

VFMOTO camera shutter tester manual

Tester version: 11C

Manual version: 1.06



Kit contents:

- Main unit (4);
- Sensor Box (measures shutter and curtain speeds). The black box can be used with 35mm cameras and cameras that have a flat back (5);
- Cable tester (next to the sensor box). The cable is suitable for cameras with bellows, TLR cameras or cameras that have the shutter far from the edge of the back of the camera (6);
- Light source (next to the cable sensor) (7);
- Stereo sensor kit (marked with a red band) (3);
- Stereo light source (next to the stereo sensor kit) (2);
- Sensor holders (2 pieces, the round parts) (8);
- Reflective film for Leica testing kit;
- Shutter tester for smart phones and tablets (blue band). **This is a GIFT. It can't be used with the main unit (1);**
- PDF manual sent to your PayPal email address.

IMPORTANT: It is recommended to remove the screws when testing the focal plane shutter. The screw head is big and may touch the shutter blade.





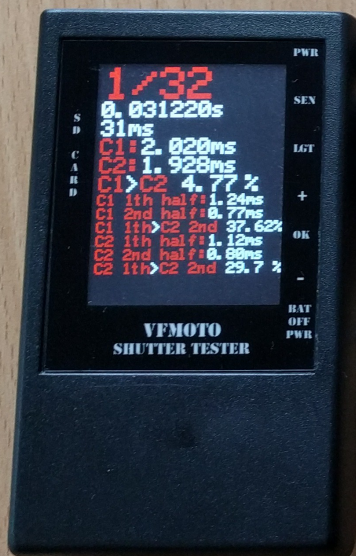


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Hardware

Main unit



The slots and buttons are marked on the main unit.

SD CARD – SD card slot;

PWR - Power connector (3.5 / 1.35 mm DC jack);

SEN - Sensor connector (3.5mm jack);

LGT - Light source connector (2.5mm jack);

“+” - Button to navigate through the menu and increase light source intensity;

OK - Button to navigate through the menu;

“-” - Button to navigate through the menu and decrease light source intensity;

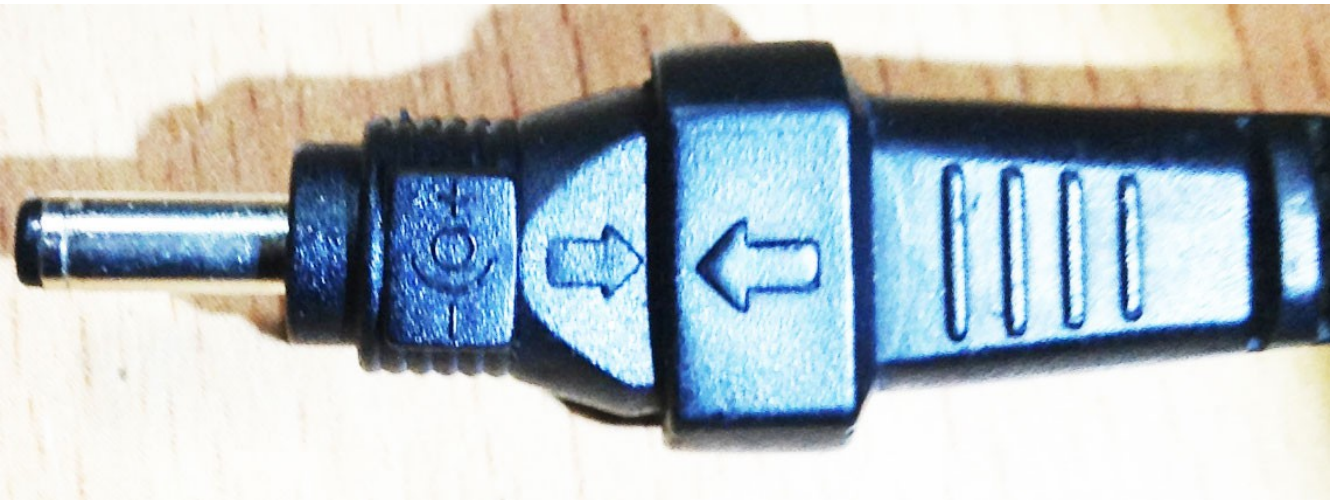
BAT/OFF/PWR – Power switch. The desired option is selected by tipping the little metal pin from side to side. Do not press the metal pin. BAT selects the battery, OFF turns the tester off and PWR selects the power adapter.

I strongly recommend using the power adapter when possible. The tester has a lot of features and needs a lot of power to operate. Batteries won't last too long. Batteries are ideal for field work.

The tester uses a 9V battery. To insert the battery open the battery tray on the back of the tester. To open the tray gently press on the 2 notches and slide it. Plug the battery connector into the battery and insert the battery inside. Close the tray.



The external power option needs a 9V DC power adapter rated around 1A. The power connector is a 3.5x 1.35 mm DC plug with the polarity “+” on the inside and “-” on the outside.



Important! The SD card needs to be inserted upside down (with the metal pin strips facing you). That's because the SD card slot is upside down.



The SD card does not go all the way inside the tester. Approximately 0.5 cm will stick out.



Sensor Box



The sensor box can test shutters, vertical curtains and horizontal curtains. You will see that there are 2 cables coming out from the sensor box. One cable has 2 wires and a thicker connector and the other has one wire and a thinner connector. The cable with the 2 wires and thicker connector goes into the **SEN** jack and the cable with the thinner connector and a single wire goes into the **LGT** connector.

Very important! The connector that plugs into the **LGT** connector on the main unit is designed to work **ONLY** with the Leica vmoto kit and the reflective film to test Leica cameras with non removable back.

When testing focal plane shutters for any other cameras DO NOT plug the thinner connector in the **LGT** connector. Leave it unplugged!

To select between shutter tests only, vertical curtain tests and horizontal curtain tests, use the little metal pin. Just like the BAT/OFF/PWR connector, the selection is made by tipping the little pin to the sides. Do not press on the metal pin.

When the pin is straight in the middle, the sensor box can do only shutter tests.



When the pin is pointing towards the corner of the box, the horizontal sensors are selected (the 3 sensors that measure the travel over 35mm) and you can test horizontal focal plane shutters.



When the pin is pointing towards the wires coming out of the box, the vertical sensors are selected (the

3 sensors that measure the travel over 24mm) and you can test vertical focal plane shutters.



The little gold part is used to easily connect the sensor box to a body cap if you test Leica cameras with a non removable back. If you don't test Leica cameras with a non removable back you probably won't need this. Or you could get a small sheet of plastic and make a template that fits you camera back. This way you will have the sensors lined up every time you do a test. This does not mean that you can't set it in place with rubber bands on every camera you use.

Important! When you test focal plane shutters it might be a good idea to remove the screw. The screw head is quite tall and it might touch the shutter blades.





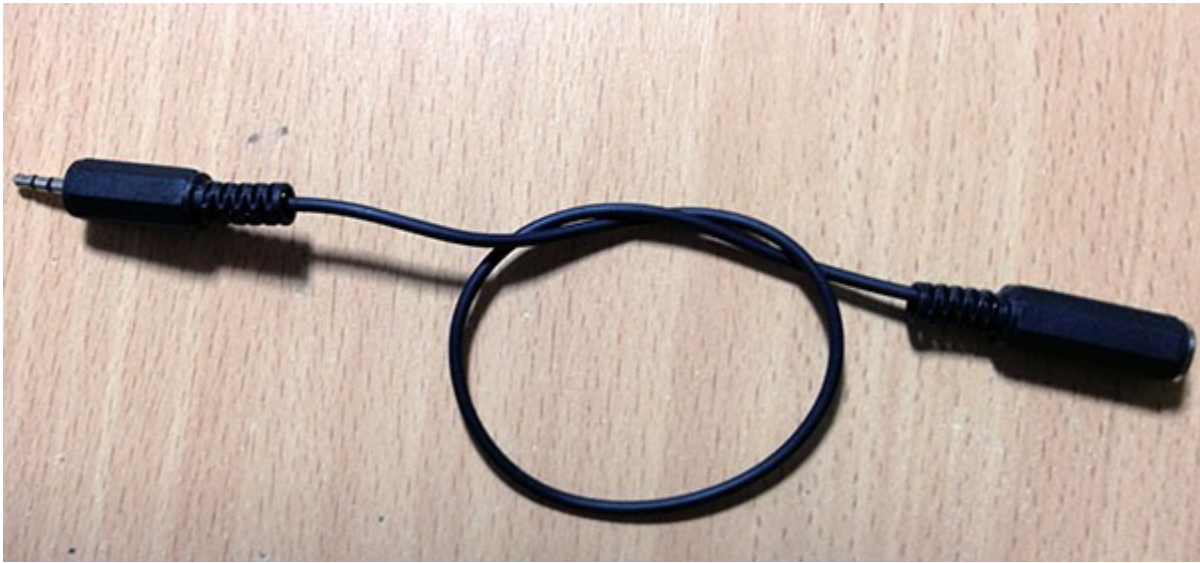
Cable tester



The single cable tester can be used for shutter tests. It's suitable for cameras with bellows and cameras that have the shutter deep inside the body. Plug the cable tester in the **SEN** connector (3.5mm jack) on the main unit. Once you have selected a shutter test option you are ready to use it.

The cable tester can also be used on PCs or laptops with a sound editing software like Audacity. The cable tester cannot be used on smartphones and tablets. For more information about this feature, look into the software section.

Light source



The single light source can be used for shutter tests and curtain tests. Plug the light source in the **LGT** connector (2.5mm jack) on the main unit. The light source will turn on when you have selected a test. The light source does not work when you are navigating the through the menu.

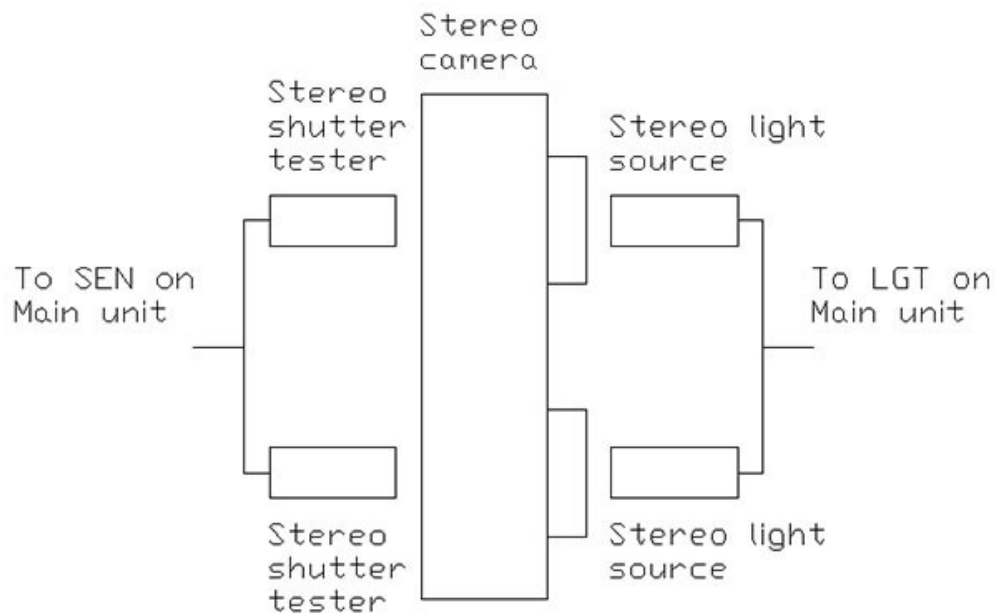
Stereo sensor kit

The stereo shutter tester has 2 shutter testing sensors connected to the main unit at the same time. They can work independently.



Plug the stereo shutter tester in the **SEN** connector (3.5 mm jack) on the main unit.

Below you can see an example on how to set up a stereo camera test.



In order to achieve good consistent tests you have to align the sensors and light sources. Holding either the sensors, camera or the light sources with you hand will affect accuracy and consistency. The camera might move a little when you cock the shutter. This will affect accuracy and consistency.

In case of emergency, if the single shutter test sensor gets damaged you can use one of the 2 sensors to test non stereo cameras until the single tester is repaired or replaced under warranty. To use the stereo shutter tester for single sensor shutter tests, use the sensor that does not have the red band on it.

The stereo shutter tester can also be used to simultaneously to test the shutter speed on 2 points of a focal plane shutter at the same time. To do this kind of test select the stereo option and do a test on a focal plane shutter. You can find more details about this in the shutter testing part of the manual.

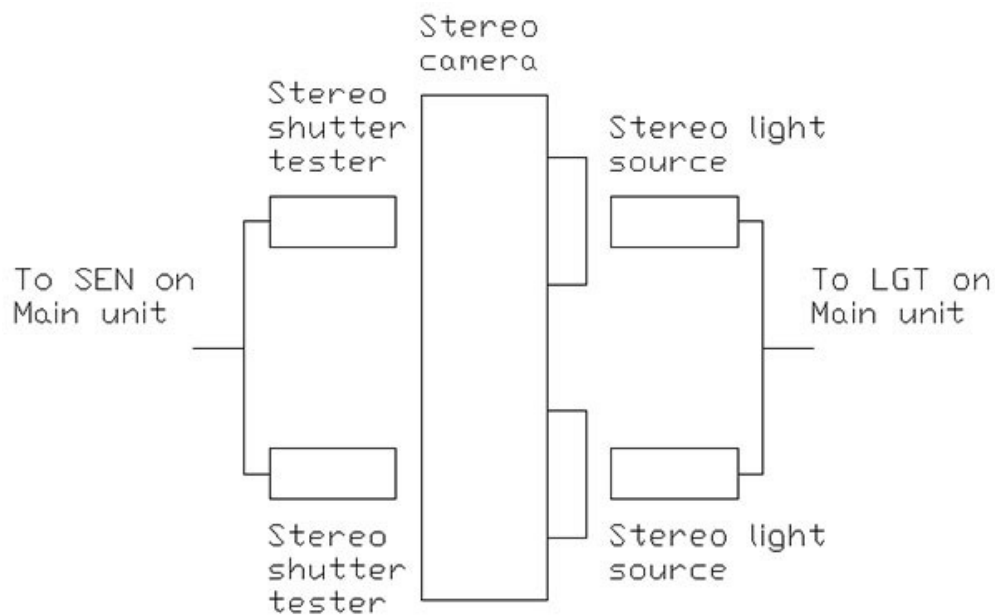
Stereo light source



The stereo light source has 2 light source connected to the main unit at the same time. The light intensity of the 2 light sources is controlled for the pair, not individually.

Plug the stereo light source in the **LGT** connector (2.5mm jack) on the main unit. The light source will turn on when you have selected a test option. The light source does not work when you are navigating the through the menu.

Below you can see an example on how to set up a stereo camera test.



In order to achieve good consistent tests you have to align the sensors and light sources. Holding either the sensors, camera or the light sources with you hand will affect accuracy and consistency. The camera might move a little when you cock the shutter. This will affect accuracy and consistency.

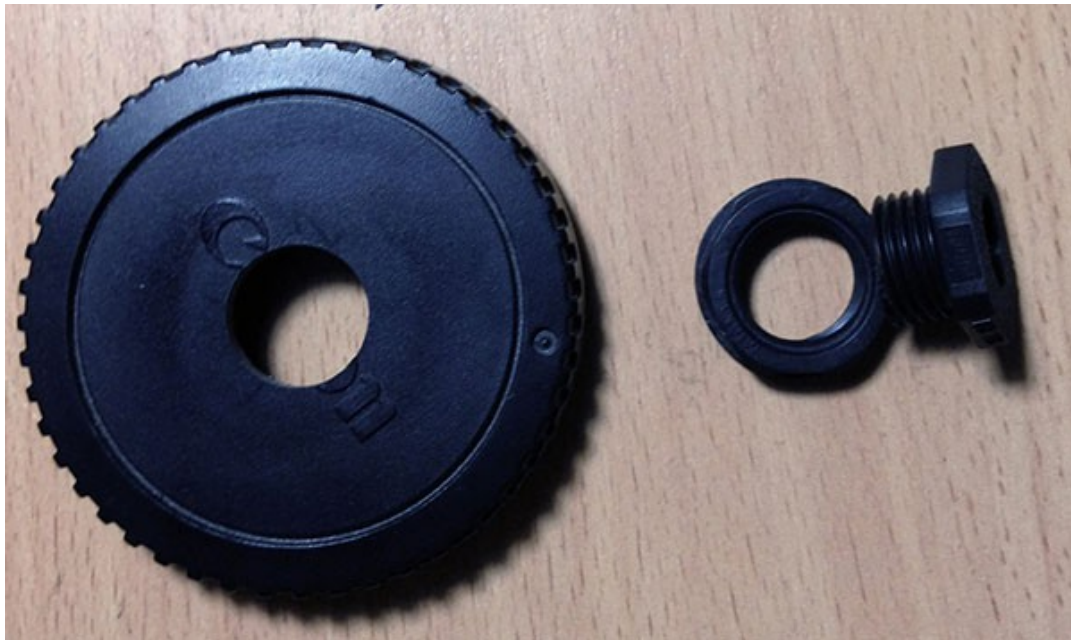
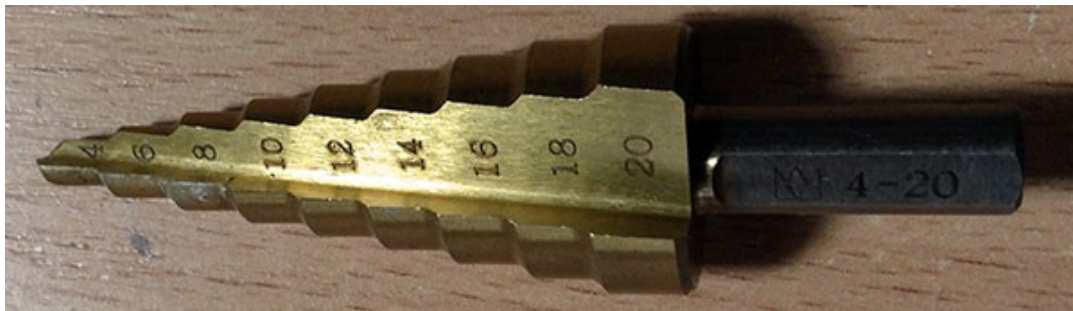
In case of emergency, if the single light source gets damaged you can use this light source until the single light source is repaired or replaced under warranty. To use the stereo light source for shutter tests in non stereo cameras simply cover one of the 2 light source and set it aside. Use the remaining light source just like the simple light source.

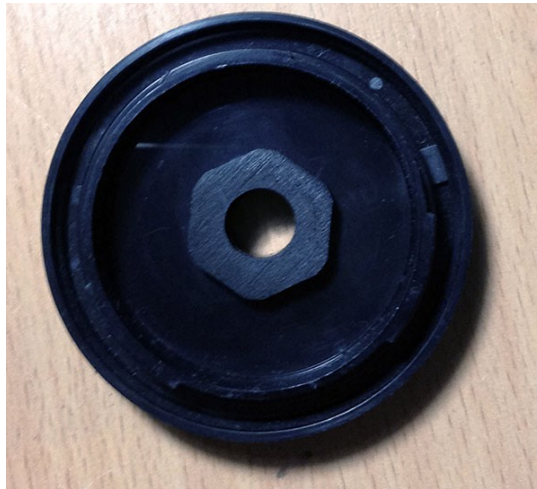
The stereo light source can also be used for curtain tests if the single light source is not bright enough. You can find more details about this in the curtain testing part of the manual.

Sensor holders



The sensor holders can be used with the light source and the cable shutter tester. In order to use the sensor holders you will have to drill a 16mm hole in a body or lens cap and attach the holder to it. I used a cheap step drill to drill the holes.





Mount the cap on the camera or lens and insert the light source. The light source is held in place by friction. The hole in the holder is a little bit smaller than the diameter of the light source/sensor case.



If you don't want to sacrifice a cap you can drill the hole into a piece of flat plastic, for example.



Very important! Do not remove the sensor or the light source from the sensor holders or the main unit connectors by pulling the cable. Only remove them by pulling from the plastic ends. If the plastic ends are not accessible (for example, too deep into the sensor holder), push it out with something like a q-tip or a match or a toothpick.

If you are testing lens that have the shutter in them (like the lens for the Hasselblad cameras), you can use both sensor holders to hold the light source and the sensor.



Very important! In the case of lenses that have the glass elements close to the mount, make sure that the holder does not touch the glass element before fitting the lens cap with the holder attached! If it does touch, you can get some sandpaper (coarse, like 80 grit) and scrub the holder cap to make it thinner.



Reflective film for Leica testing kit



The reflective film can be used only with Leica cameras with a non removable back and only with the “Leica vfmoto kit” option selected. Only one film sheet is needed. The second one is a spare. You can cut them as you wish. Also you can contact me to purchase more film sheets if needed.

The film is place where photo film would be, covering the entire frame.



You can position the film as you wish as long as it covers the entire frame.



If you decide to cut it to 35mm film size and completely insert it into the camera, make sure you have a way of removing it (like a corner that you can gently pull).

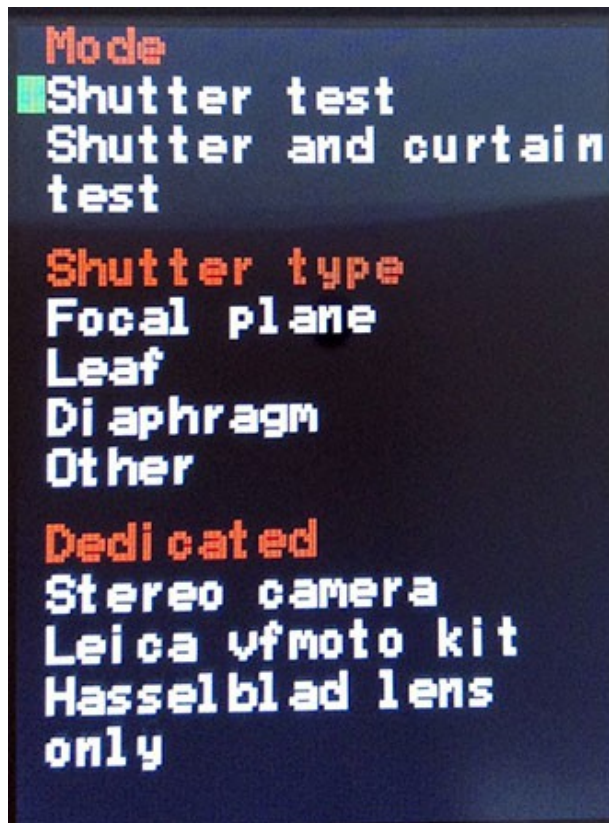
Shutter tester for smartphone and tablet



The smartphone and tablet tester can only be used with smartphones and tablets. It can't be used with the main unit of the shutter tester PCs or laptops. The smartphone and tablet tester is marked with a blue band.

Software

When you turn ON the tester you should see the menu below.



Navigating through the menu is done by using the “+”, “-” and “OK” buttons. You will see that in front of the text there's a small green rectangle. That rectangle shows the option that will be selected if you press “OK”. If you press the “+” or the “-” buttons, the small rectangle will move to a different line.

When you turn the tester ON you will see that the green rectangle only switches between the “Shutter test” and “Shutter and curtain test” options in the “Mode” menu. In order to jump to the other options you have to select one of the 2 options.

If you select the “Shutter test” options all other features from “Shutter type” and “Dedicated” will be available.

If you select the “Shutter and curtain test” option only the “Focal plane” and “Leica vmoto kit” features will be available. Why? Because leaf and diaphragm shutters don't have curtains. Stereo and Hasselblad shutters also don't have focal plane shutters with curtains.

Example 1: You want to do a shutter test for Leaf shutters.

- Turn the tester ON;
- The green rectangle should be at “Shutter test”. Press “OK”;
- The green rectangle will jump to “Focal plane”. Press the “-” button once;
- The green rectangle will jump to “Leaf”. Press “OK” and the menu should disappear and you can do the test.

Example 2: You want to do a : “Hasselblad lens only test”.

- Turn the tester ON;
- The green rectangle should be at “Shutter test”. Press “OK”;
- The green rectangle will jump to “Focal plane”. Press the “-” button 6 times;
- The green rectangle will jump to the next option with every button press until it will reach the “Hasselblad lens only test” option. Press “OK” and the menu should disappear and you can do the test.

Example 3: You want to do a : “Hasselblad lens only test”.

- Turn the tester ON;
- The green rectangle should be at “Shutter test”. Press “OK”;
- The green rectangle will jump to “Focal plane”. Press the “+” button once;
- The green rectangle will jump to “Hasselblad lens only test”. Press “OK” and the menu should disappear and you can do the test.

Example 4: You want to do a Focal plane curtain test.

- Turn the tester ON;
- The green rectangle should be at “Shutter test”. Press either “+” or “-”;
- The green rectangle will jump to “Shutter and curtain test”. Press “OK”;
- The green rectangle will jump to “Focal plane”. Press OK and the menu should disappear and you can do the test.

Example 5: You want to do a Leica vfmoto kit curtain test.

- Turn the tester ON;
- The green rectangle should be at “Shutter test”. Press either “+” or “-”;
- The green rectangle will jump to “Shutter and curtain test”. Press “OK”;
- The green rectangle will jump to “Focal plane”. Press either “+” or “-”;
- The green rectangle will jump to “Leica vfmoto kit”. Press “OK” and the menu should disappear and you can do the test.

Pressing “-” will move the green rectangle one step down and pressing “+” will move the green rectangle one step up. Pressing “OK” jumps to the next level.

Very important! Do not insert or remove any sensors or light sources while the tester is turned ON.

The different options for testing shutters are the following:

For “Shutter test”:

Focal plane – tests focal plane shutters.

Leaf – tests leaf shutters

Diaphragm – test diaphragm shutters

Other – it's a standard testing mode for other types of shutters.

Stereo camera – tests stereo cameras and it can also be used to test focal plane shutters in 2 different spots (like the edges of the frame) at the same time.

Leica vfmoto kit – this option is ONLY for Leica cameras with a non removable back.

Hasselblad lens only – this option is the same as “Leaf” but it has been designed for the specific way the Hasselblad shutters work.

For “Shutter and curtain test”:

Focal plane – tests shutter and curtains of the focal plane.

Leica vfmoto kit – tests shutter and curtain speeds for focal plane shutters. This option is ONLY for

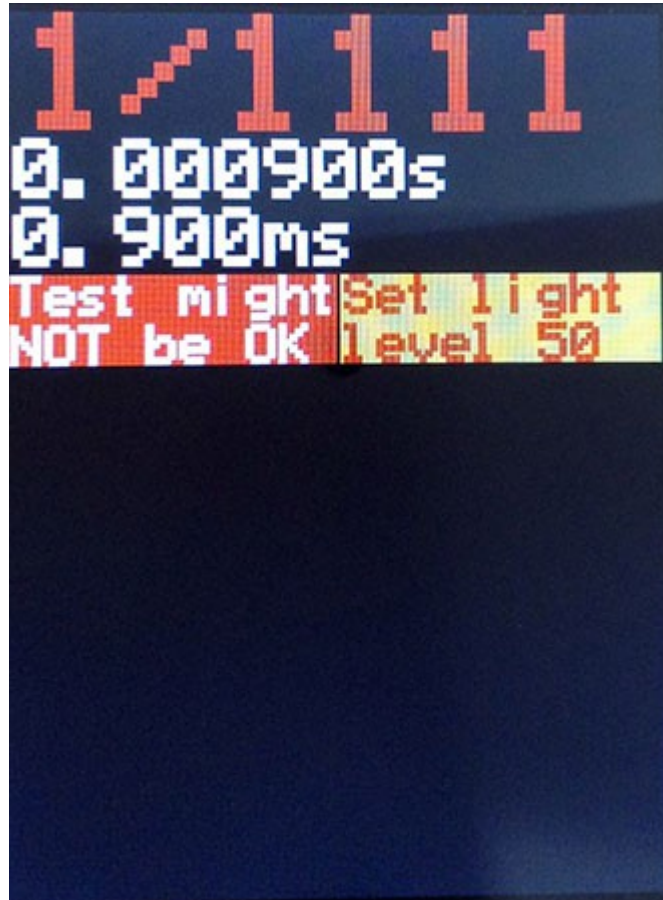
Leica cameras with a non removable back.

For “Shutter test”:

We will assume that the light source, sensor and camera have been set up either with the holders, rubber bands or other methods that you see fit.

Once the menu disappears the light source should turn ON (if a light source is plugged in) and you can adjust the light intensity level in 125 separate steps.

If you fire the shutter you will see something like this:



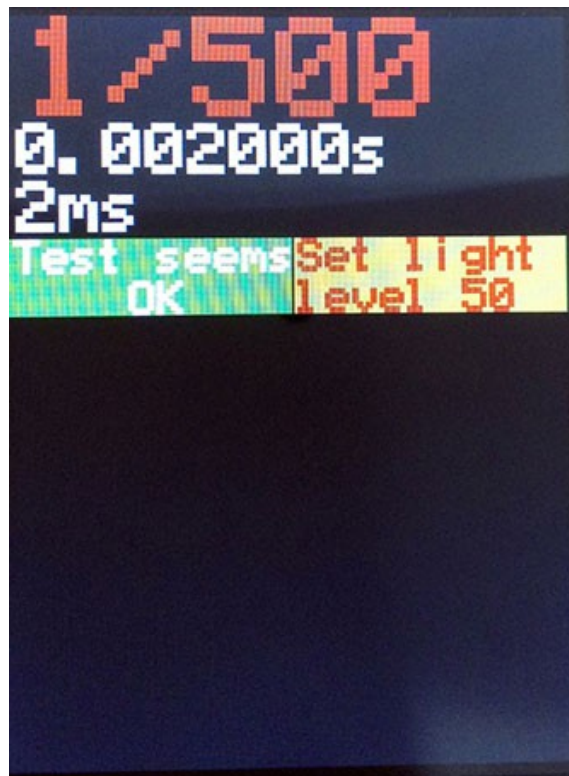
If you fire the shutter and nothing appears the light level might be too low (especially if you use a big lens like the Zeiss 250 Sonnar). You should set the light level at the highers level and try again.

If you see the message “Test might not be OK” you should adjust the light source. If the light level is too low or too high, it will influence the test in a negative way.

To get an idea of light level, SLR cameras with focal plane shutters require the lowest levels. Somewhere between 3 and 10. These cameras are don't have any optical elements and the distance between the sensors is small because the cameras are narrow. Lens like the Zeiss 250 Sonnar will require a light level of around 50-70.

You should start from low to high light intensity. Repeat doing tests and adjusting the light source until

you get the message “Test seems OK” like in the screenshot below.



This is pretty much how the shutter tests are made, except the Leica vfmoto kit test. Stereo shutter tests are made exactly like normal shutter tests. The only difference is that you will have 2 sensors and 2 light sources to align.



You will see that the light level appears only at the top. That is because the light intensity is adjusted for both light sources simultaneously. The light sources are not independent. As mentioned before you can use the stereo kit to test a focal plane shutter in 2 separate points. The tests are done just like the simple shutter tests.

Testing the shutter of a Leica camera with a non removable back is a little different.

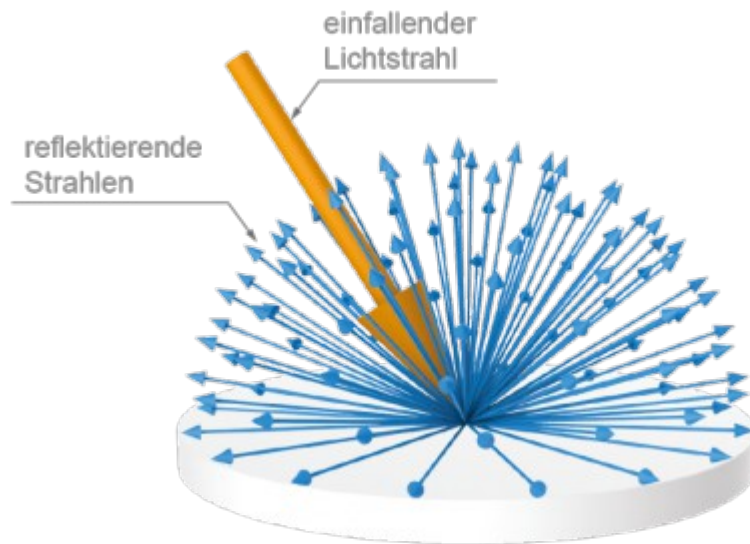
- First insert the reflective film inside the camera to cover the entire frame. The photo below was taken with the shutter fired on the bulb setting so you can see the reflective film.



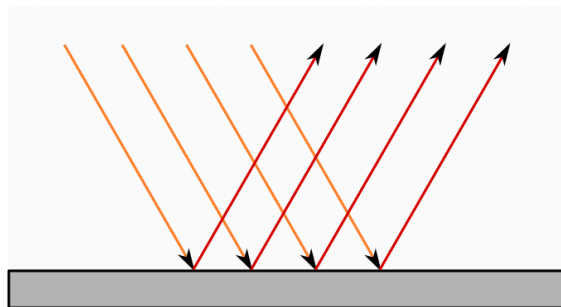
- Take the sensor box and attach it to the camera either with rubber bands or with the screw on a drilled body cap.
- Plug both connectors into the main unit. The thicker connector into **SEN** and the thinner connector into **LGT**.
- Turn the tester ON and select the shutter testing option “Leica vfmoto kit”. Make sure the light level is at the highest intensity (125). Fire the shutter. You should see a result. There are many differences between a SLR camera test and a Leica camera with a non removable back test. For the SLR camera a light level up to 10 would be enough. For the Leica camera the highest level is required or a level close to that level.

Limitations of the Leica vfmoto kit mode.

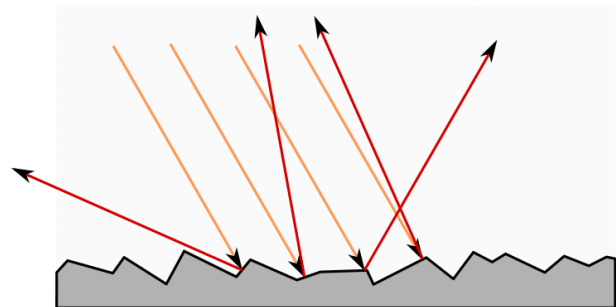
All the modes except the Leica mode use direct lighting. The light travels from the light source to the sensor without any barriers to block it. This is the perfect scenario. The Leica mode uses indirect lighting. The light travels from the light source to the reflective surface. Some of that light is lost because of this. It's a natural phenomenon. It is called diffused reflection. The main light beam is split into smaller light beams.



The light from the light source is the yellow arrow and the reflected light is the blue arrows. Some light is lost in the diffusion process and the rest is split into smaller parts. Another problem is that the surface of the reflective tape is not perfectly smooth at a microscopic level so the light does not bounce the same on all the surface.



Glatter Spiegel
Direkte Reflektion



Rauher Spiegel
Diffuse Reflektion

Individual light beams are not reflected the same and this affects the quality of the light.

The Shutter test Leica vfmoto kit mode needs only one sensor to receive the correct amount of light to display a result. It has a maximum speed of 1/1000 reduced from 1/8000 because of the natural phenomenon called diffused reflection and the fact that the reflective surface is not perfect at a microscopic level.

The Shutter and curtain test Leica vfmoto kit needs 3 sensor to receive the correct amount of light to display a result. One sensor for the shutter and 2 for the curtains. Because 3 sensors need optimal conditions to work, it is harder to achieve those conditions as speed increases. It has a maximum speed of 1/200 reduced from 1/1000 because of the number of sensors needed to get a result.

The speed is limited because of:

- natural phenomenons like diffused reflection and the surface not being perfect at a microscopic level.
- technical limitations like the narrow space in the Leica camera that does not allow us to use a different reflective material.
- number of sensors needed to have a result. The more sensors you need the harder it will be for all of them to work at optimal parameters.

Another way to test Leica cameras is to remove the shutter from the case and test it using the Focal plane mode.

Using the “Hasselblad lens only” option. This testing option is similar to the Leaf option. The only difference is that it's taking into account the cocking of the shutter for the Hasselblad lens.

To take a test do the following:

- Make sure that the shutter is NOT cocked.
- Set in place the sensor and light source. Ideally do this with the sensor holders provided in the kit.
- Plug the sensor and light source into the main unit.
- Turn the main unit ON.
- Select the “Hasselblad lens only mode”
- Once the menu disappeared and the main unit is waiting for a test, cock the shutter. Do not cock the shutter until that moment. Trigger the shutter by moving the little metal pin.

I have modified a rear lens cap to test my lenses. You could do the same. I cock the shutter and trigger it with a flat head screwdriver.



I strongly recommend using the holders and lens caps when testing Hasselblad lenses with the “Hasselblad lens only” option.

If you test the lens mounted on a camera, use the “Leaf” option.

For “Shutter and curtain test”:

In the case of focal plane shutters on cameras with a removable back:

- Make sure the correct type of shutter (vertical or horizontal) is selected;
- Align the sensor box with the camera and the light source. You could align the sensor box with rubber bands and the light source with the sensor holder mounted on a body cap.
- Plug the thicker connector from the sensor box into the SEN connector on the main unit. DO NOT plug the thinner connector from the sensor box in the LGT connector on the main unit. That's only for the Leica vfmoto kit.
- Plug the light source into the LGT connector on the main unit.
- Turn ON the main unit and select the Focal plane shutter and curtain test option.
- Fire the shutter and a result should appear.

Important! For the curtain tests the light source is not adjustable and you won't have a message informing you if a test is OK or not.

In the case of focal plane shutters on the Leica cameras with a non removable back:

- First insert the reflective film inside the camera to cover the entire frame.
- Take the sensor box and attach it to the camera either with rubber bands or with the screw on a drilled body cap.
- Plug both connectors into the main unit. The thicker connector into **SEN** and the thinner connector into **LGT**.
- Turn the tester ON and select the shutter and curtain testing option “Leica vfmoto kit”.
- Fire the shutter. You should see a result.

Important! The curtain tests for Leica cameras with a non removable back can be made up to speeds of 1/200th of a second.

Very important! If you notice that an accessory that is plugged into the main unit does not work, rotate the plug inside the jack a little bit. This should solve the problem. If it does not, contact me.

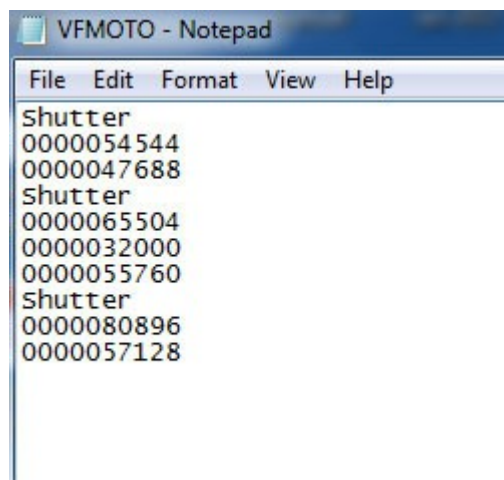
SD card file

When an SD card or a microSD card with an SD adapter is used you can save the test results on the SD card. The results are saved automatically when an SD card is detected. To read the file you will need an SD card adapter for your computer or an SD card slot on your laptop.

Important! Not all SD cards are compatible.

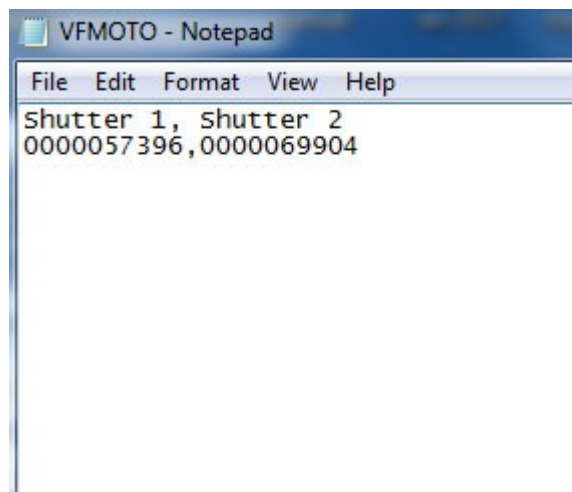
The results are saved in a .TXT file with the name VFMOTO.txt. Some of the results shown in the manual are not results from actual tests. They have been created to explain the SD card feature easier.

Depending on the type of test you take you will get different readings. For shutter tests the results will look like this:



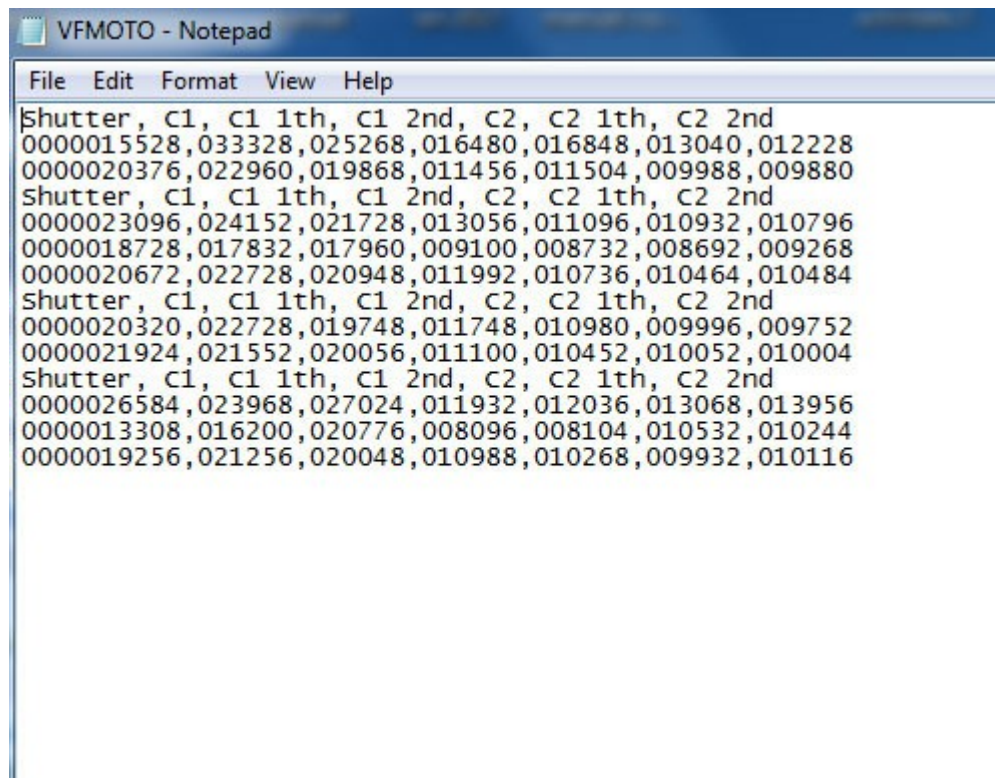
```
VFMOTO - Notepad
File Edit Format View Help
Shutter
0000054544
0000047688
Shutter
0000065504
0000032000
0000055760
Shutter
0000080896
0000057128
```

For stereo shutter tests it will look like this:



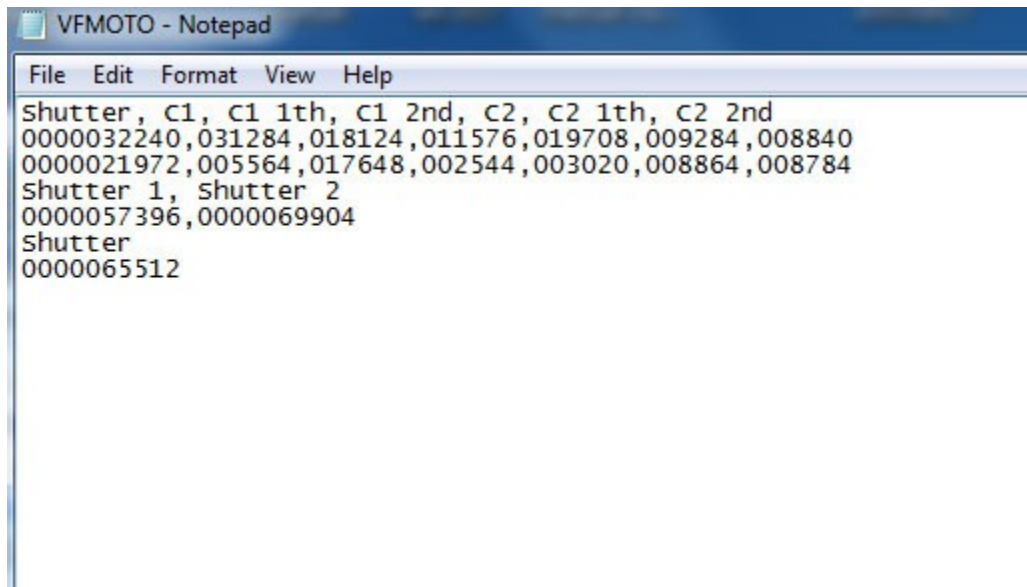
```
VFMOTO - Notepad
File Edit Format View Help
Shutter 1, Shutter 2
0000057396, 0000069904
```

For shutter and curtain tests it will look like this:



```
File Edit Format View Help
Shutter, C1, C1 1th, C1 2nd, C2, C2 1th, C2 2nd
0000015528,033328,025268,016480,016848,013040,012228
0000020376,022960,019868,011456,011504,009988,009880
Shutter, C1, C1 1th, C1 2nd, C2, C2 1th, C2 2nd
0000023096,024152,021728,013056,011096,010932,010796
0000018728,017832,017960,009100,008732,008692,009268
0000020672,022728,020948,011992,010736,010464,010484
Shutter, C1, C1 1th, C1 2nd, C2, C2 1th, C2 2nd
0000020320,022728,019748,011748,010980,009996,009752
0000021924,021552,020056,011100,010452,010052,010004
Shutter, C1, C1 1th, C1 2nd, C2, C2 1th, C2 2nd
0000026584,023968,027024,011932,012036,013068,013956
0000013308,016200,020776,008096,008104,010532,010244
0000019256,021256,020048,010988,010268,009932,010116
```

If you will take combined tests your file will look like this:



```
File Edit Format View Help
Shutter, C1, C1 1th, C1 2nd, C2, C2 1th, C2 2nd
0000032240,031284,018124,011576,019708,009284,008840
0000021972,005564,017648,002544,003020,008864,008784
Shutter 1, Shutter 2
0000057396,0000069904
Shutter
0000065512
```

You will notice that the files contain a title like “Shutter” or “Shutter 1, Shutter 2” or “Shutter, C1, C1 1th, C1 2nd, C2, C2 1th, C2 2nd”. This title appears every time you turn the tester “ON”.

“Shutter” means you are taking a single shutter test.

“Shutter 1, Shutter 2” will be displayed when you are testing stereo cameras. Each sensor has its own test result.

“Shutter, C1, C1 1th, C1 2nd, C2, C2 1th, C2 2nd” displays the values for curtain and shutter tests. The abbreviations have the following meaning:

Shutter – shutter test;

C1 – Speed of the 1th curtain;

C1 1th – Speed of the 1th half of the 1th curtain;

C1 2nd – Speed of the 2nd half of the 1th curtain;

C2 – Speed of the 2nd curtain;

C2 1th – Speed of the 1th half of the 2nd curtain;

C2 2nd – Speed of the 2nd half of the 2nd curtain;

Example: You turn on the tester and take a single shutter test. On the VFMOTO.txt file you will see the following thing:

Shutter

0000065512

Example 2: You turn on the tester and take 2 shutter tests. On the VFMOTO.txt file you will see the following thing:

Shutter

0000054544

0000047688

Example 3: You turn on the tester and take 2 shutter tests. You turn off the tester and sometime later you turn on the tester to take another shutter test. You turn off the tester and a week later you turn on the tester and take 2 shutter tests. On the VFMOTO.txt file you will see the following thing:

Shutter

0000054544

0000047688

Shutter

0000065504

Shutter

0000080896

0000057128

Numbers like “0000054544” represent individual tests and titles like “Shutter” represent test sessions. This is useful if you test multiple cameras and don't want the results to be mixed up. So if you have 3 cameras, a Hasselblad, a Leica and a Pentax you could do the following thing: Set up the Hasselblad and do one or multiple shutter tests. Turn off the tester. Set up the Leica and do one or multiple shutter tests. Turn off the tester. Set up the Pentax and do one or multiple shutter tests. On the VFMOTO.txt file you will see something similar with results mentioned in the 3rd example above.

You will notice that the results are not displayed in speeds used with cameras like 1/1000. The results are displayed in microseconds. To have the time in seconds you need to divide the result by 1 million.

$0000054544 / 1000000 = 0.054544$ seconds

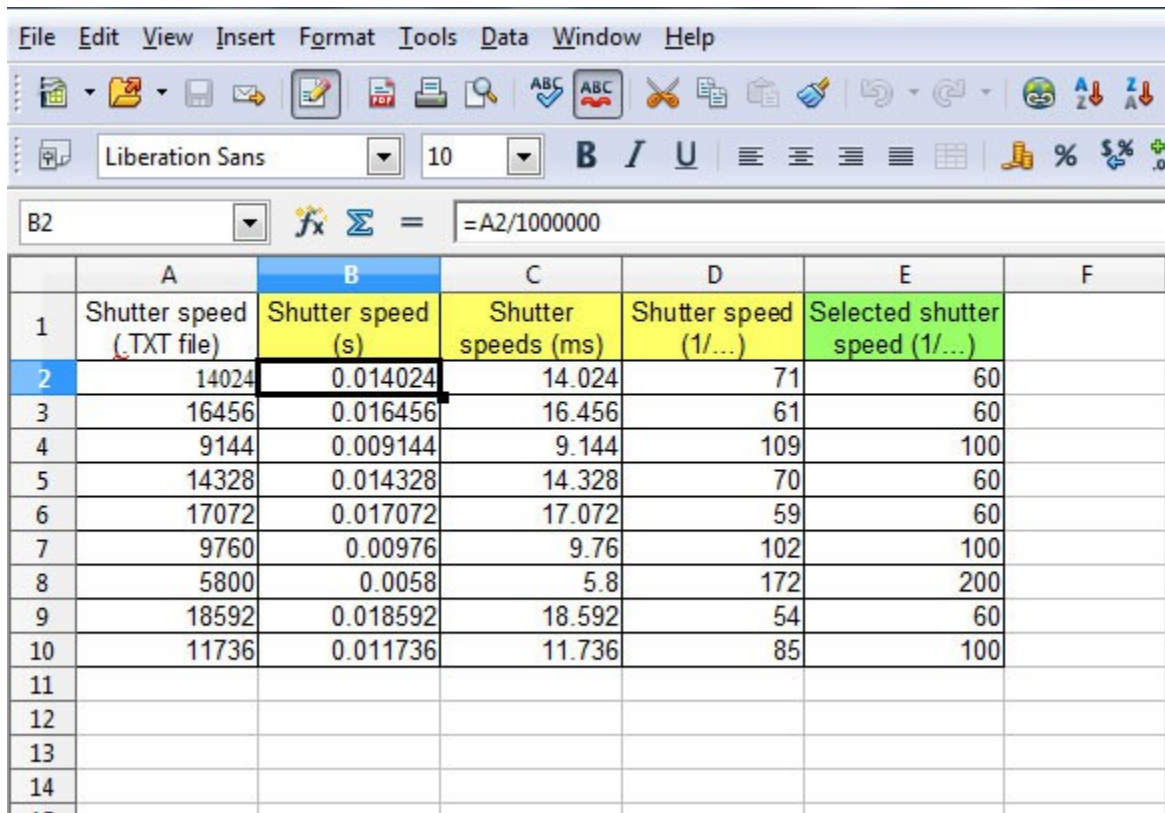
If you want the test time in milliseconds just divide the result by 1000.

$0000054544 / 1000 = 54.544$ milliseconds

For speeds of 0.5 seconds or lower to display the result in camera speed divide 1 million by the result.

For a result of 0000014024 you would have the following results:
 $0000014024 / 1000000 = 0.014024$ seconds
 $0000014024 / 1000 = 14.024$ milliseconds
 $1000000 / 0000014024 = 71$. That's 1/71 in camera speed.

You can copy the results in a spreadsheet and have these results calculated automatically like in the example below.



	A	B	C	D	E	F
1	Shutter speed (.TXT file)	Shutter speed (s)	Shutter speeds (ms)	Shutter speed (1/...)	Selected shutter speed (1/...)	
2	14024	0.014024	14.024	71	60	
3	16456	0.016456	16.456	61	60	
4	9144	0.009144	9.144	109	100	
5	14328	0.014328	14.328	70	60	
6	17072	0.017072	17.072	59	60	
7	9760	0.00976	9.76	102	100	
8	5800	0.0058	5.8	172	200	
9	18592	0.018592	18.592	54	60	
10	11736	0.011736	11.736	85	100	
11						
12						
13						
14						

This is only an example. You can make the spreadsheet as you see fit. Column A has the results copied from the VFMOTO.txt file. Column B displays the shutter speed in seconds. Column C displays the shutter speed in milliseconds. Column D displays the shutter speed in camera format. Column E displays the selected speed on the camera dial. The values in Column A are pasted from the VFMOTO.txt file and the values in column E are manually inserted depending on the shutter speed selected on the dial. Columns B,C,D are calculated by the spreadsheet.

You will notice that the stereo shutter and curtain test results are separated by a comma. The spreadsheet software like Excel or Open Office Calc have the option to use the comma as a cell separator so you can copy paste the results and each value will be in its own cell. You should research how to use the comma separator function for your spreadsheet software.

The results from the curtain tests are displayed in milliseconds, not microseconds like the shutter tests. You should take this into account when you transform the values.

Known and possible problems

Some of the early testers have a problem with the LGT connector. Depending on how you plug the light source in the connector it might have problems making a connection and the light source won't turn on. This problem has been fixed by changing the connector.

One customer said he thinks that the results of the tests done with the Lieca kit on Leica cameras with a non removable back are a little slow. My tests were spot on after having the camera professionally serviced. I would appreciate it if users that have Leica cameras that have been professionally service would share some results. Checking the Leica testing mode with a SLR with mirror lockup is not that ideal. The SLR is thicker (so the distance between the sensors and the reflective film is bigger) and the testing mode has bee developed for that thin rangefinder. Status of this possible problem remains open until I gather more info and results from professionally serviced cameras.

If the battery is faulty or discharged the tester might start to behave strange, reset itself or display values without taking any tests. This problem will be solved by replacing the battery. Also this can happen if the power adapter is damaged or faulty. It's not a tester problem but some symptoms of other problems. Over the years I have gathered from customers multiple batteries and power supplies that work but are faulty. When I developed the tester I used the faulty batteries and power adapters to see what happens. The result was a problem with the focal plane mode where the value would appear on the screen for about half a second, disappear for about half a second and so on. This happened only in focal plane mode (the other modes might display inaccurate results). Another problem is when a good battery gets drained the tester will display values of around 1/6000th.

Smartphone and tablet tester

The smartphone tester is simple and easy to use. Plug the sensor in the 3.5mm audio jack from the smartphone or tablet.



If you have a protective case for your device make sure the case thickness does not interfere with the complete insertion of the 3.5mm jack.



Start the appropriate sound editing app that you chose. Set up the sensor, camera and light source. Put the light source in front of the camera and the sensor in the back. It should be like taking a photo of the light source and the sensor is the film. Fire the shutter.

Select the measuring area as shown in the screenshot below. Spikes may have different shapes and sizes but as a general rule, start measuring where you see a sharp rise in the spike (not the tip of the bottom spike) and stop where the spike starts to go down (tip of the upper spike).

Avoid:

- Light setups with multiple light sources (like flashlights with multiple LEDs).



- Avoid light sources with a reflective hood (shiny part).
- Lasers can cause permanent eye injuries and require a lot of effort to align with the tester. Also, there is a better alternative to lasers when it comes to the accuracy of this tester.

In the case of light setups with multiple light sources the graph will display some aberrations and the readings will be incorrect. On some tests the error created by multiple light sources exceeded 150%. That means that in the case of a 1/500 exposure the error would make you believe your shutter is running at a 1/200. This is one example of the huge difference made by the light source.

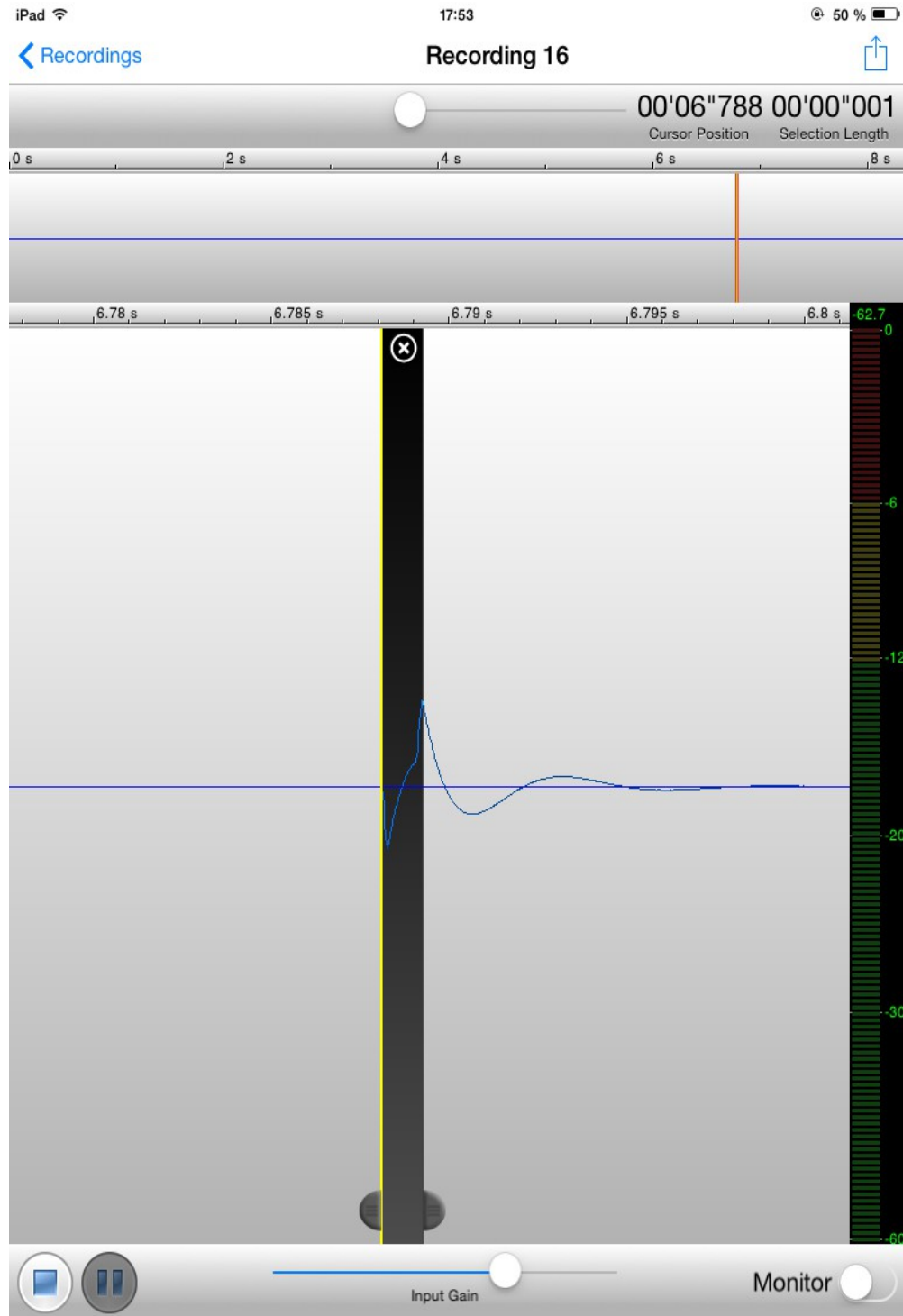
For cameras with removable lens you can use a single bright LED from something simple like a key chain with a single LED without a reflective hood.



If you test cameras with non-removable lens you need a brighter light source. Ideally it's better to have a light source with a lower light intensity than a brighter one. If the light source is too bright you might get errors in the readings. If the light source is not bright enough you might not have a spike you can work with but this option is better because you can see right away that there is a problem.

Also you should use a light source without a reflector. Each light source has its own “fingerprint” in the graph. This is why you should choose a good light source and stick to it. When you choose/change your light source you should spend some time testing and analyzing the graph to find the different particularities of your new light source.

The screenshot below was made with the app TWRecorder on an Ipad mini at 1/1000 of a second



If you start the app and notice it records sound, rotate the plug into the smartphone or tablet jack a little bit until it does not react to sound anymore.

Very important! As mentioned in the listing, it is the buyers responsibility to to provide their own apps. I do not provide or endorse any apps! You can choose a dedicated paid app or a free sound recorder or sound editor app that can count in 1 millisecond increments.

Manual information history.

Version 1 – First version of the manual.

Version 1.01 – Added the “Known and possible problems” section.

Version 1.02 – Minor tweaks and spell check.

Version 1.03 – Minor tweaks.

Version 1.04 – Major update. Modified photos and added info about the SD card and the smartphone tester.

Version 1.05 – Minor tweaks.

Version 1.05 – Added info about Leica vfmoto kit limitations.