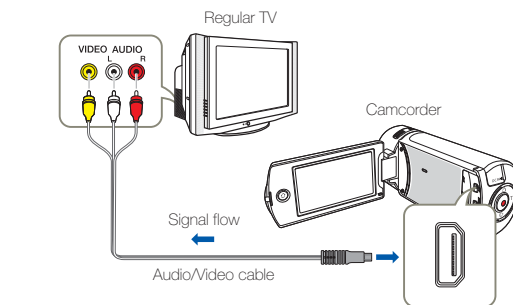
- This camcorder is provided with the **TV Connect Guide** menu function. If you try to connect the camcorder to a TV and don't have your user's manual, you can use the **TV Connect Guide** menu function to view connection instructions on the camcorder's screen. ➔page 99
- You can use only a D to A type Mini HDMI cable with this camcorder.
- The HDMI jack on the camcorder is for output only.
- If an Anynet+ supported TV is connected to the camcorder by an HDMI cable, turning on the camcorder may turn the TV's power on. (an Anynet+ function) If you don't want this to occur, set **Anynet+ (HDMI-CEC)** to **Off**. ➔page 99
- Use only HDMI 1.3 cable when connecting to the HDMI jack of this camcorder. If the camcorder is connected with HDMI cables that are not version 1.3, the screen display may not work.

Connecting to a TV

Connecting to a regular TV

You can view images recorded with your camcorder on a regular TV that supports standard definition. This camcorder supports the composite output for standard definition video transfer.

Connecting an Audio/Video cable for the composite output



- 1 Connect the camcorder to a TV with an Audio/Video cable.
- 2 Set the TV's input or source selector to the input you've attached the camcorder to.
 - Refer to the TV's instruction manual to see how to select the TV input.
- 3 Select the playback mode on your camcorder, and then start to play back videos or photos. ➔pages 57~62




- Make sure you've connected the camcorder to the correct input jacks. The TV screen may not display the right video information if connected incorrectly.
- When connecting to a TV using the Audio/Video cable, match the color of the cables to the color of the corresponding jacks.
- Video input may appear green depending on the TV. If this occurs, connect the yellow plug of the Audio/Video cable to the green jack of the TV.
- When the camcorder is connected to a TV with more than one kind of cable, the camcorder outputs video signals in the following order of priority:
 - HDMI → Audio/Video (composite) output
- This camcorder is provided with the **TV Connect Guide** menu function. If you try to connect the camcorder to a TV and don't have your user's manual, you can use the **TV Connect Guide** menu function to view connection instructions on the camcorder's screen. ➔page 99
- If your TV has one audio jack (mono input), connect the yellow plug of the Audio/Video cable to the video jack, the white plug to the audio jack, and leave the red plug unconnected.
- When you connect the camcorder to a TV using the Audio/Video cable, images recorded in high-definition image quality (**Full HD 1080/60i** or **HD 720/60p**) are played back in standard definition image quality.

Connecting to a TV

Viewing on a TV screen

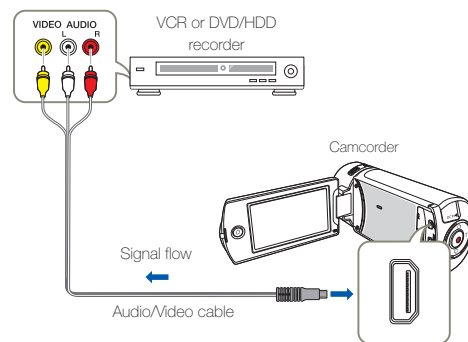
Image appearance depends on the TV screen aspect ratio

Recording ratio	Appearance on Wide (16:9) TV	Appearance on 4:3 TV
Images recorded in a 16:9 ratio		

- 
- Adjust the volume to a moderate level. If the volume is too high, the video information may include noise.
 - If **TV Display** is set **Off**, the TV screen does not display the camcorder's OSD (On Screen Display) menus. ➔page 98

Dubbing videos to VCR or DVD/HDD recorders

You can dub videos recorded on your camcorder to a VCRs or DVD/HDD recorders.



1 Connect your camcorder to the recording device (VCR or DVD/HDD recorder) with the Audio/Video cable.

- Connect your camcorder to the input jacks of the recording device.
- If your recording device has an input selector, set it to the correct input mode.

2 Insert the storage device (tape, disc, etc.) into the recording device.

3 Start the playback on your camcorder, and record it on the recording device.

- Refer to the instruction manuals supplied with your recording device for details.

4 When dubbing is finished, stop the recording device, and then your camcorder.

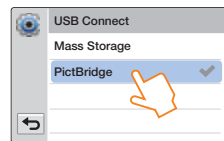


- Videos recorded on this camcorder can only be dubbed using the Audio/Video cable in SD (standard definition) image quality, regardless of the recording resolution.
- You cannot dub to a recorder with an HDMI cable.
- To copy a video recorded in HD (high definition) image quality in HD, use the built-in software of your camcorder, and copy the video to your computer. ➡ page 87
- Because dubbing is performed via analog data transfer, the image quality may deteriorate.
- To hide the screen indicators (such as the counter, etc.) on the screen of the connected monitor device set **TV Display: Off**. ➡ page 98
- To record the date/time, display it on the screen. ➡ page 98

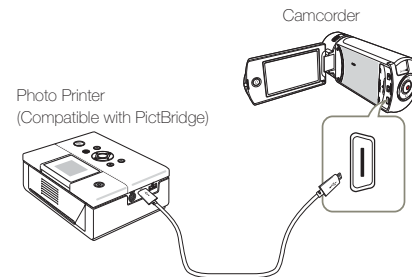
Printing photos with a PictBridge photo printer

You can print photos directly by connecting your camcorder to a PictBridge printer (sold separately) using a USB cable.

- 1 Set **USB Connect** to **PictBridge**. ➔ page 99



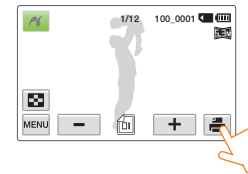
- 2 Use a USB cable to connect your camcorder to the printer.



- 3 Turn your printer on.
- The photo thumbnails appear on the LCD screen.

- 4 Touch the photos you want to print, and then touch the Print (🖨️) tab.

- The corresponding message appears.



- 5 Touch **Yes**.

- The selected photo is printed.



To set the number of prints

Touch the **-** / **+** tab to set the number of copies to print.

To cancel the print setting

Touch the Thumbnail view (🖼️) tab on the LCD screen.

To stop printing after printing starts

Touch **Cancel** on the screen.

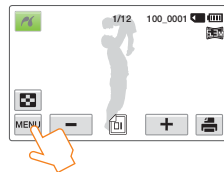


- If the camcorder fails to recognize the printer, remove the USB cable, and then turn off the printer. Set **USB Connect** to **PictBridge**, and then connect the USB cable again.
- Use the supplied USB cable.

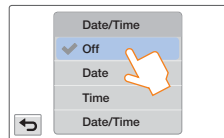
Printing photos with a PictBridge photo printer

To set the date/time imprint for Pictbridge printers

- 1 In the printer mode, touch the MENU (MENU) tab → **Date/Time**.



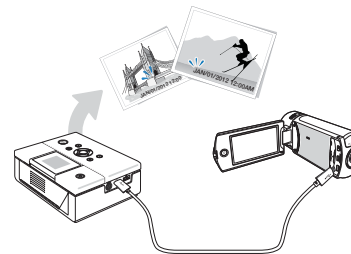
- 2 Touch the desired submenu item.
- The selected date and time display option is set.



- 3 To exit the menu, touch the Return (Return) tab.
- The selected date and time will be printed on photos.



- The date/time imprint option may not be supported by all printers. Check with your printer manufacturer. The date/time imprint option cannot be setup if the printer does not support the option.
- PictBridge™ is a registered trademark of CIPA (Camera & Imaging Products Association), an image transfer standard developed by Canon, Fuji, HP, Olympus, Seiko Epson, and Sony.
- Use the AC power adaptor to power the camcorder during PictBridge printing. If the camcorder shuts off during printing, it might damage data on the storage media.
- You cannot print video images.
- You cannot print photos recorded on other devices.
- Various printing options are available depending on the printer. Refer to the printer's user manual for details.



Transferring files to your Windows computer

Intelli-studio is a built-in program that allows you to play back and edit files. You can upload files to web sites, such as YouTube or Flickr.

System requirements

Your computer must meet the following requirements to run Intelli-studio:

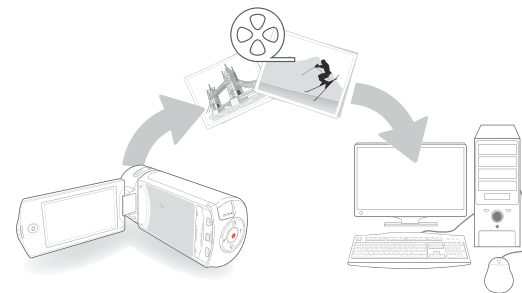
Items	Requirement
OS	Microsoft Windows XP SP2, Windows Vista, or Windows 7
CPU	Intel® Core 2 Duo® 1.66 GHz or higher is recommended AMD Athlon™ X2 Dual-Core 2.2 GHz or higher is recommended (Notebook: Intel Core 2 Duo 2.2GHz or AMD Athlon X2 Dual-Core 2.6GHz or higher is recommended)
RAM	1GB or higher is recommended
Video Card	NVIDIA GeForce 8500 or higher, ATI Radeon HD 2600 series or higher
Display	1024 x 768, 16-bit color or higher (1280 x 1024, 32-bit color recommended)
USB	micro USB 2.0
Direct X	DirectX 9.0c or higher
Recommended Memory Card	6MB/s (Class 6) or above



- System requirements are recommendations. Even on a system that satisfies the requirements, Intelli-studio may not operate optimally.
- On a slower computer than recommended, video playback may skip frames or operate unexpectedly.
- If the version of DirectX on your computer is lower than 9.0c, install DirectX 9.0c or higher.
- We recommend transferring the recorded videos to a PC before playing back or editing the video data.
- To run Intelli-studio, a laptop computer requires better and faster components than a desktop PC.
- Intelli-studio is not Mac OS compliant.



Samsung is not responsible for any damage that results from using a computer that does not meet the requirements such as a computer you have assembled yourself.



Transferring files to your Windows computer

Transferring files with Intelli-studio

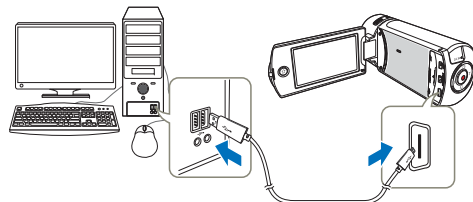
When you connect the camcorder to a PC with a USB cable, Intelli-studio automatically launches.

Step 1. Connecting the USB cable

- 1 Set **USB Connect: Mass Storage** and **PC Software: On**.
→ page 99

- 2 Connect the camcorder to a PC with the USB cable.

- A new file saving window appears along with the Intelli-studio main window. If your camcorder has no new files, the pop-up window for saving new files will not appear.
- Depending on your version of Windows, the Windows removable disk window may also appear.



- 3 Click **Yes** in the new file saving window. The uploading procedure starts. Click **Yes** to confirm.
 - If you do not want to save any new files, select **No**.

To disconnect the USB cable

To disconnect the USB cable after completing the file transfer, you must follow these steps:



1. Click the **Safely Remove Hardware** icon on the taskbar.
2. Select **USB Mass Storage Device**, and then click **Stop**.
3. If the **Stop a Hardware device** window appears, click **OK**.
4. Disconnect the USB cable from the camcorder and PC.

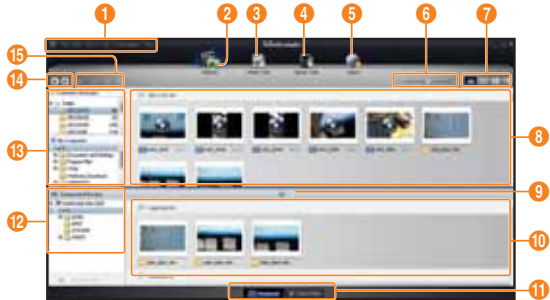


- Use the provided USB cable. (Supplied by Samsung)
- Make sure you insert the USB plug into the micro USB jack with the plug facing in the correct direction.
- Use the AC power adaptor to power the camcorder when transferring files to your computer.
- When the USB cable is connected, turning the camcorder on or off may cause the PC to malfunction.
- If you disconnect the USB cable from the PC or the camcorder while transferring files, the data transmission will stop and the data may be damaged.
- If you connect the camcorder to a PC via a USB HUB or simultaneously connect the camcorder along with other USB devices, the camcorder may not work properly. If this occurs, remove all USB devices from the PC, and then reconnect the camcorder.
- Intelli-studio may not automatically run. If this occurs, access My Computer or Windows Explorer, open the drive that corresponds to your camcorder, find Intelli-studio, and then run iStudio.exe.

Transferring files to your Windows computer

Step 2. About the Intelli-studio main window

When the Intelli-studio starts up, video and photo thumbnails appear in the main window.



- If you install Intelli-studio on your PC, the program will launch more quickly. To install the program, select **Tool → Install Intelli-studio on PC**.
- You can update the latest version of Intelli-studio software by clicking on **Web Support → Update Intelli-studio → Start Update**.
- You can update the firmware of this camcorder by selecting **Web Support → Upgrade firmware for the connected device** from the program toolbar.
- The camcorder's built-in Intelli-studio software is intended for home use. It is not for precision or industrial productions. For these applications, we recommend an editing software designed for professional use.



For details, select **Help → Help** on the Intelli-studio screen.

No.	Description
1	Menu items
2	Display files in the selected folder.
3	Switch to Photo edit mode.
4	Switch to Video edit mode.
5	Switch to Share mode.
6	Enlarge or reduce the thumbnails in the list.
7	Select a file type.
8	View videos and photos of the selected folder on your computer.
9	Show or hide videos and photos of the connected device.
10	View videos and photos of the selected folder on the device.
11	View files as thumbnails or on a map
12	Browse folders in the connected device.
13	Browse folders stored on your computer
14	Move to the previous or next folder
15	Print files, view files on a map, store files in Contents Manager, or register faces.

Transferring files to your Windows computer

Step 3. Playing back videos or photos

You can play back the recordings conveniently using the Intelli-studio application.

- 1 With Intelli-studio, click the desired folder to display your recordings.
 - Video or photo thumbnails appear on the screen, depending on the folder you selected.
- 2 Choose the video or photo that you want to play back.
 - You can view the file information by moving the mouse over the file.
 - If you click a video thumbnail once, the video plays back inside the thumbnail frame, allowing you to search for a desired scene with ease.
- 3 After you select the video or photo you want, double-click to play back.
 - Playback starts and the controls appear.



Intelli-studio supports the following file formats:

- Video formats: MP4 (Video: H.264, Audio: AAC), WMV (WMV 7/8/9)
- Photo formats: JPG, GIF, BMP, PNG, TIFF

Step 4. Editing videos or photos

You can edit the videos or photos in various ways with various functions. (Change Size, Fine-Tuning, Image Effect, Insert Frame, etc.) Before editing a video or photo in Intelli-studio, make a backup copy of the video or photo file and store it on your computer for safe-keeping using My Computer or Windows Explorer.

- 1 Choose the videos or photos you want to edit.
- 2 Click **Movie Edit** (🎬) or **Photo Edit** (🖼️) according to the selected file on the Intelli-studio browser.
 - The selected file appears in the editing window.
- 3 Edit a video or photo with various edit functions.



Transferring files to your Windows computer

Step 5. Sharing the videos/photos online

Share your contents with the world by uploading photos and videos directly to a web site with one click.

1 Choose the videos or photos you want to share.

2 Click **Share** (📷) on the Intelli-studio browser.

- The selected file appears in the sharing window.



3 Click the web site you would like to upload files to.

- You can choose **YouTube, twitter, Flickr, Facebook, Picasa, Email**, or another web site you want to use for your site management.

4 Click **Upload** to start uploading.

- A pop-up window appears to open the web browser of the selected site or a pop-up window appears asking for your ID and password.



5 Enter your ID and the password to access.

- Access to the web site contents can be limited depending on your web access environment.



The recording time and capacity available for uploading videos can be changed depending on each web site's policy.

Transferring files to your Windows computer

Transferring files by connecting the camcorder as a removable disk

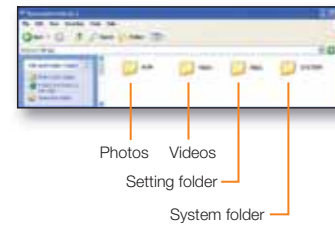
You can copy video or photo files recorded by the camcorder to a Windows computer by connecting the camcorder to the computer using a USB cable.

Viewing the contents of storage media

- 1 Set **USB Connect** to **Mass Storage**. ➔page 99
- 2 Set **PC Software** to **Off**. ➔page 99
- 3 Insert a memory card. ➔page 16
- 4 Connect the camcorder to the PC with the USB cable.
➔page 87
 - The **Removable Disk** or **Samsung** window appears on the PC's screen after a moment.
 - Select **Open folders to view files using Windows Explorer**, and then click **OK**.



- 5 The folders in the storage media appear.
 - Different file types are stored in different folders.



- 6 Copy and paste or drag and drop the files from the storage media to your PC.



- If the **Removable Disk** window does not appear, confirm the connection (➔page 87) or perform steps 1 to 4 again. If the removable disk does not appear automatically, open the removable disk folder in My Computer.
- If the connected camcorder's disk drive does not open or the context menu that appears when right clicking your mouse (open or browse) appears broken, your computer may be infected by Autorun virus. Please update your anti-virus software to its latest version and scan your disk drives.

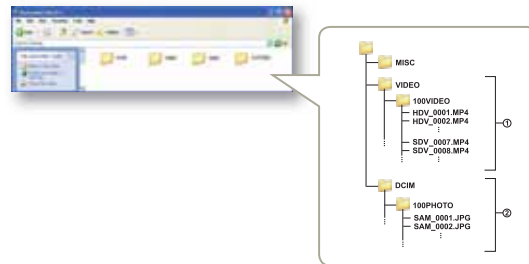
Transferring files to your Windows computer

Video file (H.264) ①

- HD-quality videos have an HDV_####.MP4 name format.
- The file number used in the file name automatically increases when you create a new video file.
- A new folder is created when the file number has reached 999~1,000.
- The folder names are given in the following order: 100VIDEO, 101VIDEO, etc. The maximum number of folders is 999.
- The camcorder can create a maximum of 9,999 files in a storage media.

Photo file ②

- As with video files, the file number used in the file name automatically increases when you create a new photo file.
- Photos have a SAM_####.JPG name format.
- The folder names are given in the following order: 100PHOTO, 101PHOTO, etc.



File format

Video files

- Video files are compressed in H.264 format. The file extension is '.MP4'.
- Refer to page 95 for the video resolution.

Photo files

- Photo images are compressed in JPEG (Joint Photographic Experts Group) format. The file extension is '.JPG'.
- Refer to page 95 for the photo resolution.



- File naming follows DCF (Design rule for Camera File System) rules
- Do not modify the name of a video file recorded by the camcorder. For proper playback, the camcorder requires that files have their original folder and file names.



Settings

Refer to items to configure your camcorder's settings.

Settings menu	94
Accessing the settings menu	94
Shooting	95
Playback	96
Display	97
Connectivity.....	99
General	100

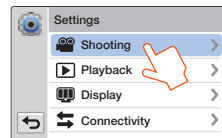
Settings menu






Accessing the settings menu

The instructions below are an example of how to access and use the Settings menu items. When you access and use other Settings menu items (pages 95~102), use this example as a guide.

1 Press the [Home (🏠)] button → touch **Settings**.

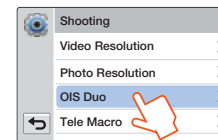
2 Touch a menu.



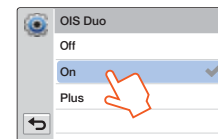
Menu	Description
	Shooting: Set the items in the video or photo recording mode. ↳ pages 95~96
	Playback: Set the items in the video or photo playback mode. ↳ pages 96~97
	Display: Customize the display settings. ↳ pages 97~98
	Connectivity: Set the connection items. ↳ page 99
	General: Change the settings for the camcorder system such as memory format and default set. ↳ pages 100~102

3 Touch a submenu.

- The OIS Duo function is used here as an example.



4 Touch the desired submenu item.





5 To exist the menu setting, touch the Return (↶) tab.


Settings menu

Shooting

* : Default

Item	Description
Video Resolution	<p>Set the video resolution.</p> <ul style="list-style-type: none"> • Full HD 1080/60i* (Full): Records in the Full HD (1920x1080/60i) format. • HD 720/60p (HD): Records in the HD (1280x720/60p) format.
	<p> • 60i indicates the camcorder will record in interlaced scan mode at 60 fields per second.</p> <p>• 60p indicates the camcorder will record in progressive scan mode at 60 frames per second.</p> <p>• Recorded files are encoded using Variable Bit Rate (VBR). VBR is an encoding system that automatically adjusts the bit rate in response to the image being recorded.</p> <p>• The available video recording time differs according to the video resolution you select. ➤page 19</p>
Photo Resolution	<p>Set the photo resolution.</p> <ul style="list-style-type: none"> • 5.3M 3072X1728* (5.3M): Records in the 2944x1656 resolution. • 2M 1920X1080 (2M): Records in the 1920x1080 resolution. <p> • The number of recordable images differs according to the photo resolution you select. ➤page 19</p> <p>• Photos that are recorded on your camcorder may not playback properly on other digital devices that do not support these photo sizes.</p>




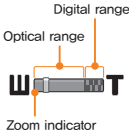

* : Default

Item	Description
OIS Duo	<p>Set to compensate for camcorder shake/blur.</p> <ul style="list-style-type: none"> • Off*: Disables the function. • On (On): Enables to compensate for camcorder shake.
Tele Macro	<p>Set to record close-up images of very small objects.</p> <ul style="list-style-type: none"> • Off*: Disables the function. • On (On): Focuses on a small portion of a large object at a tele angle. <p> • When recording in the Tele Macro mode, the focus speed may be lowered.</p> <ul style="list-style-type: none"> • Use a tripod (not supplied) to prevent camcorder shake in the Tele Macro mode. • Avoid shadows when recording in the Tele Macro mode. • As the distance to the subject decreases, focusing area narrows. • When the distance between the camcorder and a subject is too close and the camcorder cannot be in the focus, press the [W] button and then adjust the focal distance between them. • When the Tele Macro function is On and the camcorder magnifies a subject in tele mode, the minimum focal distance between the camcorder and a subject is 50cm.

Settings menu







Shooting

* : Default

Item	Description
Digital Zoom	<p>Set to increase the amount of zoom available with a zoom lens.</p> <ul style="list-style-type: none"> • Off*: Disables the digital zoom function. Only optical zoom is available. • On: Enables higher digital zoom magnification. <p> When you use the digital zoom, the camcorder processes the image digitally more than in the optical zoom mode. As a result, the image resolution may deteriorate.</p> <p> The top of the bar shows the digital zooming zone. The zooming zone appears when you press the [T/W] button or use the Zoom () tab.</p>  <p>The diagram shows a zoom indicator with a scale from W to T. A red line indicates the optical range, and a blue line indicates the digital range. The zoom indicator is labeled 'Zoom indicator'.</p>
Shake It	<p>Set to apply digital effects by shaking the camcorder.</p> <ul style="list-style-type: none"> • Off*: Disables the Shake It function. • On: Enables to apply the digital effects in order by shaking the camcorder in Art Film or Art Time Lapse mode.  <p>The illustration shows a hand holding a camcorder and shaking it, with blue arrows indicating the motion.</p>

Playback

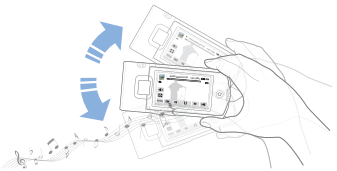
* : Default

Item	Description
Thumbnail	<p>Set the 3x3 or 4x4 type as the thumbnail view display.</p> <ul style="list-style-type: none"> • 3X3*: Displays the 3x3 type as the thumbnail view display. • 4X4: Displays the 4x4 type as the thumbnail view display.
Video Play Option	<p>Set a specific playback style according to your preference.</p> <ul style="list-style-type: none"> • Play All* (): Plays video clips in succession starting from the selected video to the last one, then returns to the thumbnail view. • Play One (): Plays the selected video only, and returns to the thumbnail view. • Repeat All (): Plays all the video clips repeatedly until the Thumbnail view () tab is touched. • Repeat One (): Plays the selected video only repeatedly until the Thumbnail view () tab is touched.
Smart BGM Option	<p>Set the desired background music to play back a video with it.</p> <ul style="list-style-type: none"> • The Flea Waltz*: Plays back The Flea Waltz. • Canon In D: Plays back Canon in D. • Cello Suite No.1: Plays back Cello Suite No.1. • Nocturne: Plays back Nocturne. • Random: Plays back from The Flea Waltz to Nocturne randomly.

Settings menu



Playback

* : Default

Item	Description
Slide Show Option	<p>Set the playback options for a slide show.</p> <ul style="list-style-type: none"> • Interval: Continuously plays back photos at the interval you select. You can choose 1 sec. or 3 sec. • Music: Turns the background music on or off. If the Music function is On when the slide show starts, the 7 melodies will play back in shuffle mode. • Effect: Continuously plays back photos using the fade in/out effect to transition between photos.
Shake It	<p>Set to play back the background music by shaking the camcorder.</p> <ul style="list-style-type: none"> • Off*: Disables the Shake It function. • On: Enables to play back the background music by shaking the camcorder while a video is playing back. 

Display



* : Default

Item	Description
LCD Brightness	<p>Set the brightness of the LCD screen. Touch the - / + tab between 0 and 10.</p>  <ul style="list-style-type: none"> • If the surroundings are too bright, adjust the brightness of the LCD screen. • Adjusting the LCD screen does not affect the image you are recording. • A brighter LCD screen consumes more power.
Guideline	<p>Set a grid to help you compose a scene.</p> <ul style="list-style-type: none"> • Off*: Disables the function. • Cross (⊕): Placing the subject at the center cross point puts the subject in the middle of the frame. • Grid (⊞): For recording multiple subjects. Putting subjects at or near the grid cross points creates a balanced composition. • Safety Zone (⊞): Positioning subjects within the Safety Zone rectangle ensures they will be recorded.  <ul style="list-style-type: none"> • Positioning a subject at the cross point of a guideline provides a balanced composition. • Guidelines are not recorded.


Settings menu

Display

* : Default

Item	Description
Date/Time Display	<p>Set to display the date and time on the camcorder's display.</p> <ul style="list-style-type: none"> • Off*: Does not display the current date/time information. • Date: Displays the current date. • Time: Displays the current time. • Date & Time: Displays the current date and time. <p> • The date/time will read JAN/01/2012 12:00 AM in the following case:</p> <ul style="list-style-type: none"> - When the internal rechargeable battery is depleted. • The date and time displayed by this function depend on the Date Type and Time Type settings. <p>➤ page 100</p>
TV Display	<p>Set whether or not to display the camcorder's On Screen Display (OSD) on the TV screen.</p> <ul style="list-style-type: none"> • Off: Displays the OSD menus only on the LCD screen. • On*: Displays the OSD menus on the LCD screen and the TV screen as well. <p> The menu screen, thumbnail display, and demo screens are displayed on a TV even if you set TV Display to Off.</p>


* : Default

Item	Description
HDMI TV Out	<p>Set the HDMI video output to match the TV you have connected the camcorder to.</p> <ul style="list-style-type: none"> • Auto*: The video signals are output in the same format as the recorded file. Use this setting only when connecting to an HDTV. • 480p: The recorded file is output in the 720x480p format. Use this setting only when connecting to a standard and analog TV which supports SD (Standard Definition) progressive scan (480p) signals through its HDMI jacks.
Auto LCD Off	<p>Set to darken the LCD screen for low power consumption.</p> <ul style="list-style-type: none"> • Off: Disables the function. • On*: When the camcorder is idle for more than 2 minutes in STBY mode, or for more than 5 minutes when recording a video, the power saving mode starts by dimming the LCD screen. <p> • When the Auto LCD Off function is On, you can press any button on the camcorder to return LCD brightness to normal.</p> <ul style="list-style-type: none"> • The Auto LCD Off function is Off in the following cases: <ul style="list-style-type: none"> - When the camcorder has a cable connection. (USB cable, AC power adaptor, etc.) - While the Demo function is in operation.


Settings menu

Connectivity

* : Default

Item	Description
PC Software	<p>Set to launch the built-in editing software (Intelli-studio) automatically when connecting the camcorder to your PC.</p> <ul style="list-style-type: none"> • Off: Disables the function. • On*: Launches Intelli-studio when connecting the camcorder to your PC. <p> • The PC Software function is not available in the following conditions:</p> <ul style="list-style-type: none"> - If USB Connect is set to PictBridge • To enable the PC Software function, set USB Connect to Mass Storage in the Setting menu. • The PC Software is compatible with the Windows OS's only.
USB Connect	<p>Select a mode to use when connecting the camcorder to a PC or printer with a USB cable.</p> <ul style="list-style-type: none"> • Mass Storage*: Connect to a PC to transfer videos or photos. ➡ page 91 • PictBridge: Connect to a PictBridge printer to print photos directly (when using the PictBridge function). ➡ page 84





* : Default

Item	Description
TV Connect Guide	<p>View the instructions before connecting the camcorder to your TV set.</p> <ul style="list-style-type: none"> • HDMI: Displays the HDMI guide. • Composite: Displays the Composite guide.
Anynet+ (HDMI-CEC)	<p>Set to control some functions of the camcorder with a Samsung's TV remote control that supports Anynet+.</p> <ul style="list-style-type: none"> • Off: Disables the function. • On*: Enables to operate some functions of the camcorder with a TV remote control when connecting the camcorder to a Samsung's Anynet+ supported TV <p> • When you turn the camcorder on and connect it to a Samsung's Anynet+ supported TV with an HDMI cable, the TV automatically turns on.</p> <ul style="list-style-type: none"> • For details on the Anynet+ (HDMI-CEC) function, refer to the user manual of Samsung's Anynet+ supported TV.




Settings menu

General

* : Default

Item	Description
Card Info	<p>View the storage information of the inserted storage media such as used memory space and available memory space.</p> <p> • The actual capacity may be less than the capacity displayed on the LCD screen as the camcorder's system files occupy a part of the capacity.</p> <p>• If there is no storage media inserted, you cannot select the Card Info function and it will look dim on the menu.</p>
File No.	<p>Assign file names to the recorded images.</p> <ul style="list-style-type: none"> • Series*: Assigns file numbers in sequence even after you replace or format the storage media or delete all files. • Reset: Resets the file number to 0001 after you run format, delete all files or insert a new memory card. <p> When you set File No. to Series, each file is assigned a different number to avoid duplicating file names. This numbering scheme is very useful when you want to manage your files on a PC.</p>
Time Zone	<p>Set the time zone for your location.</p> <ul style="list-style-type: none"> • Home*: Select the Home function when using your camcorder for the first time or returning the clock to your hometown date/time. • Visit (📍): Select the Visit function when traveling a different time zone. Touch the  /  tab, and then the OK tab.
Date/Time Set	Set the date and time. ➡ page 25



* : Default

Item	Description
Date Type	<p>Set a date format.</p> <ul style="list-style-type: none"> • 2012/01/01: Displays the date in the year/month (two-digit)/day format. • JAN/01/2012*: Displays the date in the month/day/year format. • 01/JAN/2012: Displays the date in the day/month/year format. • 01/01/2012: Displays the date in the day/month (two-digit)/year format. <p> This function depends on the Date/Time Display setting. ➡ page 98</p>
Time Type	<p>Set a time format.</p> <ul style="list-style-type: none"> • 12 Hr*: Displays the time information in 12 hour units. • 24 Hr: Displays the time information in 24 hour units. <p> This function depends on the Date/Time Display setting. ➡ page 98</p>
Beep Sound	<p>Set whether or not to hear the beep sound.</p> <ul style="list-style-type: none"> • Off: Disables the function. • On*: Turns on the beep sound to hear when pressing buttons or touching tabs. <p> The Beep Sound function is disabled in the following cases:</p> <ul style="list-style-type: none"> - During recording and playing - When the camcorder has a cable connection. (Audio/Video cable, mini HDMI cable, etc.)



Settings menu

General

* : Default

Item	Description
Shutter Sound	<p>Set whether or not to hear the shutter sound.</p> <ul style="list-style-type: none"> • Off: Disables the function. • On*: Turn on the shutter sound to hear when taking a photo with the [Recording start/stop] button. <p> The Shutter Sound function is disabled in the following cases:</p> <ul style="list-style-type: none"> - When the camcorder has a cable connection. (Audio/Video cable, mini HDMI cable, etc.)
Auto Power Off	<p>Set the camcorder to automatically turn off when performing no operations for 5 minutes.</p> <ul style="list-style-type: none"> • Off*: Disables the function. • 5 Min: Turns off the camcorder when performing no operations for 5 minutes. <p> • The Auto Power Off function does not work in the following situations:</p> <ul style="list-style-type: none"> - When the camcorder has a cable connection. (USB cable, AC power adaptor, etc.) - While the Demo function is in operation. - While you are recording (including the recording pause), playing (except pause), or running a photo slide show. <ul style="list-style-type: none"> • To turn the camcorder on again, close the LCD screen and then open it.



* : Default

Item	Description
Quick On STBY	<p>Use to reduce energy consumption and battery drain when recording frequently for an extended time.</p> <ul style="list-style-type: none"> • Off*: Turns off the camcorder by closing the LCD screen. • 5 Min: Starts the Quick On STBY mode by closing the LCD screen after a short period of time. After 5 minutes in Quick On STBY mode, the camcorder turns off. <p> • We recommend turning off the camcorder after use to reduce energy consumption. However, as an alternative, you can use the Quick On STBY function under most shooting conditions to reduce energy consumption effectively.</p> <ul style="list-style-type: none"> • The charging indicator keeps blinking in Quick On STBY mode. • The Quick On STBY mode is not available under the following conditions: <ul style="list-style-type: none"> - When the LCD screen is open. - When operating the buttons on the camcorder. - While recording.
Switch Grip	<p>Set to use the camcorder conveniently with either your right or left hand.</p> <ul style="list-style-type: none"> • Off: Disables the function. • On*: Uses the camcorder easily with both your hands. <p> When you change the Switch Grip direction while recording, the recording may be temporarily interrupted.</p>




Settings menu

General

* : Default

Item	Description
Format	<p>Use to delete all files completely or correct problems on the storage media.</p> <ul style="list-style-type: none">  Do not remove the storage media or perform any other operation (such as turning off the power) during formatting. Also, be sure to use the provided AC power adaptor, as the storage media may be corrupted if the battery becomes exhausted during formatting. If the storage media becomes corrupted, format it again.
	<ul style="list-style-type: none">  Do not format the storage media on a PC or other device. Make sure to format the storage media on this camcorder. You cannot format a memory card with the protection tab set to lock. ➡ page 17 If there is no storage media inserted, you cannot select the Format function, and its name will be dimmed on the menu. Formatting completely deletes all files and options on a memory card, including protected files. By deleting all files and options, formatting typically corrects problems, enabling stable read/write speeds and operation.

* : Default

Item	Description
Default Set	<p>Reset all menu settings to the default conditions (factory settings). Touch Yes if you want all the settings returned to the defaults.</p> <ul style="list-style-type: none">  Do not turn off the power while using this function. Initializing the camcorder settings to factory defaults does not affect recorded images.
Language	<p>Select the language the camcorder uses to display the menu and messages. ➡ page 26</p>
Demo	<p>Show the major demo functions for the camcorder.</p> <ul style="list-style-type: none"> Off: Disables the function. On*: Enables the Demo function. <ul style="list-style-type: none">  The Demo mode is canceled in the following cases: <ul style="list-style-type: none"> If the LCD screen is touched. If you press any button (Recording start/stop, Home (⬆), etc.). However, the camcorder enters the Demo mode automatically after 5 minutes in STBY mode if it is idle for 5 minutes without an operation. If you don't want the Demo function to start, set Demo to Off.  The Demo function does not work in the following case: <ul style="list-style-type: none"> If you set Auto Power Off to 5 Min and you are using the battery to power the camcorder, the Auto Power Off function turns the camcorder off before the Demo function runs.



Appendixes

Get information about error messages, maintenance, and specifications.

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Troubleshooting

Before contacting a Samsung authorized service center, perform the following simple checks. They may save you the time and expense of an unnecessary call.




Warning icons and messages

Problems may occur because of the following reasons. Check the information and take corrective action.

Battery





Message	Icon	Informs that...	Action
Low Battery	-	The battery is almost discharged.	<ul style="list-style-type: none">• Replace with a charged battery or connect the AC power adaptor.
Check authenticity of the battery.	-	The battery cannot pass authenticity check.	<ul style="list-style-type: none">• Check whether the battery is authentic. If not, change to an authentic Samsung battery.• We recommend you use only genuine Samsung batteries in this camcorder.

Storage media

Message	Icon	Informs that...	Action
Insert Card		There is no memory card inserted in the memory card slot.	<ul style="list-style-type: none">• Insert a memory card.
Card Full		There is not enough space to record on the memory card.	<ul style="list-style-type: none">• Delete unnecessary files from the memory card.• Back-up files to a PC or another storage media, and then delete unneeded files.• Replace the memory card with another card that has enough free space.
Card Locked		The write protection tab on an SD or SDHC card has been set to lock.	<ul style="list-style-type: none">• Release the write protection tab.

Troubleshooting

Storage media


Message	Icon	Informs that...	Action
Card Error		The memory card has a problem and the camcorder cannot recognize it.	<ul style="list-style-type: none"> Replace the memory card with another card.
Not Formatted		The memory card is not formatted in this camcorder.	<ul style="list-style-type: none"> Format the memory card using this camcorder.
Not Supported Format		The memory card may have been formatted by another device and may still have existing images on it.	<ul style="list-style-type: none"> Files cannot be played as the memory card format is not supported by the camcorder. Format the card using the camcorder or replace the card with a card formatted correctly.
Not Supported Card		The memory card is not supported in this camcorder.	<ul style="list-style-type: none"> Replace the memory card with a recommended card.
Low Speed Card. Please record at a lower resolution.	-	The memory card is not fast enough to record at this resolution.	<ul style="list-style-type: none"> Record video at a lower resolution and quality. Replace memory card with a faster card.

Recording

Message	Icon	Informs that...	Action
Write Error	-	Some problem occurred while writing data to storage media.	<ul style="list-style-type: none"> Turn the camcorder's power off and on for data recovery. If a file is not recovered, use the camcorder to format the storage media after backing up important files to a PC or another storage media.
Recovering Data... Don't power off and keep card inside.	-	The file was not created normally.	<ul style="list-style-type: none"> Wait until data recovery is finished. Never turn off the power or eject memory card during recording.

Troubleshooting

Recording

Message	Icon	Informs that...	Action
The limit of video files is reached. Cannot record video.	-	The number of video files that can be stored is 9,999.	<ul style="list-style-type: none"> Delete unnecessary files from the storage media. Back up files to your PC or another storage media and delete files. Change to another card which has enough free space. Set File No. to Reset. Format the storage media.
The limit of photo files is reached. Cannot take a photo.	-	The number of photo files that can be stored is 9,999.	<ul style="list-style-type: none"> Delete unnecessary files on the storage media. Back up files to your PC or another storage media and delete files. Change to another card which has enough free space. Set File No. to Reset. Format the storage media.
File Limit is reached. Cannot record video.	-	Folder and file number have reached the maximum number and you cannot record.	<ul style="list-style-type: none"> Set File No. to Reset and format the storage media. Remember to back up important files before formatting.
File Limit is reached. Cannot take a photo.	-	Folder and file number have reached the maximum number and you cannot record.	<ul style="list-style-type: none"> Set File No. to Reset and format the storage media. Remember to back up important files before formatting.
Check the lens cover		Lens cover is closed.	<ul style="list-style-type: none"> Open the lens cover.

Troubleshooting

Playback

Message	Icon	Informs that...	Action
Read Error	-	A problem has occurred while the camcorder was reading data from the storage media.	<ul style="list-style-type: none">• Use the camcorder to format the storage media after backing up important files to a PC or another storage device.
Corrupted file	-	This file cannot be read.	<ul style="list-style-type: none">• Use the camcorder to format the storage media after backing up important files to a PC or another storage device.

Editing videos

Message	Icon	Informs that...	Action
Cannot select different resolution.	-	The files you want to combine have different resolutions.	<ul style="list-style-type: none">• You cannot combine files that have different resolutions.
Not enough free space in Card.	-	You cannot edit due to insufficient space on memory card.	<ul style="list-style-type: none">• Edit after deleting unnecessary files.
Select 2 files for combine.	-	Only two files can be combined.	<ul style="list-style-type: none">• Combine two files first, and then combine the resulting file with an additional file. Note that you cannot combine files if the total size of the combined files exceeds 1.8GB.
Total file size is over than 1.8GB.	-	The files whose total size is likely to exceed 1.8GB cannot be combined.	<ul style="list-style-type: none">• Perform a divide or partial delete function first to delete unnecessary parts of the files, and then perform the combine function.


Troubleshooting

USB

Message	Icon	Informs that...	Action
Fail Printer Connecting Change 'USB Connect'	-	A problem occurred when connecting the camcorder via USB to a printer.	<ul style="list-style-type: none">• Check the USB cable.• Try the connection procedure again.• Switch USB connect function to PictBridge.
Fail USB Connecting Change 'USB Connect'	-	A problem occurred when connecting the camcorder via USB to a PC.	<ul style="list-style-type: none">• Check the USB cable.• Try the connection procedure again.• Switch USB connect function to Mass Storage.
Ink Error	-	There is a problem with an ink cartridge.	<ul style="list-style-type: none">• Check the ink cartridge.• Put a new ink cartridge into the printer.
Paper Error	-	There is a problem with the paper.	<ul style="list-style-type: none">• Check the paper in the printer. If there is no paper, insert paper.
File Error	-	There is a problem with the file.	<ul style="list-style-type: none">• Your camcorder does not support this file format.• Try another file recorded on your camcorder.
Printer Error	-	There is a problem with the printer.	<ul style="list-style-type: none">• Turn the printer's power off and on.• Contact the printer manufacturer's service center.
Print Error	-	A problem occurred during printing.	<ul style="list-style-type: none">• Do not remove power source or eject memory card during printing.

Troubleshooting

Wireless Network

Message	Icon	Informs that...	Action
Connection failed.	-	Camcorder's WLAN configuration does not match to that of AP.	<ul style="list-style-type: none">• Configure the IP settings (auto or manual) of your camcorder to match the AP's.
No devices found.	-	No renderer that can be connected to the camcorder is found in the connected network.	<ul style="list-style-type: none">• Use the Refresh () tab to search for the renderer.• Check your network connection.
No Wi-Fi AP found.	-	No available AP is found around you or the camcorder's WLAN is not working properly.	<ul style="list-style-type: none">• Check whether an AP is available near you.• If an available AP does exist and the problem persists, contact Samsung Service Center.
File reception failed.	-	Device on the other end is turned off or network connection has problem.	<ul style="list-style-type: none">• Check if recipient's device is turned on.• Check if network connection works properly and try again.

Troubleshooting

Symptoms and solutions

If these instructions do not solve your problem, contact your nearest Samsung authorized service center.

Power

Symptom	Explanation/Solution
The camcorder does not turn on.	<ul style="list-style-type: none">• The battery may not be installed in your camcorder. Insert the battery into the camcorder.• The inserted battery may be discharged. Charge the battery or replace it with a charged one.• If you use the AC power adaptor, make sure it is properly connected to a wall outlet.
The power turns off automatically.	<ul style="list-style-type: none">• Is Auto Power Off set to 5 Min? If no button is pressed for about 5 minutes, the camcorder is automatically turned off (Auto Power Off). To disable this option, change the setting of Auto Power Off to Off. ➔page 101• The battery is almost exhausted. Charge the battery or replace it with a charged one.
The power cannot be turned off.	<ul style="list-style-type: none">• Remove the battery or unplug the AC power adaptor, and connect the power supply to the camcorder again before turning it on.
The battery discharges quickly.	<ul style="list-style-type: none">• The temperature is too low.• The battery is not fully charged. Charge the battery again.• The battery has reached the end of its lifespan and cannot be recharged. Use another battery.

Display

Symptom	Explanation/Solution
The TV screen or LCD display has distorted images or has stripes at the top/bottom or on the left/right.	<ul style="list-style-type: none">• This can occur when recording or viewing a 16:9 ratio image on a 4:3 ratio TV, or vice versa. For more details, see the display specification. ➔page 82
Unknown image appears on the LCD screen.	<ul style="list-style-type: none">• The camcorder is in Demo mode. If you do not want to see Demo images, change the setting Demo to Off. ➔page 102

Troubleshooting

Display

Symptom	Explanation/Solution
Unknown icon appears on the screen.	<ul style="list-style-type: none">A warning icon or message appears on the screen. ➡ pages 104~109
An afterimage remains on the LCD screen.	<ul style="list-style-type: none">This occurs if you disconnect the AC power adaptor or remove the battery before turning the power off.
The image on the LCD screen looks dark.	<ul style="list-style-type: none">Ambient light is too bright. Adjust the brightness and angle of the LCD.

Recording

Symptom	Explanation/Solution
Pressing the [Recording start/stop] button does not start recording.	<ul style="list-style-type: none">Set your camcorder to the recording mode. ➡ page 37There is not enough free space to record on the storage media.Check if memory card is not inserted or write-protect tab is set to lock.
The actual recording time is less than the estimated recording time.	<ul style="list-style-type: none">The estimated recording time may vary depending on content and features used.When you record an object that moves fast, the actual recording time may be shortened.
The recording stops automatically.	<ul style="list-style-type: none">There is no more free space for recording on the storage media. Back up important files on your PC and format the storage media or delete the unnecessary files.If you make recordings or delete files frequently, the performance of the storage media deteriorates. If this occurs, format the storage media again.If you use a memory card with low writing speed, the camcorder automatically stops recording videos and a corresponding message appears on the LCD screen.
When recording a subject illuminated by bright light, a vertical line appears.	<ul style="list-style-type: none">This is not a malfunction.
When the screen is exposed to direct sunlight during recording, the screen becomes red or black for an instant.	<ul style="list-style-type: none">This is not a malfunction.

Troubleshooting

Recording

Symptom	Explanation/Solution
During recording, the date/time does not display.	<ul style="list-style-type: none">• Date/Time Display is set to Off. Set the Date/Time Display to On. ↗page 98
You cannot record a photo image.	<ul style="list-style-type: none">• Set your camcorder to the photo recording mode. ↗page 41• Release the lock on the write-protection tab of the memory card if any.• The storage media is full. Use a new memory card or format the storage media. ↗page 102 Or remove unnecessary images. ↗page 63
You don't hear the shutter sound when you record a photo image.	<ul style="list-style-type: none">• Set Shutter Sound to On.• When the Mini HDMI cable or Audio/Video cable is connected to the camcorder, the Shutter Sound is not available.
You don't hear the beep sound.	<ul style="list-style-type: none">• Set Beep Sound to On.• Beep sound is temporally off while recording videos.• When the Mini HDMI cable or Audio/Video cable is connected to the camcorder, the Beep Sound is not available.
There is a time difference between the point where you press the [Recording start/stop] button and the point where the recorded video starts/stops.	<ul style="list-style-type: none">• On your camcorder, there may be a slight time delay between the point when you press the [Recording start/stop] button and the actual point where the recorded video starts/stops. This is not an error.
Horizontal stripes appear on the images.	<ul style="list-style-type: none">• This occurs when recording images under a fluorescent lamp, sodium lamp, or mercury lamp. This is not a malfunction.

Troubleshooting

Storage Media

Symptom	Explanation/Solution
Memory card functions do not operate.	<ul style="list-style-type: none">• Insert a memory card into your camcorder properly. ➤page 16• If you use a memory card formatted on a computer, format it again directly on your camcorder. ➤page 102
Image cannot be deleted.	<ul style="list-style-type: none">• Release the lock on the write-protect tab of the memory card (SDHC/SD memory card), if any. ➤page 17• You cannot delete a protected images. Release protection of the image using the Protect function. ➤page 65
You cannot format the memory card.	<ul style="list-style-type: none">• Release the lock on the write-protect tab of the memory card (SDHC/SD memory card), if any. ➤page 17• The memory card is not supported on your camcorder or card has some problems.
The data file name is not indicated correctly.	<ul style="list-style-type: none">• The file may be corrupted.• The file format is not supported by your camcorder.• Only the file name is displayed if the directory structure complies with the international standard.

Adjusting the image during recording

Symptom	Explanation/Solution
Focus does not adjust automatically.	<ul style="list-style-type: none">• Set Focus to Auto. (Video recording mode only) ➤page 48• The recording conditions are not suitable for auto focus. Adjust the focus manually. (Video recording mode only) ➤page 48• The lens is dusty on the surface. Clean the lens and check the focus.• Recording is being made in a dark location. Use a light to brighten the area.

Troubleshooting

Adjusting the image during recording

Symptom	Explanation/Solution
Image's color balance is not natural.	<ul style="list-style-type: none">The white balance is incorrect. Set the proper White Balance. ➡ page 45
A subject passing quickly through the frame appears distorted.	<ul style="list-style-type: none">This is called the focal plane phenomenon. This is not a malfunction. Because of the way the image device (CMOS sensor) reads out video signals, a subject passing through a frame rapidly may appear to bend, depending on the recording conditions.

Playback on your camcorder

Symptom	Explanation/Solution
Playback (playback/pause) function does not work.	<ul style="list-style-type: none">Image files recorded using another device may not play back on your camcorder.Check memory card compatibility. ➡ page 17
Photo images stored on a storage media are not displayed in the actual size.	<ul style="list-style-type: none">Photo images recorded on other devices may not appear in their actual size. This is not an error.
Playback is interrupted unexpectedly.	<ul style="list-style-type: none">Check if the AC power adaptor or battery back is properly connected and secure.

Playback on other devices (TV, etc.)

Symptom	Explanation/Solution
You cannot view the image on or hear the sound from the connected device.	<ul style="list-style-type: none">Make sure that the connection cable is connected to the proper jack.
The image appears distorted on a TV.	<ul style="list-style-type: none">This phenomenon is caused by connecting to a TV with 4:3 aspect ratio.
You cannot view the image on or hear the sound from a TV connected using the HDMI cable.	<ul style="list-style-type: none">The camcorder cannot output Images from the HDMI jack if the material is copyright protected.

Troubleshooting

Connecting/Dubbing with other devices (Recorder, PC, Printer, etc.)

Symptom	Explanation/Solution
You cannot dub correctly using the HDMI cable.	<ul style="list-style-type: none">You cannot dub images using the HDMI cable.
You cannot dub correctly using the Audio/Video cable.	<ul style="list-style-type: none">The Audio/Video cable is not connected properly. Make sure that the Audio/Video cable is connected to the proper jack, i.e. to the input jack of the device used for dubbing images from your camcorder. ➡page 83
Your PictBridge printer cannot print photos from your camcorder.	<ul style="list-style-type: none">Your printer may not print images edited on a computer or recorded using other devices. This is not an error.

Connecting to a computer

Symptom	Explanation/Solution
Your computer does not recognize your camcorder.	<ul style="list-style-type: none">Disconnect the USB cable from the computer and camcorder, restart the computer, and then connect the USB cable again correctly.
Cannot play back a video file properly on a PC.	<ul style="list-style-type: none">You need a video codec to play back the file recorded on your camcorder. Install the software provided with your camcorder. ➡page 87Make sure you insert the connector in the correct direction, and connect the USB cable to the micro USB jack on your camcorder firmly.Disconnect the cable from the computer and camcorder, restart the computer, and then connect the cable again properly.To play back an HD video file, you need a computer with better specifications. Use a computer with the recommended specifications. ➡page 86
Intelli-studio does not function properly.	<ul style="list-style-type: none">Exit the Intelli-studio application, and restart the Windows computer.
Intelli-studio does not start.	<ul style="list-style-type: none">Set PC Software to On in the Settings menu or install Intelli-studio on the computer. ➡pages 87, 99

Troubleshooting

Connecting to a computer

Symptom	Explanation/Solution
Your computer is not playing videos, images, or sound located on your camcorder properly.	<ul style="list-style-type: none">• Video playback or sound may stop temporarily depending on your computer. The video or sound copied to your computer is not affected.• If your camcorder is connected to a computer that does not support Hi-speed USB (micro USB 2.0), the image or sound may not play back correctly. Images, video, and sound copied from the camcorder to your computer are not affected.
The playback screen is paused or distorted.	<ul style="list-style-type: none">• Check the system requirements to play a video.• Shut down all other applications currently running on the computer.• If you play back a video on your camcorder when it is connected to a computer, the video may not play back smoothly on the computer, depending on the transfer speed. Please copy the file to your PC, and then play it back.

Overall operations

Symptom	Explanation/Solution
The date and time are incorrect.	<ul style="list-style-type: none">• Has the camcorder been left unused for a long period of time? The backup internal rechargeable battery may be discharged. ➡ page 25

Maintenance

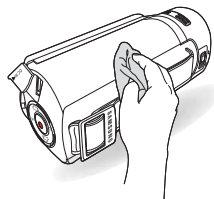
Cautions when storing


- For safekeeping of the camcorder, turn off the camcorder.
 - Remove the battery.
 - Remove the memory card.

Cleaning the camcorder

Before cleaning, turn off the camcorder and remove the battery.

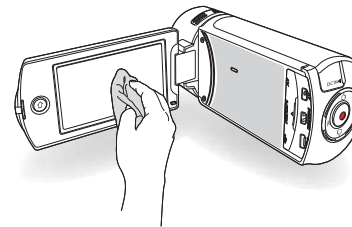
- **To clean the exterior**
 - Wipe gently with a soft dry cloth. Do not apply excessive force when cleaning. Gently rub the surface.



 Do not use benzene or thinner to clean the camcorder. The exterior coating could peel off or the case could deteriorate.

- **To clean the LCD screen**

Wipe very gently with a soft dry cloth. Be careful not to damage the screen.

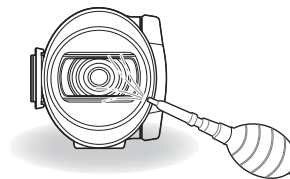


- **To clean the lens**

Use a blower brush to remove dust, and then wipe the lens gently with a soft cloth.

If necessary, wipe gently with lens paper or tissue.

- Mold may form if the lens is left dirty.
- If the lens looks dim, turn off the camcorder and leave it off for about 1 hour.



Maintenance

LCD screen

- To prolong its service life, do not rub the LCD screen with a coarse cloth.
- Be aware of the following LCD screen phenomena. They are not malfunctions.
 - When you use the camcorder, the surface around the LCD screen may heat up.
 - If you leave the power on for a long time, the surface around the LCD screen becomes hot.
 - When using the camcorder in cold conditions, an afterimage may appear on the LCD screen.
- An LCD screen is manufactured using advanced technology which creates screens with pixel failure rates of less than 0.01%. However, a black or bright spot (red, blue, white) may appear in the center of the LCD screen and up to two spots may appear outside the center. These spots, which are normally incurred during the manufacturing process, do not affect the recorded images.



When there is dew condensation, put the camcorder aside for a while before using

- What is dew condensation?
Dew condensation happens when a camcorder is moved to a location where there is a significant temperature difference from the previous location. The dew condenses on the external or internal parts of the camcorder, and on the reflection lens. If there is dew on or in your camcorder, it may cause the camcorder to malfunction or damage the camcorder when you turn the power on.
- Exactly when does dew condensation occur?
When you move the camcorder to a location with a higher temperature than the previous location, or when you move it to a hot area suddenly. Examples:
 - You record outside in cold weather during the winter and then move the camcorder indoors.
 - You record outside in hot weather after being indoors or inside a car where the A/C was running.
- What can I do?
 - Turn the power off, detach the battery, and leave the camcorder in a dry area for 1~2 hours before using it.



- Use the camcorder only after dew condensation has completely disappeared.
- Be sure to use the recommended accessories supplied with the camcorder. For service, contact your nearest Samsung authorized service center.

Using your camcorder abroad

Each country or region has its own electric and color systems. Before using your camcorder abroad, check the following items.

Power sources

The AC adaptor provided lets you power, recharge, and use your camcorder in any country/region that has AC power in the 100 V to 240 V, 50/60 Hz range. You may need a commercially available AC plug adaptor depending on the design of local wall outlets.

On TV color systems

Your camcorder is an NTSC based camcorder. If you want to view your recordings on a TV or copy them to an external device, it must be an NTSC based TV or external device and have the appropriate Audio/Video jacks. Otherwise, you may need to use a separate video format transcoder (For example, an NTSC to PAL format converter).



The format transcoder is not provided by Samsung.

NTSC-compatible countries/regions

Bahamas, Canada, Central America, Japan, Korea, Mexico, Philippines, Taiwan, United States of America, etc.

PAL-compatible countries/regions

Australia, Austria, Belgium, Bulgaria, China, CIS, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Great Britain, Holland, Hong Kong, Hungary, India, Iran, Iraq, Kuwait, Libya, Malaysia, Mauritius, Norway, Romania, Saudi Arabia, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Syria, Thailand, Tunisia, etc.



You can make recordings with your camcorder and view pictures on the LCD screen anywhere in the world.

Glossary

AF (Auto Focus)

A system that automatically focuses the camcorder lens on the subject. Your camcorder uses the contrast to focus automatically.

Aperture

The aperture controls the amount of light that reaches the camcorder's sensor.

Camcorder shake (Blur)

If the camcorder is moved while the shutter is open, the entire image may appear blurred. This occurs more often when the shutter speed is slow. Prevent camcorder shake by raising the sensitivity, using a faster shutter speed. Alternately, use a tripod, the DIS or OIS function to stabilize the camcorder.

Composition

Composition in photography means arranging objects in a photo. Usually, abiding by the rule of thirds leads to a good composition.

Complementary Metal-Oxide-Semiconductor (CMOS)

CMOS is an image sensor producing images approaching the quality of CCD (charge coupled device) sensors. It consumes less power, meaning a longer battery life on your camcorder.

Digital zoom

A feature that artificially increases the amount of zoom available with zoom lens (Optical zoom). When using the Digital zoom, the image quality will deteriorate as the magnification increases.

Effective Pixel Count

Unlike the total pixel count, this is the actual number of pixels used to capture an image.

EV (Exposure Value)

All the combinations of the camcorder's shutter speed and lens aperture that result in the same exposure.

Exposure

The amount of light allowed to reach the camcorder's sensor. Exposure is controlled by a combination of the shutter speed, the aperture value, and ISO sensitivity.

Focal length

The distance from the middle of the lens to its focal point (in millimeters). Longer focal lengths result in narrower angles of view and the subject is magnified. Shorter focal lengths result in wider angles of view.

F. No (F-Number)

The f-number defines the brightness of lens. Smaller number lens has generally brighter image. The f-number is directly proportional to the focal length and inversely proportional to the lens diameter.

*F.No=focal length/diameter of lens aperture

MPEG-4 AVC/H.264

MPEG-4 AVC/H.264 defines the latest video coding format standardized by the ISO/IEC and the ITU-T, in 2003. Compared with the conventional MPEG-2 format, MPEG-4 AVC/H.264 has more than twice the efficiency. Your camcorder employs MPEG-4 AVC/H.264 to encode high definition videos.

Optical zoom

This is a general zoom which can enlarge images with a lens and does not deteriorate quality of images.

Quality

An expression of the rate of compression used in a digital image. Higher quality images have a lower rate of compression, which usually results in a larger file size.

Resolution

The number of pixels present in a digital image. High resolution images contain more pixels and typically show more detail than low resolution images.

Shutter speed

Shutter speed refers to the amount of time it takes to open and close the shutter, and it is an important factor in the brightness of a photo, as it controls the amount of light which pass through the aperture before it reaches the image sensor. A fast shutter speed allows less time to let light in and the photo becomes darker and more easily freezes subjects in motion.

Tele Macro

This feature allows you to capture close-up images of very small objects. When using the Tele Macro feature, the camcorder can maintain a sharp focus on small objects at a near life-size ratio (1:1).

White balance (color balance)

An adjustment of the intensities of colors (typically the primary colors red, green, and blue), in an image. The goal of adjusting the white balance, or color balance, is to correctly render the colors in an image.

Specifications

Model name	HMX-Q20BN HMX-Q200BN HMX-QF20UN	
System	Video signal	NTSC
	Picture compression format	H.264 (MPEG-4.AVC)
	Audio compression format	AAC (Advanced Audio Coding)
	Image device	1/4" CMOS
	Effective pixels	1.75 mega pixels
	Total pixels	5.1 mega pixels
	Lens	F1.8 ~ F3.9, X20 Optical Zoom, X40 Digital Zoom
	Focal length	2.6mm ~ 52mm
LCD screen	Wireless networking protocol	WiFi (802.11b/g/n)
	Size/dot number	2.7" Wide Touch LCD / 230k
	LCD screen method	TFT LCD
Connectors	Composite output	1Vp-p (75 Ω terminated)
	HDMI output	D type connector
	USB output	micro USB 2.0
General	Power source	DC 5 V, Lithium Ion battery 3.7 V
	Power source type	Lithium Ion battery, Power supply (100 V ~ 240 V) 50/60 Hz
	Power consumption	3.0W (LCD on)
	Operating temperature	32 °F ~ 104 °F (0 °C ~ 40 °C)
	Operating humidity	40% ~ 60%
	Storage temperature	-4 °F ~ 140 °F (-20 °C ~ 60 °C)
	Storage media	Memory card (SD/SDHC) (not supplied)
	External dimensions (W x H x D)	Approx. 42.8mm (1.69 inches) x 52.45mm (2.06 inches) x 119mm (4.69 inches)
	Weight	Approx. 170g (0.37 lb, 6 oz) (Except for Lithium Ion battery)
	Internal MIC	Omni-directional stereo microphone

※ The technical specifications and design may be changed without notice.



FCC ID : A3LHMXQF20BN

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution:

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note:

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.

Operation is subject to the following two conditions:

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

Caution:

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



FCC ID : A3LHMXQF20BN

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

RF du FCC d'exposition aux radiations: Cet équipement est conforme à l'exposition de la FCC rayonnements RF limites établies pour un environnement non contrôlé. Cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.

IC ID : 649E-HMXQF20BN

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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Warranty

SAMSUNG LIMITED WARRANTY

SAMSUNG Electronics America Inc. (SEA), warrants that this product is free from defective material and workmanship.

SEA further warrants that if product fails to operate properly within the specified warranty period and the failure is due to improper workmanship or defective material, SEA will repair or replace the product at its option.

All warranty repairs must be performed by a SEA authorized service center. The name and address of the location nearest you can be obtained by calling toll free: 1-800 SAMSUNG (1-800-726-7864).

Labor

1 year carry-in

Parts

1 year

On carry-in models, transportation to and from the service center is the customer's responsibility.

The original dated sales receipt must be retained by the customer and is the only acceptable proof of purchase.

It must be presented to the authorized service center.

EXCLUSIONS (WHAT IS NOT COVERED)

This warranty does not cover damage due to accident, fire, flood and/or other acts of God; misuse, incorrect line voltage, improper installation, improper or unauthorized repairs, commercial use, or damage that occurs in shipping.

Exterior and interior finish, lamps, and glass are not covered under this warranty.

Customer adjustments which are explained in the instruction manual are not covered under the terms of this warranty.

This warranty will automatically be voided for any unit found with a missing or altered serial number. This warranty is valid only on products purchased in the United States and Puerto Rico.

Some States do not allow the exclusions or limitations of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

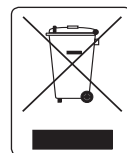


Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.



QUESTIONS OR COMMENTS?

COUNTRY	CALL	OR VISIT US ONLINE AT	WRITE
IN THE US	1-800-SAMSUNG (726-7864)	www.samsung.com	Samsung Electronics America, Inc. 85 Challenger Road Ridgefield Park, NJ 07660-2112



RoHS compliant

Our product complies with "The Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment", and we do not use the 6 hazardous materials- Cadmium (Cd), Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr +6), Poly Brominated Biphenyls (PBBs), Poly Brominated Diphenyl Ethers (PBDEs)- in our products.