

## **Firefly 3 Infra-Red Slave Unit Instructions – Use in Caves**

*Based on a design by David Gibson of the BCRA Cave Radio and Electronics Group. Ver2.1.*

### **Standard Operation**

1. Connect the Firefly slave unit to the flash gun (strobe) using the hot shoe adaptor (or PC synch lead or 6.25/0.25" jack).
2. Attach the Firefly slave unit to the flash gun using the self-adhesive hook & loop fastener provided. Do not fix it adjacent to the flash gun's battery compartment as this can be a source of interference which could cause spurious triggering.
3. Switch the flash gun on and test using your camera. Note that range is reduced in high ambient light levels! *The unit should not be used in fluorescent lighting as this will cause it to trigger continuously and also run the battery down prematurely.*

### **Caving or Outdoor Use**

For caving or outdoor use it is strongly recommended that all seams and particularly the cable grommet are protected with waterproof cloth "gaffer" tape or silicone bath sealant before use. However, do not cover the central 25mm of the infra-red window as this is where the sensor is located. In addition, covering the screw holes will prevent the screws from rusting. To protect both Firefly 2 and flash gun, sealing both in a clear plastic bag keeps the worst of the mud and damp away and will prolong the life of the equipment. **SAFETY WARNING!** Wet flash guns can be extremely dangerous when wet due to the high voltages used.

If you have not yet acquired a flash gun (strobe) for use with the Firefly we recommend the use of a "non dedicated" flash gun. These usually have a single contact on the square section of the plastic moulding that comes into contact with the hot shoe. Conversely "dedicated" units usually have more than one contact (often three). A flash gun of guide number 25-30m (100ft) @ 100ASA would be a good choice.

### **Infra-Red Triggering**

Infra-red triggering is desirable in many circumstances because direct light from a flash gun at the camera would be detrimental to the picture being taken. This is particularly true when using the unit for cave photography as infra-red triggering prevents light from the trigger flash gun being reflected off water vapour from the photographer and spoiling the picture. A piece of neutral-density filter (supplied) can be used as an infra-red filter for turning any flash gun into an infra-red trigger.

To construct an infra-red trigger:

1. Place the filter over the front of the lens of the trigger flash gun (the one connected to the camera) and cut it with scissors so that it is just larger than the transparent area of the lens.
2. Tape it on with as small an overlap with the lens as possible using cloth or insulation tape.

### **Battery Replacement**

Replace the batteries using the following procedure:

1. Obtain a new battery (coin cell), type **CR2032** from your dealer or a photographic or chemist's shop (drug store, pharmacy). **This is a new type of battery and is different to that used in older Firefly slave units.**
2. Undo the three screws and separate the lid and base.
3. Locate the old battery and gently pop it out noting its orientation.
4. Wearing gloves or using a piece of dry cloth, remove the fresh battery from its protective packaging.
5. Push the fresh battery into the battery holder. It can only be inserted with the correct orientation.
6. Reassemble the case and do up the screws until they just feel tight. Do not overtighten. This avoids damage to the plastic case.

### **Rewiring a Hot-Shoe Adaptor (or PC synch lead or 6.25/0.25" jack)**

1. Obtain a replacement hotshoe adaptor or PC synch socket
2. Undo the three screws and separate the lid and base.
3. Unscrew the terminal block screws and remove the wires from the terminal block.
4. Thread the new lead through the case grommet, allowing about 10mm (1/2") of slack between the terminal block and the grommet. If a cable tie is not available to use as a strain relief a loose figure 8 knot should be tied in the lead allowing 10mm (1/2") of slack.
5. Bare the two wires at the end of the lead and push one into each terminal block receptacle. It does not matter which way round the leads are.
6. Tighten the terminal block screws.
7. Reassemble the case and do up the screws until they just feel tight. Do not overtighten. This avoids damage to the plastic case.

### **Repair & Maintenance**

If your Firefly and flash gun combination is not working try the following:

1. Check that the hot shoe adaptor is connected to the flash gun the correct way around - some flash guns allow the hot shoe adaptor to slide on from both directions.
2. Check contact between the hot shoe adaptor and the flash gun. Wipe the connections.
3. If this is the first time that you have used the Firefly try a different flash gun. Occasionally, a flash gun may be encountered that is not compatible with the Firefly - particularly "dedicated" units. These usually have more than one contact on the square section of the plastic moulding that comes into contact with the hot shoe.
4. Change the battery. Check the battery connections. If the battery holder sprung contacts appear dull clean them with a cotton wool bud and alcohol.
5. If the unit is still not working Firefly Electronics will fix it for free for two years after purchase, subject to fair wear and tear. This specifically excludes water damage if the unit has not been adequately sealed. If the unit is no longer under guarantee, Firefly Electronics can repair/refurbish your unit for less than half the cost of a new unit.

### **If Your Firefly Gets Wet**

1. Open the unit up as soon as possible by removing the three screws.
2. Remove the battery and dry everything out using a hot air blower, fan heater or hair drier.
3. Replace the the battery. If it looks corroded always fit a fresh one.
4. Reassemble the case and do up the screws until they just feel tight. Do not overtighten. This avoids damage to the plastic case.

Spare batteries are available from your supplier or direct from the manufacturer.

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