

PANASONIC HC-VX981K 4K CAMCORDER



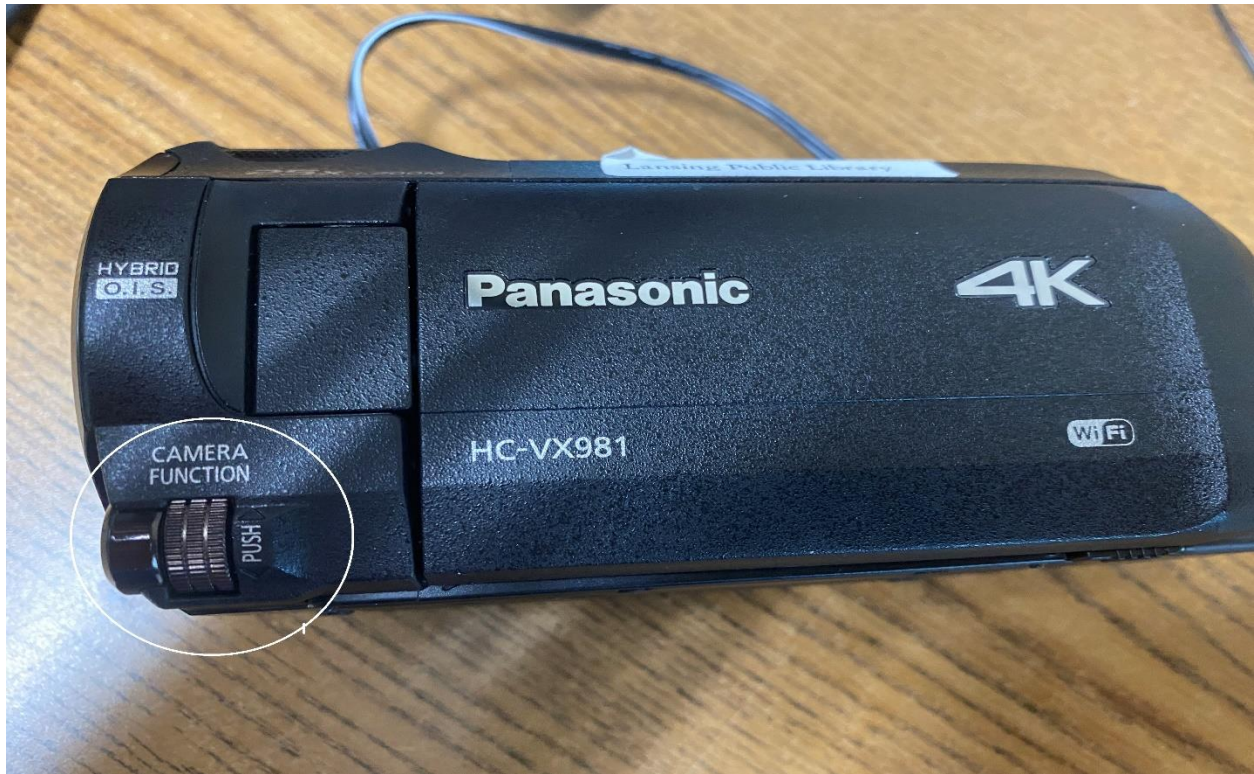
This is a written tutorial on how to use the Panasonic HC-VX981 4K Camcorder. If you have not watched our video tutorial on it, this document will teach you the basics of how to use the device. This is not a video on filming fundamentals...only how to operate the camera...as well as a few other more advanced things you can do to help heighten your filming experience.

BASIC OPERATIONS



The Panasonic HC can be turned on by opening the flap on the side here and pressing the power button. The camera roughly has a 2-3 hour battery life, but this can vary depending on how much of the functions you use as well as how long it is running. It is recommended that when you are not using the Panasonic to turn it off to conserve battery life. This can be done by closing the flap, or pressing the power button in the same manner to turn it on.

The side panel has various buttons on it that do different things. The power button is first located there. The Wi-Fi button will take you the Wi-Fi menu on the Panasonic. The HDR button on the side is a function used primarily if you have the Panasonic hooked into a compatible High Depth TV. This function is disabled in 4K mode on the Panasonic...we will be talking later on how to turn this off and on. The top button with the camera and arrow box will take you the SD card storage mode...where you can see all photos and videos taken on the Panasonic. The inputs at the bottom of the Panasonic is where you will connect the various cords to connect to the devices listed. For example, the HDMI slot is where you would hook in the cord to connect the Panasonic to an HDMI...A/V is where you would connect in an A/V slot, etc, etc. All the cords are available to rent.

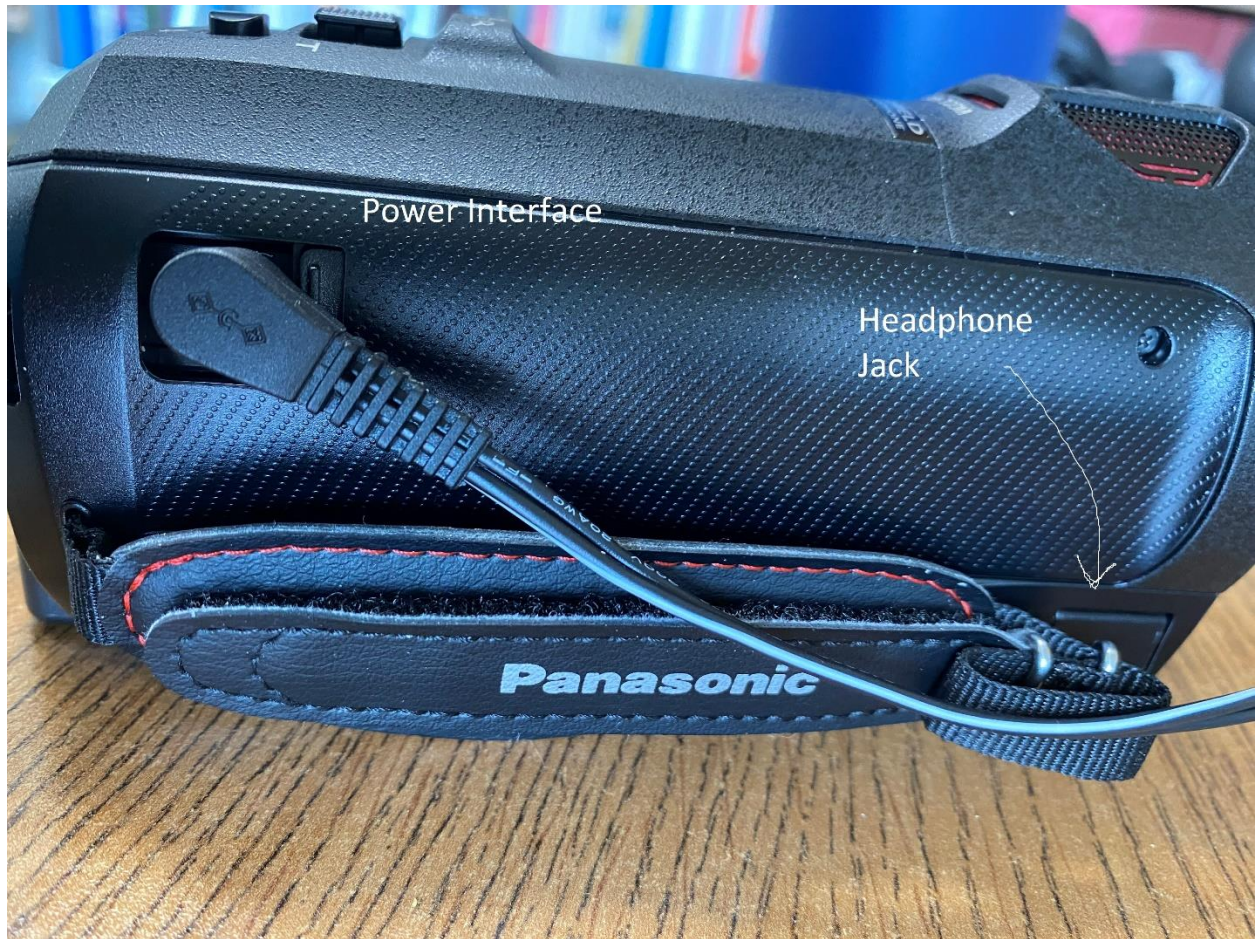


The camera function wheel is located on the bottom left of the camera; which will allow you to manually make adjustments to various parts of the camera...such as contrast and brightness. However...you can also make adjustments on the touchscreen itself...which I find far easier to do.





On the back and top of the camera, there is the Camera, Record, and zoom in functions. The camera button at the top is where you will take pictures from, as well switches the camera from video to photo mode. Please keep that in mind: this button is only for taking pictures. The button directly on the 5 o clock from it is the video button. This does the opposite of what I mentioned: it turns on the video camera, as well as switches the Panasonic from photo to video mode. Press the button once in video mode to turn on recording...press it again to turn off the recording. The W and T slider at the top controls zoom in, and microphone volume. Push it to the right and left to make the adjustments.



On the other side of where the main panel is, you will find the power input for the Panasonic. Plug the AC adapter into it to recharge the Panasonic. We ask that when you are done with your recordings, that you plug it into the socket. On the lower right hand corner, you will see an attachment to plug in a pair of headphones to the Panasonic...so you can better hear the volume as you record.



The bottom area holds the area where the SD card is installed in. You can take this SD card out by pushing up on it and then retrieving it from there. There is also the area of where you can screw in the Panasonic into the tripod that will out and available for use.



The front part of the Panasonic features where the lens is, as well as where you install the wind shield for outside productions. At this time, there is no plans to allow the equipment to be rented out of the library, so you will more than likely not need this attachment. However, should this change, this will protect the Panasonic from wind damage.

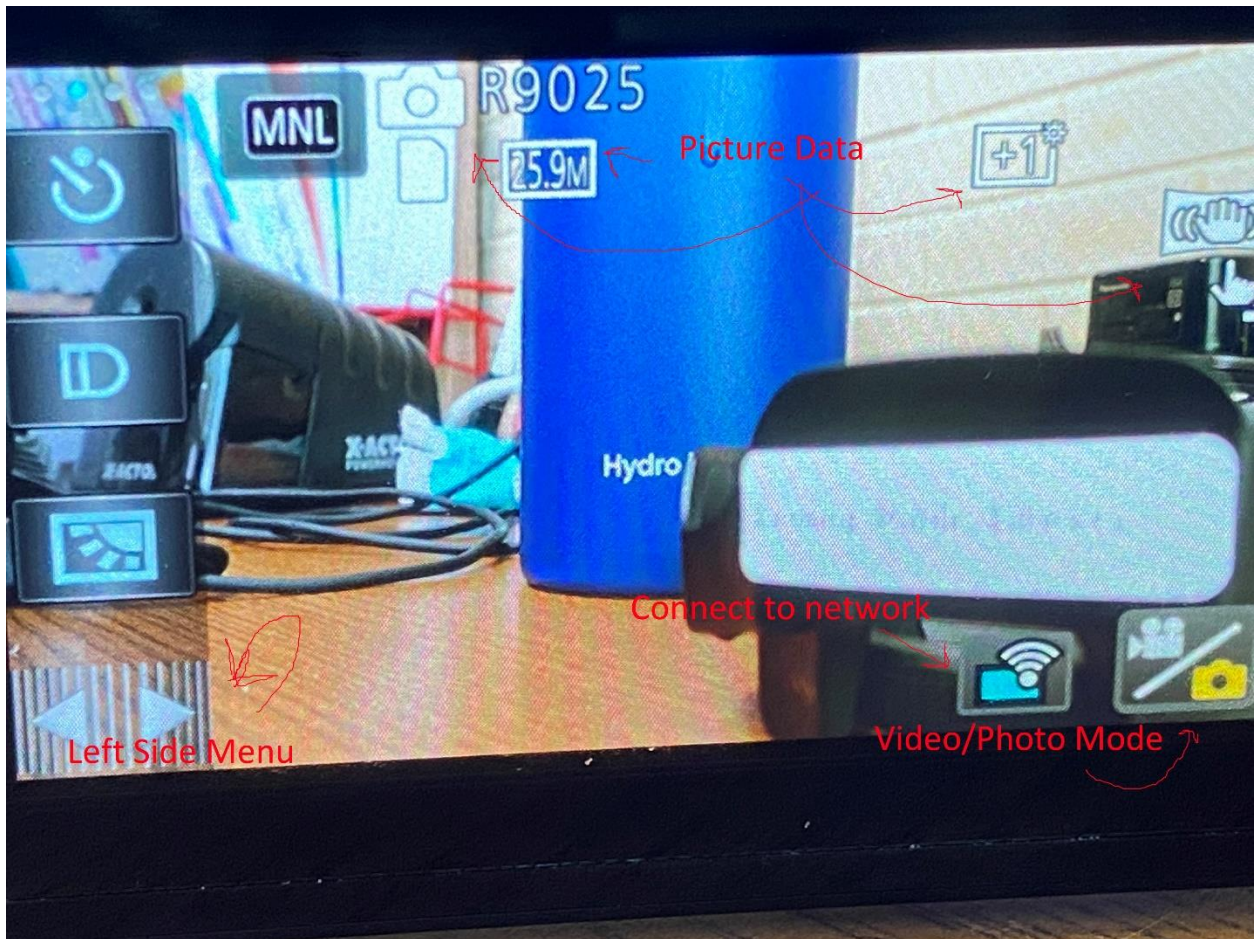
Attaching the wind shield is very simple. Simply hold the wind shield so the Unlock and Lock parts are facing the top part of the camera. Then, push it in. You can check to be certain that the Wind shield is facing the right direction by making sure hole where the backlight should be shining is not obscured.

TOUCHSCREEN MENUS

Most of the functions of the Panasonic are controlled from the touchscreen. Some of the icons shown on the Panasonic is merely relevant data you may need to refer to when conducting a recording, such as battery, date/time codes, format you are recording in, etc. The information displayed on screen will not be shown during a recording or photo, so don't be concerned too much on that. In the lower right hand of the screen, you can swap between video and photo mode with a press on the touchscreen.

The left side of the screen is where all the video and photo functions can be found to tweak video recordings/photo mode. Pressing the arrows on the bottom left corner will bring up the first round of menus. The menus have different options depending on whether you are in Photo or Video mode. There are a total of 5 different menus to go through on this tab. We'll go through these menus individually.

The first menu will feature screens similar to that of the top buttons on the Panasonic. These screens adjust the Panasonic's Zoom in functions on the touchscreen, as well as let you record from there as well.



VIDEO MODE SIDE MENU OPTIONS

MENU 1

- **T and W:** Adjusts the volume of the microphone and the zoom in options, except on the touchscreen



- This red dot on the touchscreen turns on the recording as if you pressed the video record button.

MENU 2

- **Hand Waving Option:** This menu turns off and on the O.I.S (Optical Image Setting) setting for video recording. This reduces small shakes and other possible interruptions when using the camera. There is no reason to not have this on.
- **Finger Point Option:** This turns on and off the AF tracking on the camera. This is used to lock the camera on a specific subject and let it try and keep its tracking on the subject as best as possible.
- **Hand Option:** This option allows you to touch a subject in specific in order to select what area the camera is supposed to focus on.

MENU 3

Menu 3 is different than the other menus shown here. Menu Three can be customized with various options that will be showcased when we talk about the Setup Menu of the Panasonic. For the moment, these are the options that we have left on the Panasonic as default. You may when using it customize them how you see fit.

- **White rectangle box with arrow on left:** This option lets you turn off and on the fading options. With this selected, the video will fade from and to black when doing recordings.
- **Sun Symbol:** This symbol turns off and on the Backlight compensation options. It will increase the backlight when this is selected based on needs of the area.
- **Line box symbol:** This will turn on the gridlines so you can better analyze shots on where to level the camera and such.

MENU 4 AND THE VIDEO MODE ICON

Before we go into the fourth menu on the option menu to the left, we need to go into the Menu 4 will vary from time to time depending on what recording setting you have the camera in. In some cases with these video options, the fourth menu will not even appear if there is no need for it to be there. The camera has various recording settings that can be adjusted on the touch screen menu.

These video options are different than the menus shown earlier. To access these video settings, press the button shown here



Once you press this button, this menu should appear. We will go into what each menu option does



VIDEO OPTIONS MENU:

IA (Intelligent Auto): When you have this setting enabled, the camera will automatically accommodate for things such as glare, light, and adjust the output accordingly so you only receive optimum results.

IA+ (Intelligence Auto +): This is the same box as the former, except it provides more options such as color. Unless you are doing something very specific, you do not need to use IA over IA+.

Paint Sign (Creative Control): This section contains a number of effects that you can use to create more dynamic shots and very nice edits. This mode is disabled if your recording output file is MP4 or in 4K.

HDR: When this mode is enabled, you suppress over and under exposure during a shot to make a sharper video. HDR is disabled in 4K mode.

SCN: This command will give you various filters that you can use to enhance a shot, based on the scenarios the camera has built into it...such as something specifically for sports or weather related events.

MNL (Manual): Manual mode is the default mode. This mode offers none of the adjustments made and has the default camera settings assigned. Great if you need to see how it looks baseline and then make adjustments from there.

Person running with After Images (Slow Mo): This gives you the ability to use Slow motion recording. When you record, a button will be made available to press that will let you slow down the recording. Please not you won't see how it looks until after you do post production.

4K Photo Mode: This mode enables 4K Photography mode...which allows you to have the images in 4 K resolution in your output. Pressing it again disables it.

MENU 4 Options:

The following options are made available when you have IA+ enabled:

- **+/-:** This icon will give you the ability to reduce the brightness on the video.
- **Red/Blue Box:** This options lets you choose the red/blue color balance on the camera output.

The following options are enabled on Menu 4 when you have the Miniature effect Enabled:

- **Up down Arrow box:** This is the In focus menu. It lets you select a portion of the screen and it will focus in on that during recording.
- **+/-:** This icon will give you the ability to reduce the brightness on the video.
- **Pink/Red box:** This box in theory increases the amount of red hue in the footage, but it visually doesn't seem to do much,

The following options are enabled on Menu 4 when you have the 8mm Movie Enabled:

- **+/-:** This icon will give you the ability to reduce the brightness on the video.
- **Colored box:** This box when switched changes the hue to have more blue, red, or yellow coming out.

The following options are enabled on Menu 4 when you have the Silent Movie Enabled:

- **+/-:** This icon will give you the ability to reduce the brightness on the video.

The following options are enabled on Menu 4 when you have the Time Lapse Enabled:

- **FOCUS:** This will let you turn off and on Manual or Auto Focus. Auto focus will be used to automatically focus in on something that you are looking at.
- **WB:** Adjusts the color balance of the shot.
- **SHTR:** Will adjust the Shutter speed of the camera.
- **IRIS:** This will adjust what visually looks like the contrast of the shot.

The options for Menu 4 when HDR is enabled are exactly the same as Time Lapse mentioned above. The same will hold true for all other options.

PHOTO MODE

When you are in photo mode, the options you have for taking shots is different than that of when you video mode:



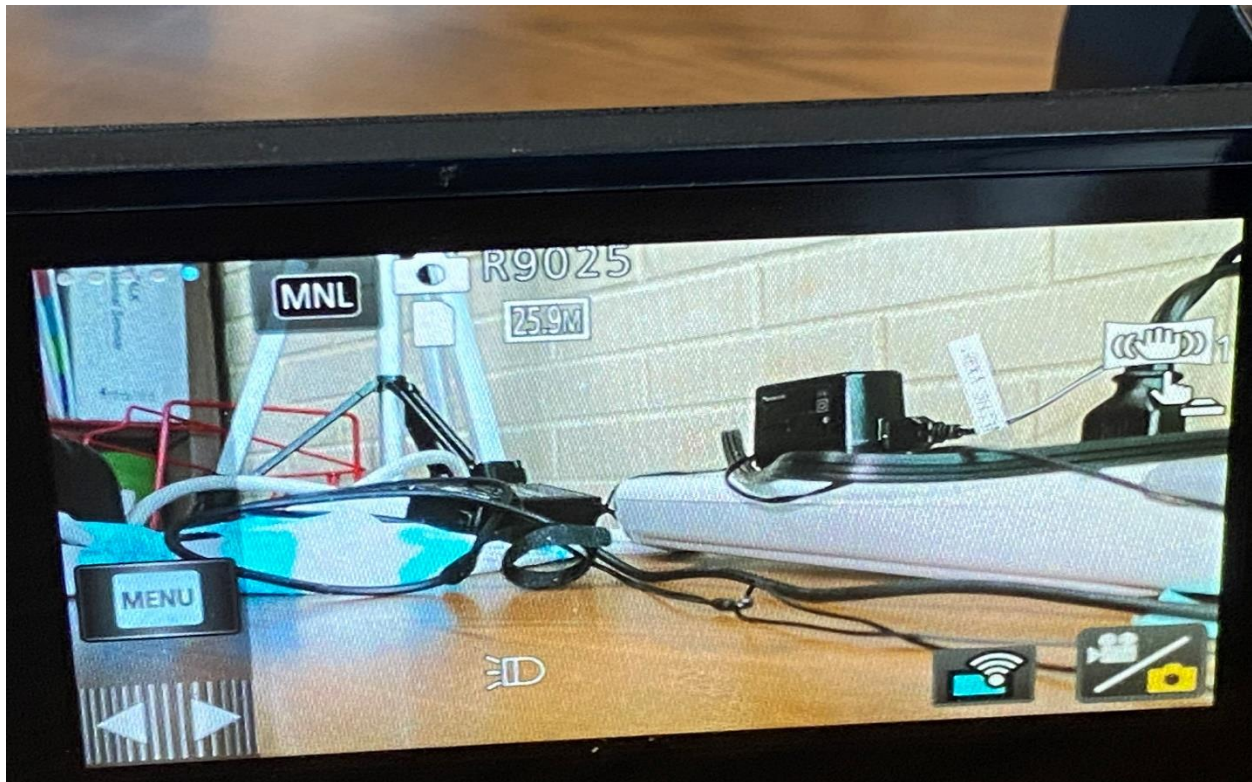
As you can see, the majority of the items from Video Mode are still present. The only different option is the Stop motion mode. When stop motion is active, when you take a photograph, a transparent image of the photo will be displayed on top of the side panel when you are about to take your next shot. This is very helpful if you are shooting a stop motion video so you know what the last photo looked like.

While in photo mode, the third menu option changes and has different buttons. The third option will be as follows from top to bottom:

- **Timer:** This will let you assign a timer before the photo is taken. You have the options of no time, a 10 or 2 second timer.
- **Video light:** This will let you turn the video light off and on.
- **Sun Symbol:** This symbol turns off and on the Backlight compensation options like with video.

Other than these mentioned options, there are no other different options to make you be aware of. However, Photo/Video mode also switches around other things in the Menu button. We are touching on the in-camera option menus next.

MENU OPTIONS



CAMERA MENU

Now...we're going to talk about the camera settings menu. This menu either appears as the only option in the 5th or 4th row depending on what video setting you have enabled. The menu here allows you to change settings on how the Panasonic as a whole works. While some of the options are very easy to describe what they do, others are not as obvious.

The Menu is sorted into three sections: Record Setup, Picture Setup, and Setup. I will explain in brief what each option does. Please not that some options seen prior will appear in these menus in the form of boxes that you may have already seen. You may turn off and on options as your needs require.

RECORD SETUP OPTIONS

- **ZOOM MODE:** Sets what the maximum magnification the zoom mode can be at.
- **RECORDING FORMAT:** Allows you to set the recording format file type. You have 4 options: 4K MP4, MP4/iFrame, AVCHD, and 24p. It should be noted that some of these file types disable features on the Panasonic, and some of these file types are required to access other features of it. This is mostly because “X format” is only compatible with “X settings.”
- **REC MODE:** This option lets you edit the file type’s resolution (For example...you can set up the MP4 to be in 1080p or 720p).
- **SLOW MOTION SETUP:** Allows you to edit how the slow motion file works.
- **BACKUP FOR TWIN CAMERA:** If you have this camera hooked up to another camera, you can use assign the settings for it here.
- **PRE REC:** The video camera will delay for a few seconds before actual recording starts if this option is turned on.
- **FACE FRAMING:** The camera will detect a face and attempt to track it if this option is turned on.
- **HYBRID O.I.S:** This will let you tweak options for the O.I.S settings for better shaking compensation.
- **LEVEL SHOT:** This option turns on the level symbol so you can see if your camera is tilting or not.
- **FADE:** This lets you turn on the fade option on/off.
- **FADE COLOR:** This lets you assign the color of the fade.
- **GUIDE LINES:** This lets you turn on guidance lines so you can see where you may need to put your camera, or if someone needs to get into the shot better.
- **LEVEL GAUGE:** This is a more advanced leveler...allowing to determine horizontal angles in addition to vertical.
- **AGS:** This function when turned on stops any recording if the camera is turned upside down or sideways.
- **AUTO SLOW SHTR:** When active, the camera will automatically brighten the area when you enter a dark area by slowing down the shutters. This may cause some image lag when active.
- **BACKLIGHT COMPENSATION:** This will prevent dark subjects in the shot by increasing the backlight in the camera when needed.
- **INTELLIGENCE CONTRAST:** Controls the brightness of dark and bright areas.
- **NIGHT MODE:** Allows you to have the camera set in Night Mode. Night mode will give you two options: Infrared or Color. Color will make the shot brighter and appear with color, while infrared gives you the night vision green look. Note that the camera is locked in MANU mode while Night vision is set on.
- **INFRARED LIGHT:** Allows you to edit the settings on the Infrared Light.

- **VIDEO LIGHT:** Allows you to assign how the external video light functions. Auto will have the video light turn on only when the camera is covered in areas of darkness, while On will have it always on. Off turns it off entirely.
- **DIGITAL CINEMA COLOR:** This option will brighten the colors somewhat when active. Visually it does not change much on the actual shot.
- **SHOOTING GUIDE:** This will have the camera display tips for you when you are recording. They may or may not be helpful.
- **WIDE CONV. LENS SET:** This option should be set on if you want the camera to try and simulate having a wider set of lens. Visually it will not change much.
- **WIND NOISE CANCELLER:** This option when assigned will reduce the noise generated from the wind based on wind strength. Keep in mind that this may reduce noises you make during a shot if the camera interprets it as wind.
- **SOUND SCENE SELECT:** This will let you assign settings on the microphone based on the area you are at. The options are for Auto (which just automatically assigns settings based on what the camera thinks it needs to be at), Music, Nature, Speech, and Festival. There is also a Customize option, which lets you frankstein your own settings for the microphone. You more than likely won't need to use customize unless you are going for a very specific set of sounds; and understand how sound design works.
- **5.1ch/2ch:** This options let you assign what microphone channels you are using.
- **MIKE SETUP:** Allows you to setup where the microphone picks up audio better. You can assign it to Surround, Zoom, or Focus. Surround captures audio all around at an even level, while Zoom captures audio more towards the front, and focus reduces audio in the front to be more around the camera.
- **MIKE LEVEL:** Let's you assign how much audio the camera picks up.
- **PICTURE ADJUST:** This allows you to edit the Contrast, WB Balance, etc of the footage.
- **MF ASSIST:** When you are focusing in on a subject, this will add more vibrant colors to them to make them pop out more.

This is all the options for the Record Setup.

In Picture Setup, all it has is an option to adjust the Picture Size. It can be either 14m or 2.1

SETUP MENU:

This lets you edit the internal settings of the Panasonic camera. The settings are as follows:

- **DISPLAY:** Display lets you decide whether or not data for the shots is shown on screen. It has on and 5 Seconds as options. 5 Seconds will display information on screen only for 5 seconds after the camera is booted on, and then it will remove it all.
- **CLOCK SET:** Allows you to set the clock on the camera.
- **SET WORLD TIME:** This will allow you to set what timezone you are in.
- **LINK TO DAYLIGHT SAVINGS TIME:** This function allows you to set the Panasonic to automatically adjust for Daylight savings time if connected to the internet.

- **DATE/TIME:** This option allows you to set whether the date and time is displayed on screen. You can even set if the date is there without the clock.
- **DATE FORMAT:** This allows you to show how the date looks on the camera front screen (such as Y/M/D, or M/D/Y, etc).
- **ZOOM/REC DISPLAY:** This option allows you to toggle whether the Zoom and recording displays are shown on the front panel.
- **O.I.S LOCK DISPLAY:** This lets you show whether the O.I.S settings are displayed on the front panel.
- **EXT.DISPLAY:** This let's you change the settings should you be using an external display for your camera.
- **ECONOMY BATTERY:** If this setting is turned on and disconnected from a power source, the camera automatically shut off when not in use after a certain amount of time.
- **ECONOMY AC:** If this setting is turned on, the power will automatically turn off after 15 minutes of inactivity; even when connected to a power source.
- **QUICK POWER ON:** If this is set on, the unit powers up extremely fast in order to save battery life. There is no reason from current knowledge to not leave this option on.
- **ALERT SOUND:** If turned on, the Panasonic will make noise to showcase when functions of it are being used.
- **SELECT OPERATION ICONS:** On this menu, you can assign what quick editing options are displayed on Left/Right Arrow Menu 3. You can select up to three options to be displayed if you need to turn them on quickly. The options are:

Fade, Intelligence Contrast, Pre-Recording, Brightness and Contrast, Grid Lines, Video Light, Night Mode, HDR, Leveling

- **POWER LCD:** This lets you decide how bright the light is for the LCD display.
- **LCD SET:** This option lets you decide the brightness and contrast for the Panasonic's LCD screen.
- **HDMI RESOULTION:** This option allows you to set the resolution for the Panasonic when it is hooked up to a TV. You get the options of letting it do it automatically, or assigning it to a default 2160p, 1080p, 720p, 480p, 360p, etc.
- **VIERA Link:** When this is set on, the Panasonic can be controlled remotely with a compatible VIERA TV remote. We have no plans to acquire such a remote at this library, so this feature is useless for your needs here.
- **TV ASPECT:** When you are connected to a TV, this option lets you assign the Aspect Ratio of it.
- **INITIAL SET:** If you activate this option, the camera will reset all options back to it's original factory settings. Please be mindful not to do this without knowledge from the IDEA or IT department.
- **RESET WIFI SETTINGS:** When this option is selected on, you will reset all Wi-Fi settings on the Panasonic. Please be mindful not to do this.

- **AUTO-CURSOR POSITION:** This will let the Panasonic set the current character position of files when they are outputted but it.
- **NUMBERS RESET:** When this option is used, it will reset the numbers that it uses when creating a video file. You may use this option, but be mindful that you could end up with multiple files with the same name, or files that copy over each other. Use of this option should not be used without consent from the IDEA Lab or IT department.
- **FORMAT MEDIA:** This option formats the SD card on the Panasonic. **This option will delete anything on the Panasonic. Use at your own discretion.**
- **MEDIA STATUS:** This will check how much the Panasonic has used memory wise on the SD Card.
- **FIRMWARE VERSION INFO:** This will let you see what version of the BIOS the Panasonic has on it.
- **FIREWARE UPGRADE:** This option when triggered will let you upgrade the Firmware on the SD Card. **Do not use this option without consent of the IT or IDEA lab department.**
- **DEMO MODE:** Demo Mode functions only when the unit is connected via an AC adapter and with no SD Card. This mode is for recording things on older VCRs and TVs. **This function will have no purpose in the IDEA lab and should not be used.**
- **O.I.S. Demo:** This option will allow you to see how the O.I.S settings when turned on work in real time. A great thing to look at to see whether you need O.I.S on or not for whatever you're doing.
- **SOFTWARE INFO:** Allows you to look at the software information on the Panasonic when connected to a computer.
- **APPROVED REGULATIONS:** Allows you to see the FCC Stamp of Approval. This has no real function for shooting or use on the camera.
- **ONLINE MANUEL:** Allows you to see the Online Manual for the Panasonic. It will display what the website link you need to type in is, or if it is connected to a USB port, it will display the info on the PC itself.
- **LANGUAGE:** Displays what language the camera is in. The Panasonic supports English, Spanish, French, and Chinese.

PHOTO MODE OPTIONS

When in photo mode, the options in the Setup Menu change. For the most part, the options are the same...with some small differences. We're going to be listing the differences here and what these new options are when in photo mode:

RECORD SETUP PHOTO MODE OPTIONS

- **FACE FRAMING:** This option lets you frame any detected faces in the shot.

PICTURE SETUP PHOTO MODE OPTIONS:

- **PICTURE SIZE:** The picture size has an additional 25.9 Picture size option.
- **ASPECT RATIO:** This let's you set the Aspect Ratio of the picture that you take.
- **SELF-TIMER:** This let you assign the timer before a photograph is taken.
- **AF ASSIST LAMP:** This option when turned on will improve focus when the area is dark.
- **SHTR SOUND:** This lets you turn on the sound when a photo is taken.

FILMING

When you want to begin for film making, we recommend you screw the Panasonic into the tripod we have provided for you, so you may perfectly level your shots. The screw is a bit finicky to work with...ask a staff member for assistance if you need it. Once it's there, turn on the camera, and adjust the settings for the shot as you need it. Once there, press the record button and start filming away. Recordings will continue until you hit the recording button again. For photos, you merely need to press the button once to turn it on.



REMOTE CONTROL

If you have the Panasonic Image App on your phone or mobile device, you can connect the camera to the phone and control it remotely. To do this, first be sure you have downloaded the app onto your mobile device. Next, press the Wi-Fi button next to the Photo/Video mode button on the touchscreen. You will get two options (this is also where you will go to connect the Panasonic into another device). Simply click the Smartphone option to turn on the Wi-Fi setting of the camera.



The following SSID will appear in your list of Wi-Fi networks:

VX98121525C

Link your cell to this network. You can now control the Panasonic remotely with your phone...though functions you have are limited. The phone will also output what the camera sees in addition to movement.

The Panasonic does have the ability to do Live Casts for streaming, but only if you possess a Ustream account. We do not recommend you get this for live casts with the camera...and instead encourage making pre-recorded videos with it instead.

Once you have finished recording, remove the SD card from the camera. You may then put the SD card in the Laptop or iMac we have, and extract the video files. This is the pathway on the card needed to access the videos. Once you have them, you may use clips as you see fit with all of the software that we have. Once you are done, we ask you to delete the footage you have on the SD card. Keep in mind that we will regularly format the SD card to be sure everyone has access to it.

And that is it...that is the basic tutorial of how to use the Panasonic camera. Hopefully by reading, you'll be able to operate the camera without assistance...but please ask if you do need it. We're excited to see what you will make with the lab.