3   Using the Shutter to measure shutter lag

Flick the ON switch downwards to power the Shutter on, the display should illuminate. Press RESET, the display should show "000". Pressing TRIGGER will result in a rapidly changing display, the display changes every millisecond so a complete cycle (000 to 999) will take 1 second. Press RESET, display should show "000".

Switch the camera on and select Shutter Priority, adjust the shutter speed to 1/1000 or faster. This is required as the shutter must operate at an equivalent, or faster, rate of the display otherwise 2 or more changing digits will be captured. Now select Manual focus.

Connect the camera cable to the Camera socket of the Shutter, plug the other end of the cable into the camera remote socket, now focus the camera on the Shutter display (it does not need to be a sharp focus), do not use the flash as it will obliterate the light from the display (the light from the display is sufficient for the camera to capture the reading).

Press and hold the Trigger button of the Shutter until the camera shutter operates.

Review the image the camera has just captured, this is the shutter lag in milliseconds.

It is recommended to repeat this measurement at least three times and take the largest result as being the true value, the shutter lag will not be constant but will have a range of values (we are measuring to an accuracy of 1/1000 second, the 100 metres is measured to an accuracy of 1/100 second). There are essentially two types of shutter; mechanical and electronic, there are also two types of electronic shutter; rolling shutter and total shutter. Each system has its pros and cons but, due to either mechanical stress or electronic timing, they all have a range of operation, this is typically plus or minus a few milliseconds.

Now try the same technique but with a half-press of the shutter or with image stabilisation turned on or off or automatic focus etc etc.

Making a record of these timings will provide a better understanding of how much delay to adjust for when using the VersaTrigger system.

This is the shutter lag measurement of a Canon EOS30D, settings were:

Shutter speed: 1/1250 second

ISO: 100

No flash was used, the LEDs provided sufficient illumination to capture the image.

4   Using the Shutter as a millisecond timer

For scientific applications, the Shutter can also function as a millisecond timer by using the Start and Stop connectors. Both inputs are active low (closing contact to operate), an input on the Start connector will initiate a count up in milliseconds, an input on the Stop connector will halt the count at the time of the input, this time will be displayed until the Reset is depressed. An ideal use would be for ballistics using two VersaTrigger controllers, the first controller would pick up the sound of the rifle firing and trigger the Start, the second would pick up the sound of the impact and trigger the Stop.

2	Fitting the batteries

Retaining Clip

Serial No:SH.v1.1.001
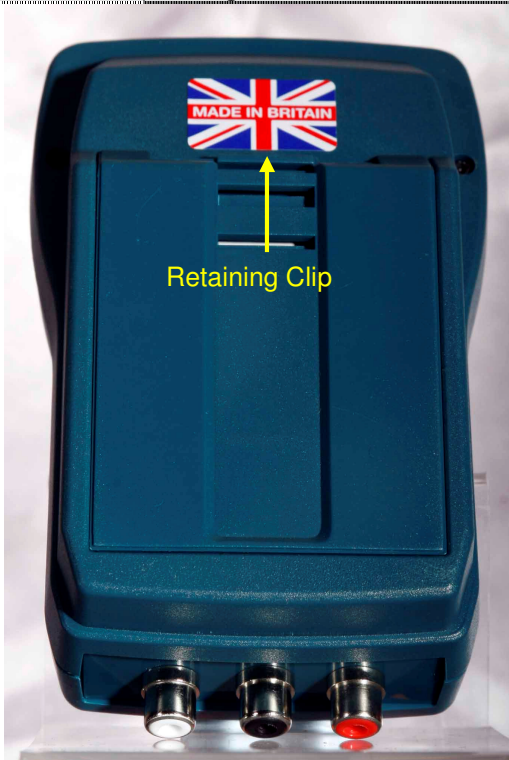
1. The battery compartment is located on the underside of the Shutter, press the retaining clip of the battery compartment towards the base of the Shutter and remove the cover, note the clip may be quite stiff.
2. Fit three AA batteries, taking care to fit in the correct positions (negative of battery to spring contact).
3. Replace the cover by locating the two lugs into the matching slots of the case and press the cover down until it snaps back into place.

VersaTrigger
Trigger your creative photography

VersaTrigger Shutter – User Information

Introduction

Designed for measuring the shutter lag of DSLR and mirrorless cameras, the VersaTrigger Shutter is a quartz controlled timer providing a 1 millisecond display resolution. It may also function as a 0 to 999 millisecond timer.

1	Naming of parts

The three switches on the Shutter are:

1. On - switches unit on
2. Reset - resets display to "000"
3. Trigger - triggers camera and starts counting

The three sockets on the Shutter are:

1. Camera - connects to camera and operates the shutter
2. Start - starts millisecond timer
3. Stop - stops millisecond timer