DLG
Enlarger Timer

**WITH
F-STOP
TIMING**

CONTENTS

INTRODUCTION

Welcome to the Enlarger Timer by DLG Electronics.

The enlarger timer is a mains-powered unit designed to give accurate control of the enlarger by directly switching the enlarger power supply.

The enlarger timer offers the following features:

- Robust extruded aluminium housing
- Rear-printed chemical-resistant fine-textured polyester fascia
- Wall-mountable
- Universal operating voltage 110 – 240 VAC, 50-60 Hz
- Switched enlarger output up to 5 amps
- Switched safelight output
- Manual override power switch for enlarger, for focussing.
- Precision control 0.1s to 999s
- Easy-to-use controls
- Safelight-red display
- Large, clear display – 0.56" / 14.2mm digit height
- Adjustable display illumination – lowest setting ultra-dim for sensitive panchromatic and colour emulsions
- Adjustable display format and time increments – 0-99s in 0.1, 0.2 or 0.5 increments and 0-999s in 1s increments
- Metronome sound – user-settable to 1s, 2s, 5s or 10s time period, or set to silent.
- Delayed-start function, for enlargers with a start-up delay. User-settable from 0s (no delay) to 9.9s, in 0.1s increments.
- Last time set retained for subsequent exposures
- All settings (time set, display brightness, display format and time increment) remembered after power off.
- Optional footswitch
- Compliant with relevant US, EU and UK standards.

The following are supplied with the unit

- Enlarger Timer
- Wall mounting screws and plugs
- 2m / 6ft mains lead with UK or US plug
- 2x IEC C14 line plugs for connecting enlarger and safelight NOTE 1
- 1x spare 32mm 5A type F fuse
- 1x spare 20mm 500mA slow-blow (type T) fuse.
- Instruction manual

NOTE 1 – US versions are fitted with US outlet sockets (NEMA 5-15) in place of the IEC outlet sockets so that US appliances can be connected directly, therefore the IEC C14 line plugs are not provided with the US version.

An optional footswitch can also be obtained from www.dlgelectronics.com. The footswitch is the same as that provided with our Compensating Developing Timer product and shares the same connector and interface.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with the Canadian Interference regulations CAN ICES-3(B)/NMB-3(B)

INSTALLING AND CONNECTING THE ENLARGER TIMER

WARNING – the unit is mains-powered and should be positioned away from water and other liquids and installed in accordance with local regulations.

Wall Mounting

Choose a suitable location within easy reach when operating the enlarger, where a power supply is available and within reach of the enlarger power cable.

The unit should be mounted such that it, or the connectors, cannot fall into liquids.

To fit to the wall, mark a vertical line on the wall and, using the line as a guide, hold the unit up to the wall. Mark the locations of the screw holes in the mounting flanges.

For a plaster/masonry wall, drill holes for the wall plugs (6mm or ¼ inch), insert the wall plugs provided then screw the unit securely to the wall. For a timber wall, drill the holes 1/8 inch / 3mm and use the screws directly in the holes.

Ensure the unit is securely mounted before use.

Connections

The enlarger timer is designed to be connected between the wall power outlet and the enlarger. The enlarger timer is fitted with IEC mains inlet (C14) and either IEC outlet (C13) or US 3-pin 120V mains socket (NEMA 5-15) fittings. A mains lead (US, UK or with national adaptor, depending on region) is supplied to connect from the wall outlet to the enlarger timer.

If your enlarger is not fitted with a suitable IEC C14 plug it will be necessary to remove the existing plug and replace with the IEC plug provided with the unit.

For safety, ensure that the enlarger and safelight are compatible with the mains power supply and comply with your national standards.

CAUTION – electrical wiring and connections should be carried out by a competent person and in accordance with any local regulations. If in doubt please contact a qualified electrician.

NOTE – the outlet voltage is equal to the inlet voltage.

When using with an enlarger using a low voltage lamp and transformer, plug the enlarger into the transformer and the transformer into the timer.

For DeVere enlargers a special connecting cable is available as an optional accessory. This cable has an 8-pin connector compatible with the DeVere transtab unit and allows the enlarger timer to control the enlarger lamp through the transtab unit.

Footswitch

An optional footswitch can be connected to the 3.5mm jack socket on the base of the unit. The footswitch duplicates the function of the RUN button, enabling hands-free exposures, and is recommended when dodging and burning exposures.

The footswitch is available as a separate accessory.

The footswitch cable can be extended if necessary, using a female-to-male 3-pole (stereo) jack cable.
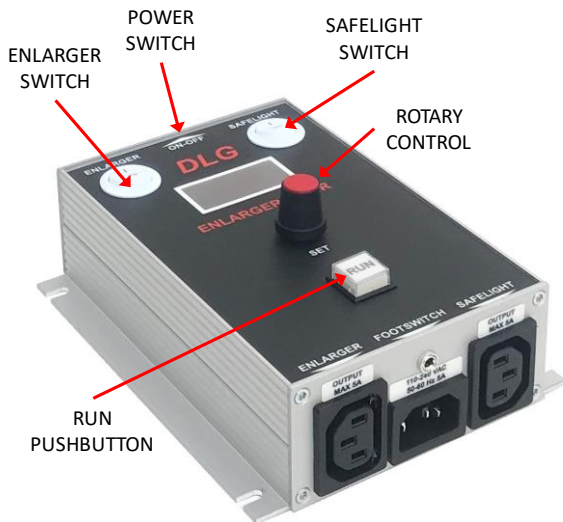
CONTROLS

Figure 1 - Controls

OPERATING THE ENLARGER TIMER

Basic Operation

The enlarger timer is designed to be extremely simple to use.

The time is set by rotating the rotary control.

Pressing the RUN button switches the enlarger on and safelight (if connected) off and sets the timer running. The display shows the remaining time as the timer runs. At the end of the time period the enlarger switches off and the safelight on again. The display then reverts to the previously-set time in readiness for the next exposure.

Settings

A number of different settings can be adjusted by the user.

- Display brightness setting. The brightness of the LED display is user-settable in a range of 10 different values
- Time increment setting. The time can be adjusted from 0 to 99 seconds in a choice of 0.1s, 0.2s and 0.5 second resolution, or 0-999 seconds with 1s resolution.
- Metronome sound. The metronome sound can be set to OFF, or a choice of 1, 2, 5 and 10 second time period
- Start delay. Some enlargers have a delayed start and this can be accounted for by setting a start delay. Setting a start delay means that the timer does not start counting down until after a short period of time after the enlarger is switched on. The delay period can be set from 0s (no delay) to 1s, in 0.1s steps.

The settings are accessed by pressing the rotary control knob. Turning the knob then scrolls though the settings available. The display shows the relevant setting:

- **Bri** (display brightness option)
- **Inc** (time setting increment)
- **Sou** (Sound, the metronome settings)
- **dEL** (dELay – the delay setting option)

A further press of the rotary control will then allow the user to adjust the chosen setting. The various settings are described in the following sections.

Setting the Display Brightness

The enlarger timer has a digitally-controlled variable display brightness.

As described above, press the rotary control to access the settings. Turn the rotary control until the brightness option is shown (display = Bri) is shown.

Press the rotary control again to enter the display brightness options. The display will show the current brightness setting on a scale of 0-9, with the symbols "br" to indicate that the brightness is being displayed, for example:

br5

The brightness can then be set by rotating the rotary control.

The brightness steps operate on a logarithmic scale in order to give approximately equal steps of perceived brightness. Setting 0 is extra dim, suitable for use when working with sensitive panchromatic or colour emulsions.

When set, press the rotary control again to return to normal operation.

Setting the Display Format and Timer Mode

To set the display format and timer mode, press the rotary control to access the settings. Rotate the rotary control knob until "Inc" (increment) is displayed. Press the rotary control again to access the display format (increment) settings. The current setting will be displayed, e.g: **t0.2**

The options available are:

- **t0.1**   linear time mode, 0.1 second increment, 0 to 99.9s
- **t0.2**   linear time mode, 0.2 second increment, 0 to 99.8s
- **t0.5**   linear time mode, 0.5 second increment, 0 to 99.5s
- **t 1.**   linear time mode, 1.0 second increment, 0 to 999s
- F. 1   f-stop mode, 1 stop increment
- F. 2   f-stop mode, 1/2 stop increment
- F. 3   f-stop mode, 1/3 stop increment
- F. 4   f-stop mode, 1/4 stop increment
- F. 6   f-stop mode, 1/6 stop increment
- F. 8   f-stop mode, 1/8 stop increment
- F. 12   f-stop mode, 1/12 stop increment
- F. 16   f-stop mode, 1/16 stop increment

Press the rotary control when the desired format is set, which will return the enlarger timer to the time setting mode.

Note - when changing the format, the set time will be retained but rounded to the nearest value that can be shown on the new format. For example, if the time format was 0.1 second increments, and the time set was 27.3 seconds, changing the format to 0.5s increments will result in the time set being 27.5 seconds.

Setting the Metronome

A metronome sound is useful as an audible indication of the progression of the exposure when carrying out dodge and burn operations. The metronome may be set on or off in the settings, and the time period selected.

To set the metronome, press the rotary control to access the settings. Rotate the rotary control knob until "Sou" (sound) is displayed. Press the rotary control again to access the metronome settings. The current setting will be displayed. Rotate to choose the desired setting. Note that the settings available are dependent on whether the timer is in linear time modes or F-stop mode – the following settings are available.

   In Linear Time Modes:

- **OFF**   No metronome (silent setting)
- **P.01**   One second metronome period.
- **P.02**   Two second metronome period
- **P.05**   Five second metronome period
- **P.10**   Ten second metronome period

   In F-Stop Modes

- **OFF**   No metronome (silent setting)
- **On**   Metronome sounds at f-stop increment as set above

Press the rotary control to enter the setting and return to normal time-setting mode.

The metronome period starts at the start of the exposure after any start delay period that has been set (see below).

Setting the Start Delay

A start delay is useful when using an enlarger head with a start-up delay – the timer can be set with a matching delay. When operating with a delay, when the RUN switch is pressed the enlarger power is turned on but the timer countdown start is delayed for a short period. This period may be adjusted in the settings, or turned off.

To set the start delay, press the rotary control to access the settings. Rotate the control until "DEL" (delay) is displayed, then press the rotary control

again. The currently-set delay will be displayed – for example, a display of "**d0.2**" shows that the start-up delay is 0.2 seconds.

Rotate the control to set the delay time desired. When done, press the rotary control again to return to normal time-setting mode.

TIP – to easily establish the delay period, set an exposure time of zero. If the enlarger lamp illuminates when the exposure is run, then the delay period set in the timer is longer than the enlarger start up time. Conversely, if the enlarger lamp does not illuminate when the exposure is run, the delay period set is shorter than the enlarger start-up time.

When an exposure is run using a start delay, the display initially counts down the delay period showing a negative time – for example "**-1.2**" will be displayed when there are 1.2 seconds remaining of the delay period

Saving of User Settings

User setting of time, display format, display brightness, metronome setting and start delay are stored in non-volatile flash memory on shutdown, if the unit is switched off whilst in the time setting mode.

When the unit is switched on again, the stored values are loaded in from the memory such that the unit restarts in the same configuration as when it was switched off.

Pausing an Exposure

Pressing the run button of the footswitch during an exposure will pause the exposure. The enlarger will switch off and the countdown time will be suspended. The display will alternate between the current time and "---" to indicate that the exposure is paused.

Terminating an Exposure

Should it be necessary to terminate an exposure part-way through, press the rotary control. The exposure will be terminated and the time display will revert to the previously-set time. The exposure may be terminated either while the timer is running or in pause mode (see above)

Focussing

The Enlarger switch on the front panel allows the enlarger to be set permanently on irrespective of whether the timer is running. This is intended for print set-up and focussing use.

Safelight Control

The safelight control allows the safelight to be switched off independently of the timer.

F-Stop Timing

Exposure Setting in F-Stop Modes

When F-stop modes are selected (see section *Setting the Display Format* above) each "click" of the rotary control increases or decreases the exposure by the F-stop increment that has been set. For example, in whole stops, each click doubles or halves the exposure, in half-stops, each click multiplies or divides the exposure by 1.414.

An f-stop scale is a relative scale rather than an absolute – each whole f-stop represents a doubling or halving of the exposure rather than defining a time in an absolute sense. Each click of the rotary control thus applies the chosen f-stop fraction to the currently set time. When changing from a linear time mode to an F-stop mode the time setting is initially the same as was previously set in the linear time mode. If it is desired to base the F-stops on a given base time, set the time in one of the linear time modes to e.g. 1.0s prior to selecting the F-stop mode.

The timer will limit the exposure to stay below the display limit of 999s – the limit will be the largest exposure at the f-stop increment chosen below 999s.

The display will automatically re-format to show times of 99.9s and below in tenths, and times above 99.9s in whole seconds up to 999s.

Running an Exposure in F-Stop Mode

During the exposure the time will count down in the normal way, showing the number of seconds remaining. If the initial time was 100s or longer, the display will show the whole number of seconds, as the remaining time counts down below 100s the display will automatically switch to show the time in tenths.

Metronome Sound in F-Stop Modes

If the metronome sound is set "on" in F-stop modes, the metronome will sound at each F-stop fraction selected – for example if 1/6 stop is selected the metronome will sound every 1/6 stop as the timer counts down. This is very convenient for dodge and burn operations as the user can count the number of beeps to know when to start or stop the dodge or burn.

The beep sounds will progressively get closer together as the remaining time reduces. In approximately the last second of exposure the beeps are suppressed as they merge into a near-continuous tone.

POWER RATINGS AND FUSES

The unit is designed for use on AC mains supplies worldwide in the range 110VAC to 240VAC at 50 to 60 Hz nominal.

Maximum power draw for the enlarger and safelight should be no greater than five amps each.

The output power from the unit is the same voltage as the input - no conversion takes place in the unit, it simply switches the inlet power to the connected appliance.

The unit is fitted with two fuses, one for the connected appliances (enlarger and safelight) and the other for the internal electronics in the unit. Should these need to be replaced always use the correct rating

- Connected appliance fuse – 5A standard fuse, 32mm
- Internal Electronics fuse – 500mA slow blow 20mm

One spare fuse of each type is supplied with the unit.

PRECAUTIONS AND SAFETY

This appliance uses mains voltages which can be hazardous. Please do no misuse the unit and always observe the following precautions

- If the unit or cable is damaged, do not use. Please contact your dealer or DLG Electronics directly for repair or service

- Ensure connected appliances are within the rated capacity of the unit (0 to 5 amps, 110 to 240 VAC)

- Ensure the connected appliances are compatible with the mains supply in your region – the outlet voltage is the same as the input.

- Always replace fuses with the correct type and rating.

- The unit should only be disassembled or serviced by a competent person. It is recommended that if service is required the unit be returned to us – see section Spares and Service on page 15.

- Do not allow the unit to come into contact with, or be immersed in, any liquids.

- Do not operate switches with wet hands.

- Ensure that the unit is securely mounted and that installation is in accordance with local regulations.

- The appliance must be earthed. Do not connect to the mains via an unearthed 2-pin plug.

- Use the power supply cable provided. If an extension cable or a longer cable is required ensure that a three-core cable with earth connection and of appropriate power rating is used.

- The unit does not provide full mains isolation. Disconnect any connected appliances before servicing.

SPARES AND SERVICE

In the event of any problems with your unit please contact us:

DLG Electronics

138 Osmaston Road

Derby UK

www.dlgelectronics.com

enquiries@dlgelectronics.com

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