



Full HD 1080P
Wide Screen Digital Video

MN80HD
Infrared Night Vision



MN80NV User Manual

Contents

1. About Your Camcorder	3
Cautionary Information	3-5
1.1 System Requirements	6
1.2 Camcorder Interface	6
1.3 Button Function Description	7
2. First Use	7
2.1 Inserting The Memory Card	7
2.2 Installing The Battery	8
2.3 Charging The Battery	8
2.4 Powering the Camcorder On/Off	8
2.5 Switching Modes	8
2.6 Connecting to a Computer	9
2.7 Connecting to a Standard TV	9
2.8 Video Mode	10
2.9 Photo Mode	10
2.10 Using the Zoom Function	11
2.11 Using the IR Night Vision Mode	11
3. Using Your Camcorder	12
3.1 Photo Shooting	12-15
3.2 Video Recording	16-18

3.3 The Setup Menu.....	19-20
3.4 Playback Mode.....	21-22
4. Appendix.....	23
4.1 Technical Specifications.....	23
4.2 Support and Information	24

About this Manual

Congratulations on purchasing the Minolta MN80NV 1080p Camcorder!

The contents of this manual are subject to change without notice. Note that the example screens and product illustrations shown in this User's Guide may differ somewhat from the screens and configuration of the actual camera.

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FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

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.

CAUTION:

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

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.

RF Exposure Warning

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated in accordance with provided instructions and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

FCC: SAR standard Value: 1.6 W/Kg, Maximal Measure: 0.4 W/kg

CE Mark Warning

This is a Class B product, in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Safety and Handling Precautions

Camera Information

- Do not disassemble or attempt to service the camera yourself.
- Do not expose the camera to moisture, or extreme temperatures.
- Allow the camera to warm up when moving from cold to warm temperatures.
- Do not touch and put pressure on the camera lens.
- Do not expose the lens to direct sunlight for extended periods.
- Do not use abrasive chemicals, cleaning solvents or strong detergents to clean the product. Wipe the product with a slightly damp soft cloth.
- Do not use the flash or LED Light near a person's eyes to prevent possible eye injury.
- To prevent you from falling over or resulting in traffic accident, please do not use the camera while you are walking, driving or riding a vehicle.
- Please handle the camera strap with care, and never place the strap around the neck of an infant or child. Wrapping the strap around a neck may cause suffocation.
- Do not subject the LCD monitor to impact.
- To prevent the risk of fire or electric shock, do not expose this appliance to rain

or moisture.

Battery Information

- Turn off the camera before installing or removing the battery.
- Use only the provided batteries or type of battery and charger that came with your camera. Using other types of battery or charger may damage the device and invalidate the warranty.
- Inserting the battery upside down can cause damage to the product and possibly cause an explosion.
- When the camera is used for an extended period of time, it is normal for the camera body to feel warm.
- Download all pictures and remove the battery from the camera if you are going to store the camera for a long period of time.
- The type of battery and the battery power level may cause the lens to be stuck up. Ensure you use the correct battery type and use a fully charged battery.
- Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
- Please keep the batteries out of the reach of children to prevent from swallowing batteries, which might cause poisoning.
- Once the battery's color changes or its shape is twisted, please stop using it.

USB adapter Information

- Do not expose the adapter to high temperatures or moisture places. Otherwise, it may cause fire or electric shock.
- Do not attempt to repair, disassemble, change or transform the adapter.
- Avoid sudden changes in temperature, which may cause condensation on the adapter's internal surfaces. Please do not use it immediately in this situation.
- Do not touch the plug with wet hands. Otherwise, it may cause electric shock.
- Do not use the travel voltage converter or AC/DC power inverter. Otherwise, it may cause damage, overheating, malfunction or fire to the camera.

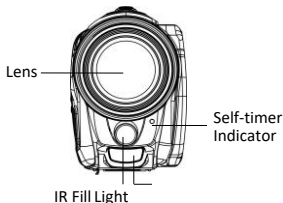
1.1 System Requirements

Below are the minimum following specification:

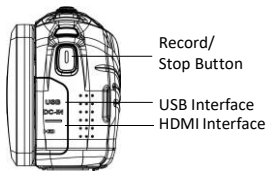
- Intel® 2.0 GHZ or equivalent
- Operating System: Microsoft Windows 7+ / Mac OS+
- 2GB RAM
- 40GB above available disk storage
- Standard USB interface
- CD-ROM Driver
- 1GB Graphics or higher
- 1024*768 pixel or higher resolution

1.2 Camcorder Interface

[Front View]



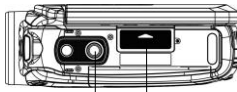
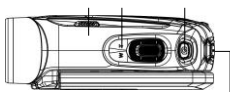
[Back View]



[Top View]

[Bottom View]

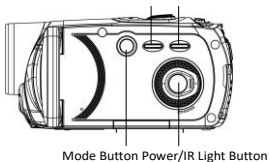
Battery Door Switch Zoom Button Photo Button










Operating Indicator

Menu Button Playback Button/Wireless Button

[Left View]



1.3 Button Function Description

Icon	Button Name	Function Description
	Power Button	Hold the POWER button for 2 seconds to turn the power on/off. Push the POWER button to turn the IR light on/off.
	Mode Button	Press the MODE button to switch between Video, Photo and Setup Mode.
	Menu Button	Press the MENU button to bring up a mode specific menu.
	Playback Button	When in Photo or Video mode, press the PLAYBACK button to enter playback mode.
	Photo/ OK Button	Press the PHOTO button, while in Photo mode to capture a still image.
	Record/ Stop Button	In Video mode, press the RECORD button to start/stop video recording.
	Zoom Button	When in Photo or Video mode, slide the ZOOM button from left to right to zoom in or out. When in PLAYBACK mode or browsing a menu, use the ZOOM button to scroll.

2 First Use

2.1 Inserting The Memory Card

To store your photos and videos insert an SD memory card. When battery is low, media stored on the memory card will not be lost. Please insert the memory card by following the steps below:

1. Open the screen and push the SD card door towards the screen.
2. Insert the memory card. Ensure that the metal contacts are inserted first. Push the memory card down until you hear an audible click.
3. Close the SD card door by pushing down and sliding back into place until you hear a click.



1. Open the SD card door
2. Insert the memory card

Attention!

Please format the memory card before using the camcorder.

Do not take out or insert the memory card when recording. It may damage the card or cause data loss.

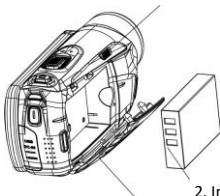
2.2 Installing The Battery

Insert the li-ion battery into the battery compartment with the metal contacts facing the back of the camcorder. Push the battery in until it clicks.

Attention!

Please insert the battery in the correct way.

1. Slide the battery door switch forward to open the battery door.



3. Close the battery door.

2. Insert the Li-ion battery into the battery compartment as shown.

2.3 Charging The Battery

Connect your camcorder to the included AC adaptor with the USB cable provided for charging.

2.4 Powering the Camcorder On/Off

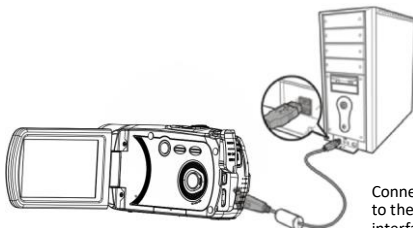
Hold the POWER button for 2 seconds to power the camcorder on. To power the camcorder off, press and hold the POWER button for a further 2 seconds. When the LCD monitor is in the open position, the camcorder will automatically power on and when the screen is in the closed position, the camcorder will automatically power off. If the camcorder's battery is low, a "low power" message will display on the screen and it will automatically shut down within a few seconds.

2.5 Switching Modes

Press the MODE button to cycle between Video, Photo and Setup Mode. The corresponding mode will be displayed in the top left corner of the screen. You can also press the corresponding mode icon in the top left corner of the touch screen to change modes.

2.6 Connecting to a Computer

The camcorder can be connected to a computer to transfer photo and video files for viewing and editing, as shown below.

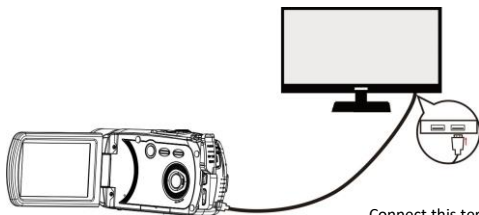


Connect this terminal to the standard USB interface of the computer.

Connect this terminal to the standard USB interface of the camcorder.

2.7 Connecting to a Standard TV

The camcorder can also be connected to a TV to display videos or photos.



Connect this terminal to the standard HDMI interface of the TV.

Connect this terminal to the standard HDMI interface of your camcorder.

2.8 Video Mode

In Video Mode, you can record video clips. The meaning of each icon within Video Mode is explained in the table below:

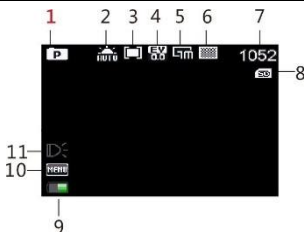
1) Video mode	6) Recording time
2) Video quality indicator	7) Memory card
3) Exposure	8) Battery
4) Video size (Resolution)	9) Menu setup
5) Frame rate	10) IR light



2.9 Photo Mode

Press the MODE button to switch to Photo Mode. The meaning of each icon within Photo Mode is explained in the table below:

1) Photo mode	5) Photo size (Resolution)	9) Battery
2) White balance	6) Image resolution	10) Menu setup
3) Metering	7) Remaining image space	11) IR light
4) Exposure	8) Memory card	



2.10 Using the Zoom Function

This camcorder has a digital zoom function. To operate the zoom function, slide the ZOOM buttons from right to left during recording.

2.11 Using the IR Night Vision Mode

Your camcorder has a built in infrared LED for night vision recording, giving you the ability to take photos and videos in a dark environment. In Photo or Video mode, short-press the POWER button once to enable on the infrared (IR) LED light. When the IR LED light is enabled, the IR LED light indicator in the bottom left of the screen will display white. To disable the IR light, short-press the POWER button again. You will notice that the IR light indicator on the screen will now be greyed out.

Attention!

Once you have started recording a video in night vision mode (enabling the IR LED light) the video cannot be changed back to normal shooting mode. The photos and videos taken while the IR light is enabled will be black and white.

3. Using the Camcorder

3.1 Photo Shooting

Power the camcorder on and press the MODE button or press the icon in the top left hand corner of the touch screen to switch to Photo mode.

1. Line up your photo by looking at the LCD screen to see what is in the shot.
2. Hold the camera steady and press the PHOTO button to capture a photo.
3. The number of photos that can be captured at a particular resolution will be displayed in the top right corner of the screen.
4. A “no card” message will be displayed on the screen if there is no SD card inserted in the camcorder’s memory card slot. A “storage card full” message will be shown on the screen when the SD card is full.
5. The number of remaining photos is determined by the selected photo resolution. The higher the image resolution, the lower the number of photos you are able to be save to the memory card. Before capturing any photos, users can select their preferred image resolution.

3.1.1 Resolution (Photo Size)

This function sets the photo resolution. The higher the resolution, the greater the photo quality and the larger the size of the image.

1. In Photo Mode press MENU, select ‘*Resolution*’ using the ZOOM buttons and press the PHOTO button to enter the resolution sub-menu.
2. Push the ZOOM (right or left) to select a resolution, and press the PHOTO button to confirm the selected image resolution (24M, 20M, 16M, 12M, 10M, 8M, 7M, 5M, 3M, 2M).

3.1.2 Quality

The Photo Quality function determines the level of compression the image uses when saving to a memory card.

1. In Photo Mode press MENU, select ‘*Photo Quality*’ using the ZOOM buttons and press the PHOTO button to enter the photo quality sub-menu.
2. Push the ZOOM (right or left) to select the required quality option (normal/fine/super fine), and press the PHOTO button to confirm your selected image option. Super fine uses the least amount of compression and as a result produces a higher image quality.

3.1.3 Metering

Metering mode refers to the way in which a camera determines the appropriate exposure (quantity of light reaching the camcorder lens). Spot metering will only base the exposure setting on a very small area of the scene, center metering will use the light from the center of the viewfinder and the multi setting measures the light at several points on the screen.

1. In Photo Mode press MENU, select ‘*Metering*’ using the ZOOM buttons and press the PHOTO button to enter the metering sub-menu.
2. Push the ZOOM (right or left) to select the required quality option (normal/fine/super fine), and press the PHOTO button to confirm the selected option.

3.1.4 White Balance

White Balance changes the color of light in your pictures, making it seem warmer or cooler depending on how the light you're shooting in affects the frame.

1. In Photo Mode press MENU, select '*White Balance*' using the ZOOM buttons and press the PHOTO button to enter the white balance sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected setting (auto, daylight, cloudy, incandescent, fluorescent, flour I).

3.1.5 ISO

This function adjusts the light sensitivity in your photograph.

1. In Photo Mode press MENU, select '*ISO*' using the ZOOM buttons and press the PHOTO button to enter the ISO sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected ISO (Auto, 50, 100, 200, 400).

3.1.6 Exposure

This function adjusts the frame brightness in your photograph.

1. In Photo Mode press MENU, select '*Exposure*' using the ZOOM buttons and press the PHOTO button to enter the exposure sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected exposure mode (-2.0, -1.7, -1.3, -1.0, -0.7, -0.3, 0.0, +0.3, +0.7, +1.0, +1.3, +1.7, +2.0).

3.1.7 Self-Timer

This function determines the time delay before a photograph is captured. This setting can be used by photographers to take photographs of themselves.

1. In Photo Mode press MENU, select '*Self Timer*' using the ZOOM buttons and press the PHOTO button to enter the self-timer sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected time delay (off, 2s, 10s, double).

3.1.8 Photo Burst

This function sets the number of photos captured with one click of the PHOTO button.

1. In Photo Mode press MENU, select '*Photo Burst*' using the ZOOM buttons and press the PHOTO button to enter the Photo Burst sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected setting (off, 3, 5, 10).

3.1.9 Sharpness

This function adjusts the visible detail of a photograph.

1. In Photo Mode, press MENU, select *'Sharpness'* using the ZOOM buttons and press the PHOTO button to enter the sharpness sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm how sharp you would like your photograph to be (hard, normal, soft).

3.1.10 Effect

This function sets the filter effect of a photograph.

1. In Photo Mode press MENU, select *'Effect'* using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected filter (Normal, B&W, Sepia, Negative, Red, Green, Blue).

3.1.11 Date/Time Stamp

This function adds a date/time stamp to your photographs.

1. In Photo Mode press MENU, select *'Date Stamp'* using the ZOOM button and press the PHOTO button to enter the date stamp sub-menu.
2. Push the ZOOM button to navigate up and down the menu and the PHOTO button for your selected setting (off, date, date and time). Page 13 explains how to set the time & date on your camcorder. Note that once a date/time stamp appears on a photograph, it cannot be removed.

3.1.12 Stabilizer

This function enables image capture in high speed and low-light by electronically eliminating motion blur and canceling camera shake.

1. In Photo Mode press MENU, select *'Stabilizer'* using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected option (Off, On).

3.1.13 Scene

This function adjusts the camera's settings to predetermined values that will produce the best image for that selected scene.

1. In Photo Mode press MENU, select *'Scene'* using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected option (Auto, Landscape, Portrait, Sport, Flower, Beach, Aquarium, Snow, Sunset, Night, Fireworks).

3.1.14 Time Lapse

This function allows you to capture a long sequence of events in a much shorter time period. This specific setting will determine how often an image is automatically captured.

1. In Photo Mode press MENU, select '*Time Lapse*' using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected option (Off, 3Sec, 5Sec, 10Sec, 30Sec, 1min). For example, by selecting 10Sec the camera will capture a photo every 10 seconds for a determined time period as selected in the Time-Lapse Duration setting (see next setting).

3.1.15 Time Lapse Duration

The duration for the time-lapse setting is determined in this menu. The option selected here will record for the chosen duration.

1. In Photo Mode press MENU, select '*Time Lapse Duration*' using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected option (Unlimited, 5Min, 10Min, 15Min, 20Min, 30Min, 60Min). For example, by selecting 15Min the camera will record for 15 minutes of real time.

If 10Sec is selected in the Time-Lapse menu, the camera will capture a photo every 10 seconds for 15 minutes.

Alternatively, your camcorder's menus can be navigated via the touch screen. Press the 'MENU' icon in the bottom left hand corner of the screen to change chosen settings.

3.2 Video Recording

Power the camcorder on and press the MODE button or press the icon in the top left hand corner of the touch screen to switch to Video mode. A camcorder icon will now appear in the top left hand corner of the screen.

1. Line up your video by looking at the LCD screen to see what is in the shot.
2. Hold the camcorder steady and press the RECORD button to begin recording.
3. When recording begins, a rolling timer will display in red in the top right hand corner of the screen. This indicates the recorded video length.
4. Press the PHOTO button to pause and resume recording. Press the RECORD button to stop recording.
5. The recorded video files will automatically save on to the inserted SD memory card.

3.2.1 Video Resolution (Movie Size)

Your camcorder has a number of preset resolution and frames per second rates.

1. In Video Mode press MENU, select '*Movie Size*' using the ZOOM buttons and press the PHOTO button to enter the Movie Size submenu.
2. Push the ZOOM buttons to navigate the menu and press the PHOTO button to confirm your selected setting (1080P@30fps, 720p@60fps, 720p@30fps, 640x480p@60fps). A higher resolution and faster frames per second rate will produce a higher quality and larger video file.

3.2.2 Video Quality

The Video Quality function determines the level of compression the video uses when saving to a memory card.

1. In Video Mode press MENU and select '*Video Quality*' using the ZOOM buttons. Press the PHOTO button to enter the Video Quality submenu.
2. Push the ZOOM (right or left) to select the required quality option (normal /fine /super fine), and press the PHOTO button to confirm your selected option. Super fine uses the least amount of compression and as a result produces a higher video quality.

3.2.3 Loop Record

This function allows you to set a maximum duration for each video clip recorded.

1. In Video Mode press MENU and select '*Loop Record*' using the ZOOM buttons. Press the PHOTO button to enter the Video Quality submenu.
2. Push the ZOOM (right or left) to select the required quality option (off /1 Min / 3 Min / 5 Min), and press the PHOTO button to confirm your selected option. Once you select an option, your camcorder will record video clips in this interval only. Once this duration is reached, the camcorder will end recording and begin recording a new video file seamlessly.

3.2.4 White Balance

White Balance changes the color of light in your pictures, making it seem warmer or cooler depending on how the light you're shooting in affects the frame.

1. In Photo Mode press MENU, select '*White Balance*' using the ZOOM buttons and press the PHOTO button to enter the white balance sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected setting (auto, daylight, cloudy, incandescent, fluorescent, flour l).

3.2.5 Exposure

This function adjusts the frame brightness in your photograph.

1. In Photo Mode press MENU, select '*Exposure*' using the ZOOM buttons and press the PHOTO button to enter the exposure sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected exposure mode (-2.0, -1.7, -1.3, -1.0, -0.7, -0.3, 0.0, +0.3, +0.7, +1.0, +1.3, +1.7, +2.0).

3.2.6 Stabilizer

Digital Image Stabilizer enables image capture in high speed and low-light by electronically eliminating motion blur and canceling camera shake.

1. In Photo Mode press MENU, select '*Stabilizer*' using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected option (Off, On).

3.2.7 Metering

Metering mode refers to the way in which a camera determines the appropriate exposure (quantity of light reaching the camcorder lens). Spot metering will only base the exposure setting on a very small area of the scene, center metering will use the light from the center of the viewfinder and the multi setting measures the light at several points on the screen.

1. In Photo Mode press MENU, select '*Metering*' using the ZOOM buttons and press the PHOTO button to enter the metering sub-menu.
2. Push the ZOOM (right or left) to select the required quality option (normal/fine/super fine), and press the PHOTO button to confirm your selected option.

3.2.8 Video Effect

This function sets the filter effect of a photograph.

1. In Photo Mode press MENU, select '*Effect*' using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected filter (Normal, B&W, Sepia, Negative, Red, Green, Blue).

3.2.9 Slow Motion

This function sets the frame rate of recorded video to a much slower 10 frames per second speed.

1. In Photo Mode press MENU, select '*Slow Motion*' using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected option (Off, On).

3.2.10 Time Lapse

Time-lapse allows you to capture a long sequence of events in a much shorter time period. This specific setting will determine how often an image is automatically captured.

1. In Photo Mode press MENU, select '*Time Lapse*' using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected option (Off, 3Sec, 5Sec, 10Sec, 30Sec, 1min). For example, by selecting 10Sec the camera will capture a photo every 10 seconds for a determined time period as selected in the Time-Lapse Duration setting (see next setting).

3.2.11 Time Lapse Duration

The duration for the time-lapse setting is determined in this menu. The option selected here will record for the chosen duration.

1. In Photo Mode press MENU, select '*Time Lapse Duration*' using the ZOOM buttons and press the PHOTO button to enter the effect sub-menu.
2. Push the ZOOM buttons to navigate the menu, and press the PHOTO button to confirm your selected option (Unlimited, 5Min, 10Min, 15Min, 20Min, 30Min, 60Min). For example, by selecting 15Min the camera will record for 15 minutes of real time. **If 10Sec is selected in the previous menu, the camera will capture a photo every 10 seconds for 15 minutes.**

Alternatively, your camcorder's menus can be navigated via the touch screen. Press the 'MENU' icon in the bottom left hand corner of the screen to change chosen settings.

3.3 The Setup Menu

Basic settings can be changed in the setup menu. These include date & time, language and sound options. Power the camera on and press the MODE button, or press the icon in the top left hand corner of the touch screen to switch to setup mode. A menu will display on the screen.

3.3.1 Sounds

This function can set the sound volume on your camcorder.

1. In Setup Mode, use the ZOOM button to select '*Sounds*' and press the PHOTO button to enter the sounds sub-menu.
2. Push the ZOOM buttons (right or left) to switch between '*shutter*', '*beep*' and '*volume*'. Press the RECORD button to change the volume of the '*shutter*' setting (the sound made when a photo is captured) and the '*beep*' setting (the sound is made when the camcorder mode is cycled). Once you are happy with the sound settings press the PHOTO button confirm your setting and exit the submenu.

3.3.2 Frequency

This function sets the frequency of the camcorder from 50Hz to 60Hz. Please check the frequency of your location and set accordingly.

1. In Setup Mode use the ZOOM button (right or left) to select '*Power Frequency*' and press the PHOTO button to enter the frequency sub-menu.
2. Push the ZOOM buttons to navigate, and press the PHOTO button to select 50Hz or 60Hz setting.

3.3.3 Power Save

This function sets the duration of time in which the camcorder will wait before going into power saving mode.

1. In Setup Mode, push the ZOOM buttons to navigate and select '*Power Save*'. Press the PHOTO button to enter the power save submenu.
2. Push the ZOOM (right or left) buttons and PHOTO button to choose your selected time (off, 1 min, 3 min, 5 min).

3.3.4 Date & Time

This function allows you to add the Date & Time to your recorded files.

1. In Setup Mode press MENU and use the ZOOM and PHOTO buttons to select '*Date & Time*'.
2. Use the ZOOM button to set the date and time, and use the RECORD button to switch between year, month, date, hours and minutes settings.
2. The date format can be changed to display in three formats; YY/MM/DD, DD/MM/YY or MM/DD/YY.

3.3.5 Language

Set the camcorder's interface language in the language submenu.

1. In Setup Mode select '*Language*' using the ZOOM button and press the PHOTO button to enter the language submenu.
2. Push the ZOOM (right or left) buttons to navigate, and press the PHOTO button to select your required language.

3.3.6 TV Output

View your videos on your television.

1. In Setup Mode select '*TV Out*' using the ZOOM buttons and press the PHOTO button to enter the TV out submenu.
2. Push the ZOOM buttons (right or left) and the PHOTO button to select your required TV output setting – *NTSC* (for US or Canada) or *PAL* (for Europe).

3.3.7 Format

The format setting erases all images or videos on your memory card.

1. In Setup Mode, select '*Format...*' using the ZOOM button and press the PHOTO button to enter the format submenu.
2. Push the ZOOM buttons (right or left) to navigate, and press the PHOTO button to select yes or no. **NOTE: This will delete all of your media and cannot be undone.**

3.3.8 Reset All

Factory default settings can be restored in this menu. This function will not delete the media stored on the memory card, and will only restore all of the menu's setting back to factory default settings.

1. In Setup Mode select '*Reset All...*' using the ZOOM button and press the PHOTO button to enter the submenu.
2. Push the ZOOM buttons (right or left) to navigate, and press the PHOTO button to switch between yes or no.

Alternatively, your camcorder's menus can be navigated via the touch screen. Press the 'MENU' icon in the bottom left hand corner of the screen to change chosen settings.

3.4 Playback Mode

Photos and videos captured on the camcorder can be played back. You can also delete, protect and play media back in slideshow format. In Playback Mode, the following operations are an option:

3.4.1.1 Lock The Files

This function protects the photo/video file. The file will be protected from being deleted accidentally. Files must be unprotected to be deleted.

1. In Playback Mode press MENU, and use the ZOOM buttons (left or right) to navigate to *'Protect'* and press the PHOTO button to enter the protect submenu.
2. Push the ZOOM (right or left) buttons, and press the PHOTO button to confirm your selected setting (single, protect all and unprotect all).
3. If the *'Single'* option is selected, use the ZOOM buttons to toggle between *'Yes'* and *'No'* option in the *'Protect File?'* pop-up menu on the LCD display.

3.4.1.2 Delete The Files

This function is used to delete photos. Photos can be deleted singly or all at once.

1. In Playback Mode press MENU, and use the ZOOM buttons (left or right) to select *'Delete...'*. Press the PHOTO button to enter the submenu.
2. Push the ZOOM buttons (right or left) to toggle between *'single'* and *'all'*. Press the PHOTO button to confirm your selected setting.




3.4.1.3 Slideshow Play

Photographs can be viewed as a slideshow on the camcorder.

1. In Playback Mode press MENU, and use the ZOOM buttons (left or right) to select *'Slide Show...'*. Press the PHOTO button to enter the submenu.
2. Push the ZOOM (right or left) buttons to navigate, and press the PHOTO button to select *'Start'* and launch a slide show.
3. To change the photo interval, select *'Interval'* and press the RECORD button to choose between 1 to 10 seconds. Once your desired setting is selected, press the PHOTO button to confirm the setting.
4. To repeat the images, select *'Repeat'* and press the RECORD button to change from *'off'* to *'on'*. Once your desired setting is selected, press the PHOTO button to confirm the setting.
5. To exit the *'Slide Show...'* submenu, press the MENU button.

3.4.2 Video Playback

Videos can be played back and viewed on your camcorder.

1. In Playback Mode, slide the ZOOM buttons (from left to right) to select the video file for playback.
2. Press the PHOTO button to start playing the video. Press the PHOTO button a second time to pause the video.
3. During playback, slide the ZOOM buttons to fast forward/rewind the chosen video.
4. Your camera can support touch screen navigation in Playback Mode.
 - Tapping the “” icon will play the video file.
 - Tapping the “” icon will pause the video file.
 - Tapping the “” icon will stop the video file.

4.1 Technical Specifications

Model Number	Minolta MN80NV
Lens	Fixed Focus • f=7.5mm • F/3.2 • Wide Angle
Zoom	16x Digital
Image Sensor	1/3.2" IMX179 Sony CMOS; 3288x2512 Pixels
Shutter Speed	1/60 ~ 1/30 sec
Shutter	Electronic • Anti-Shake Image Stabilization
Pixels (photo)	JPEG: 24 MP • 20 MP • 16 MP • 12 MP • 10 MP • 8 MP • 7 MP • 5 MP • 3 MP • 2MP • 16:9 (7 MP) • 16:9 (2 MP)
Pixels (video)	MOV: 1080p30fps • 720p60fps • 720p30fps • VGAp60fps
ISO Sensitivity	Auto • 50 • 100 • 200 • 400
LCD Monitor	262k 3.0" 16:9 Wide TFT-LCD Touch Screen
Assistive Light	Infrared LED (for shooting in dark scenery)
Continuous Shooting	OFF • 3 Shots • 5 Shots • 10 Shots
White Balance Control	Auto • Daylight • Cloudy • Incandescent • Fluorescent H • Fluorescent L
Scene Modes	Auto
Special Features	Loop Recording • Slow Motion • Time-Lapse Photo Burst
Recording Media	SD • SDHC; Maximum: 32GB
I/O Ports	8-pin Mini USB, USB 2.0 (high speed) • Mini HDMI Microphone • Speaker
Power	NP-120; 3.7v, 1700mAh
Dimensions	4.6 x 1.65 x 2.36 in. • 7.02 oz.



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