

# Mastering the amazing F50 Classroom Camera



Presented by Southern Biological. For further information, please contact us by phone (03) 9877-4597 or email [enquiries@southernbiological.com](mailto:enquiries@southernbiological.com).

## 1 Introduction

Many of you will be familiar with classroom display cameras. They have been available in various forms for nearly two decades. Originally using analogue cameras, the early versions such as the Video Flex and Flexicam opened up all sorts of possibilities for presenting visual information to a class. In recent years, digital technology has significantly expanded the function of these cameras. All the latest developments in this field are embodied in the amazing AVerVision F50 classroom camera. This workshop will introduce you to this device and demonstrate how it can enhance teaching in general and science teaching in particular.

## 2 Quick overview

The main functions of the F50 are to display images, capture still and video images (with audio), play them back and incorporate them in presentations. To get started, simply hook up and switch on the DC power supply then connect one of the supplied cables to a display device such as a TV or data projector. Aim the camera at your subject and start your presentation!



You can download a copy of the full manual for the F50 from our website, [www.southernbiological.com](http://www.southernbiological.com).

### 3 Display devices

The F50 is compatible with many different types of display devices including LCD and plasma screens, data projectors and older style TVs. Simply select RGB or TV then connect the appropriate cable.

### 4 Optimising the image

You can get a good result without any special preparations, but the F50 can be set up to optimise the image quality as follows:

#### **Mode**

Press the Mode button on the remote control to choose the mode that best represents the type of image you are displaying:

Sharp	use for text
Graphic	use for images and pictures
Motion	use for moving subjects
Microscope	use when connected to a microscope
Macro	use when the camera is within 5-20cm of the subject
Infinity	use when the camera is 55cm or more from the subject

#### **Focus**

For most situations just press the AUTO FOCUS button to optimize the focus. However, in some situations you might need to manually override to focus on a different part of the image. To do this, press the NEAR or FAR buttons on the remote control. You'll see the plane of focus move up and down as you make the adjustments.

### 5 Other ways to interact with the image

Lamp	Switch the built-in LED lamp on or off according to the light conditions. You will notice that the iris automatically adjusts to compensate for the changing light conditions.
Freeze	This is a handy feature when you have a lot of movement going on.
Rotate	Rather than rotate the camera head to orient the image, you can use the "Rotate" feature for a quick result.
Brightness	Press the "+" or "-" buttons to manually adjust the brightness of the image.
Timer	Press the "timer" button then select the period you want the timer to run. When the time has elapsed, the timer will continue with its display in red to indicate that it has passed through zero.

**Zoom** On the panel, rotate the wheel to increase the magnification. On the remote control, press the "+" or "-" symbols on the zoom button. In each case, you will see the degree of magnification displayed in the lower right hand corner of the screen.

To restore the image to its natural state, press the ZOOM REST(ORE) 1X button on the remote control.

## **6 Still more ways to interact with the image**

Press the MENU button on the main panel or the remote control and select the Image tab to see the following options:

**Brightness** As described above

**Contrast** Manually adjust the contrast using the left and right arrows on the main panel

**Mode** As described above

**Effect** This is usually set on Colour, but try the Black & White and Negative settings to observe special effects.

**Mirror** Use to show a mirror image of the subject.

**Auto Image** This is usually set on Auto, but it is possible to adjust the Exposure (aperture setting) and the White Balance. White Balance is an adjustment that compensates for the different colours of various light sources.

**Focus** This allows you to manually adjust the plane of focus. It is an alternative to using the NEAR and FAR buttons on the remote control.

## **7 Capture and play back images and video**

The 5MP digital camera that is featured on the F50 allows you to not only present a live display, but also to capture and play back still images and video. The built-in microphone also allows you to capture an audio signal along with your video.

### **7.1 Still images**

#### **7.1.1 Capturing still images**

This is as simple as pressing the CAP/DEL on the main panel or the CAPTURE button on the remote control. You will see the word "Capture" appear in the lower right hand corner of the screen and the file name that has been automatically allocated will show in the lower left hand corner.

## 7.1.2 Viewing still images

Under normal circumstances, images are stored in the embedded memory of the F50. To view them, press PLAYBACK on the main panel or the remote control and you will see a gallery of thumbnails. The lower left hand side of the screen shows the number of pictures that have been stored. Use the arrow keys to navigate around the thumbnails. Press the ENTER button on the panel or the remote control to display the captured image. Use the LEFT and RIGHT arrow keys to move back and forth through the images.

Whilst viewing a stored image, rotate the zoom wheel on the panel or press the + symbol on the ZOOM button on the remote control to magnify the image. You will see a thumbnail of the main image and a red rectangle to help you navigate as you pan around with the arrow keys.

## 7.1.3 More options

**Slide Show** Whilst in PLAYBACK mode, press the MENU button on the panel or remote. Choose the slide show options you require then select RUN and press ENTER to start a slide show. To stop the show, press MENU.

**PIP** This stands for Picture In Picture. This useful feature allows you to browse through the gallery of captured images whilst watching the subject being observed by the camera. Press the PIP button on the remote to start. You can change the position of the gallery thumbnail by repeatedly pressing the PIP button, and you can scroll through the gallery with the LEFT and RIGHT arrow keys. To display the thumbnail on the full screen, pressing ENTER.

## 7.2 Video

Use video capture to record video and audio of a lab bench procedure such as demonstrating a microbiological procedure, a dissection or a chemical reaction like a titration. You can record useful tutorials for students that can serve as an introduction to a topic as well as revision. Video capture is also great for recording specimens, whether at macro scale or under a microscope.

### 7.2.1 Capturing Video

Video files are too big to be stored on the embedded memory chip, so you will need to insert a USB thumb drive or an SD card to hold your video files. We will look at the USB thumb drive option.

- Find the selection switch next to the USB port on the side of the base where the gooseneck connects. Slide it to the right to select the USB thumb drive rather than PC. Confirm correct selection by looking for the blue indicator light next to the USB thumb drive symbol on top of the panel.
- Insert your USB thumb drive into the USB port.

- Press MENU and select STORAGE under the SETTINGS tab. Check that USB DRIVE is highlighted. Your F50 is now configured to capture and store video on your USB thumb drive.
- Set up your F50 to display what you want to record. Shift the MODE setting to MOTION to maximize the frame rate if there is a lot of movement in your subject.
- Start recording by pressing the RECORDING button on the main panel or the remote control. Press the button a second time to stop the recording.
- Remember, the microphone on the base of the camera will pick up any sound, so be ready with your narration script.

### **7.2.2 Viewing Video**

View your movies by pressing PLAYBACK on the main panel or the remote control, then browse to the video you want to see. Press the ENTER button twice – once to select the video and a second time to begin playing it. You will need to connect a pair of powered audio speakers if you want to hear the audio.

### **7.2.3 Continuous Capture – A Special Case**

Continuous capture is used to automatically record a sequence of images at a specified interval. You use this feature to record time lapse sequences.

- Press MENU and select the SETTING tab
- Choose CAPTURE and then TYPE
- In the submenu, select CONTINUE then ENTER and OK.
- Return to the SETTING tab and select CAPTURE and then INTERVAL. Adjust the interval with the LEFT and RIGHT arrow keys. You can choose from as brief as 1 second to as long as 10 minutes. As a general rule, the slower your subject is changing, the longer your interval should be.
- Set up your subject and press CAP/DEL to start continuous recording. When you are ready to stop recording, press CAP/DEL again. During the continuous capture sequence, the word "CAPTURE" will briefly appear as each image in the sequence is recorded.
- Press PLAYBACK to see thumbnails of each of the captured images in your continuous sequence. These images can be converted to frames in a time-lapse movie. Simply connect your USB thumb drive to a computer and use a program such as Quick Time to create a movie.

## **8 Sharing your display with a computer**

There are often occasions when you need to use your classroom camera as well as a computer, and you need to connect both the your display device, e.g. data

projector. The F50 makes this easy by means of its “RGB IN” port. Here’s all you need to do to share your computer and classroom camera on the same display.

- Connect your computer to the “RGB IN” port with a VGA (multi pin) cable. You might need to configure your computer to display on a remote screen.
- Press the CAMERA/PC button on the main panel of the F50 or on the remote control to switch the display between the computer and the classroom camera.

## **9 Connecting your F50 to a microscope**

Using your F50 to display and capture microscopic images is one of the best ways to use your classroom camera in a science laboratory setting. Your students will have a clear view of the subject. The difficulty of explaining microscopic images is immediately overcome.

- Change the viewing MODE to “microscope” either by pressing the MODE button on the remote or pressing MENU and selecting the “microscope” setting under the image tab.
- Aim the camera at a distant point and press AUTO FOCUS.
- Set up and focus the microscope on your subject.
- Fit one of the two rubber sleeves inside the F50 microscope adaptor. Choose the one that suits the eyepiece of your microscope.
- Remove the eyepiece from the microscope and fit it into the rubber sleeve inside the microscope adaptor. Secure it by gently tightening the three screws supplied with the adaptor.
- Connect the microscope adaptor and eyepiece to the camera of the F50 then manoeuvre it to the microscope and slide the eyepiece back into place. Be careful to avoid unnecessary force whilst ensuring alignment of all components.
- Use the microscope’s focus control to make fine adjustments to the image.

## **10 Going further with your F50 Classroom Camera**

### **10.1 Aver+ Software**

Aver+ software is supplied with your F50, or it can be downloaded. This will allow you to go even further with your classroom camera. There are two aspects to the software:

- a) Control your F50 from the computer screen. This is an alternative to using the main panel and remote control.
- b) Produce object-based presentations that incorporate images captured by the F50.

The scope of this workshop does not allow us to go into any detail of the AVer+ software, but there are some very good tutorial videos available on the internet. We suggest you check these out to look into what the software is capable of.

## 10.2 Webcam

To broadcast your images across the web, follow these simple steps:

- Find the selection switch next to the USB port on the side of the base where the gooseneck connects. Slide it to the left to select PC rather than USB thumb drive. Confirm correct selection by looking for the blue indicator light next to the PC symbol on top of the panel.
- Use the USB cable to connect the F50 to your computer
- Open a video communication program such as Skype to broadcast your image across the web

## Conclusion

The AVerVision F50 class room display camera represents the latest in digital classroom technology. It is designed to be simple to understand and easy to use. With a small investment of time to familiarize yourself with the features, you will be able to make a significant and beneficial impact on student learning experiences, not just in science, but in many educational areas.

For more information, please contact Southern Biological.

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