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# ELC 125/500

## Service Manual



ELC 125 (20618.1)



ELC 500 (20619.1)



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## 1. SAFETY NOTICE



The interior of the Elinchrom devices contain components carrying dangerous levels of electric charge, even though the unit has been disconnected from the mains or without supply battery. **Before all servicing operations or repairs, you must execute the following discharge process:**

### ELC DISCHARGE PROCESS BEFORE SERVICING

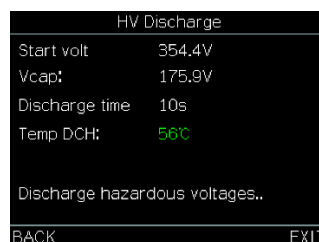
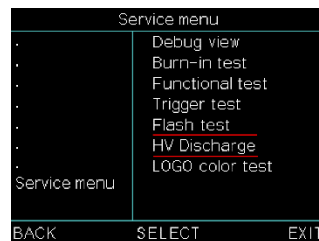
#### 1. Activate the Service Menu

- a) Unit must be ON
- b) Press and hold the **Menu button**, then press and hold the **Left button**, then press and hold the **Right button**, then press and hold the **Modelling lamp button**



#### 2. "HV Discharge"

- a) Select "HV Discharge"
- b) Wait until unit shut down himself.



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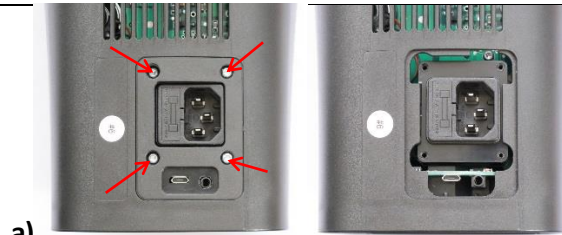
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**3. Remove the mains cable**

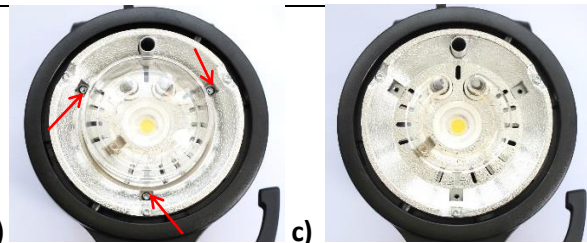


**4. Open the Housing**

- a) Remove the AC socket cover first (4 screws)
- b) Remove the Glass Dome (3 screws)
- c) With gloves, remove the flashtube and trigger contact.
- d) Remove the Inner Dish (3 screws)
- e) Remove the Front ring (1 screw)
- f) Remove the 8 screws in the Central Ring assembly
- g) Open the housing by sliding the Central Assembly off the housing

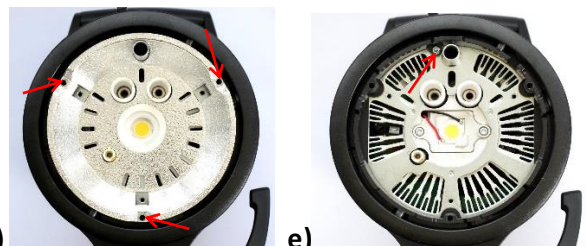


a)



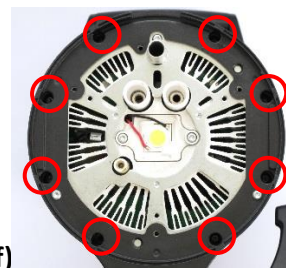
b)

c)

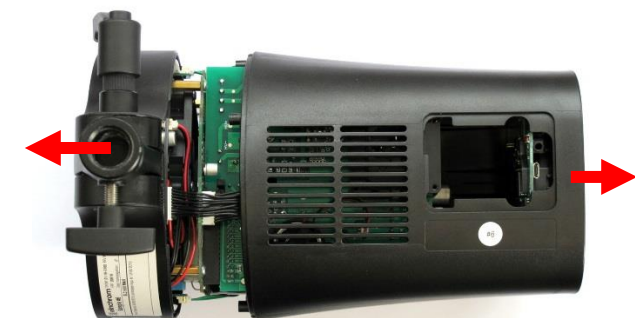


d)

e)



f)



g)

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**5. Check that the voltage between HV+ and HV- is lower than 50VDC**



**6. Unit discharged and secure**  
Now you can repairing and servicing safely.



## 2. SPARE PARTS

All available spare parts are visible in our online web shop in the Distributor Center.

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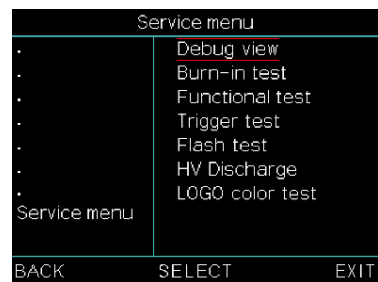
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### 3. SERVICE MENU

#### 3.1. Activate Service Menu

##### Activate the Service Menu

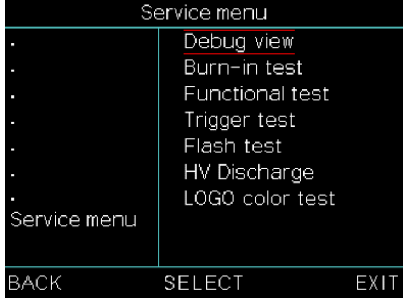
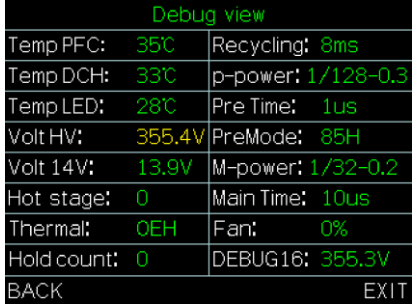
- a) Unit must be ON
- b) Press and hold the **Menu button**, then press and hold the **Left button**, then press and hold the **Right button**, then press and hold the **Modelling lamp button**



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### 3.2. Menus overview

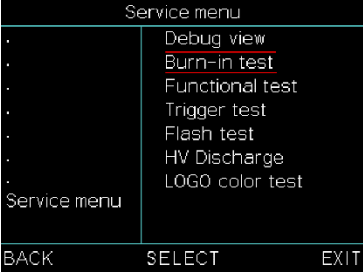
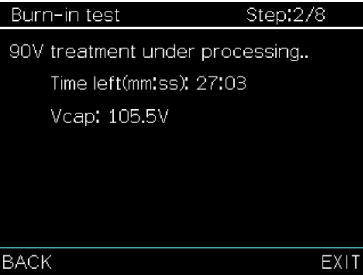
#### 3.2.1. Debug view

<p>Select "Debug view" in the service menu</p>	
<p><i>(Information will be available in this section with the next release of the service manual)</i></p>	

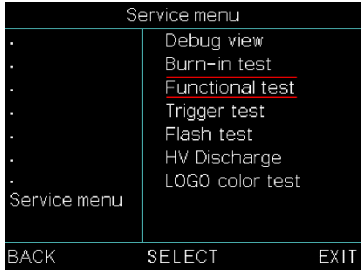
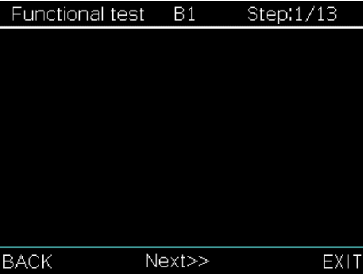
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### 3.2.2. Burn-in test

<p>Select "Burn-in test" in the service menu</p>	
<p>Burn-in test</p> <ul style="list-style-type: none"> <li>90V during 30 minutes</li> <li>180V during 60 minutes</li> <li>270V during 60 minutes</li> <li>355V during 90 minutes</li> </ul>	

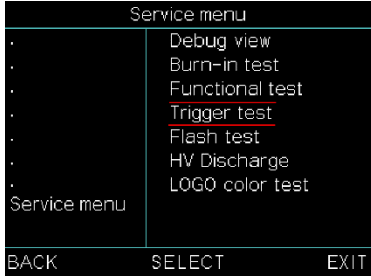
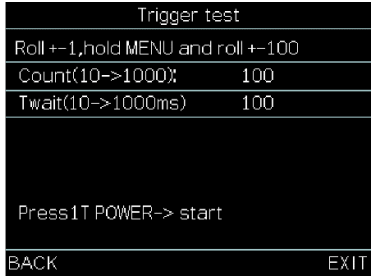
### 3.2.3. Functional tests

<p>Select "Functional test" in the service menu</p>	
<p>Functional tests</p> <ul style="list-style-type: none"> <li>Step 1/13 Dark Display [check pixels of the display]</li> <li>Step 2/13 Bright Display [check pixels of the display]</li> <li>Step 3/13 Ready LED flash [check ready led is flashing]</li> <li>Step 4/13 Power Button [Press Power button]</li> <li>Step 5/13 Left Button [Press Left button]</li> <li>Step 6/13 Right Button [Press Right button]</li> <li>Step 7/13 Favorite Button [Press Favorite button]</li> <li>Step 8/13 Menu Button [Press Menu button]</li> <li>Step 9/13 Modelling Lamp button [Press Mod. Lamp button]</li> <li>Step 10/13 Photocell Triggering [Flash with another unit to trigger the photocell]</li> <li>Step 11/13 Synchro Triggering [Trigger with a synchro cable]</li> <li>Step 12/13 EF Triggering [Trigger with Skyport transmitter in Group ALL, F1, Speed mode]</li> <li>Step 13/13 Test Complete [Press any key to return]</li> </ul>	

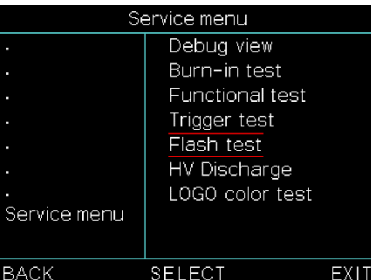
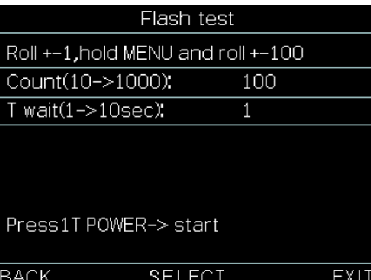
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### 3.2.4. Trigger test

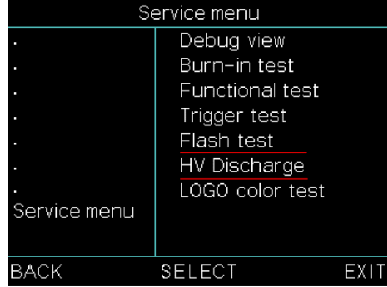
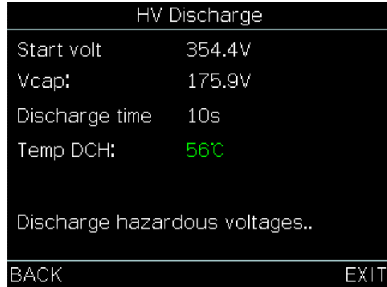
<p>Select "Trigger test" in the service menu</p>	
<p><b>Trigger test</b></p> <p>Count [Choose the number of flashes and press SELECT] Twait [Choose the time between flashes and press SELECT]</p> <p>To start the Trigger Test, push the Power button</p> <p><i>Note: During the Trigger test, the flash power is automatically set to minimum power.</i></p>	

### 3.2.5. Flash test

<p>Select "Flash test" in the service menu</p>	
<p><b>Flash test</b></p> <p>Count [Choose the number of flashes and press SELECT] Twait [Choose the time between flashes and press SELECT]</p> <p>To start the Flash Test, push the Power button</p> <p><i>Note: During the Flash test, the flash power is set on the last value before entering the Service menu.</i></p>	

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### 3.2.6. HV Discharge

<p>Select "HV Discharge" in the service menu</p>	 <p>The screenshot shows a 'Service menu' with the following options: Debug view, Burn-in test, Functional test, Trigger test, Flash test, HV Discharge (highlighted with a red underline), and LOGO color test. At the bottom, there are three buttons: BACK, SELECT, and EXIT.</p>
<p>Wait until unit shut down himself.</p>	 <p>The screenshot shows the 'HV Discharge' screen with the following parameters: Start volt: 354.4V, Vcap: 175.9V, Discharge time: 10s, and Temp DCH: 56°C. Below the parameters, it says 'Discharge hazardous voltages..'. At the bottom, there are two buttons: BACK and EXIT.</p>

### 3.2.7. LOGO color test

<p>Select "LOGO color test" in the service menu</p>	 <p>The screenshot shows a 'Service menu' with the following options: Debug view, Burn-in test, Functional test, Trigger test, Flash test, HV Discharge, and LOGO color test (highlighted with a red underline). At the bottom, there are three buttons: BACK, SELECT, and EXIT.</p>
<p>LOGO color test</p> <p>You can vary the value of red, green or blue leds of the Elinchrom side logo</p>	 <p>The screenshot shows the 'LOGO color test' screen with the following values: Roll +-1,hold MUNE and roll +-100, LOGO red(0-&gt;65535): 0, LOGO green(0-&gt;65535): 0, and LOGO blue(0-&gt;65535): 0. Below the values, there is a cyan horizontal bar. At the bottom, there are three buttons: BACK, SELECT, and EXIT.</p>

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## 4. FIRMWARE

### 4.1. Firmware Update

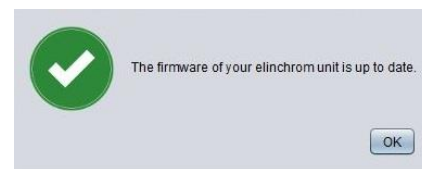
ELC firmware update could be done with a micro-USB cable and the EL-Skyport Updater software version 2.40 or newer version.

#### Activate Firmware update mode

1. Remove the mains cable of the ELC unit
2. Plug the micro-USB cable between the ELC unit and the computer
3. Plug the mains cable

*("USB Mode" is now displayed on the ELC unit)*

4. Start the EL-Updater Software on your computer
5. Follow the instructions in the EL-Updater Software

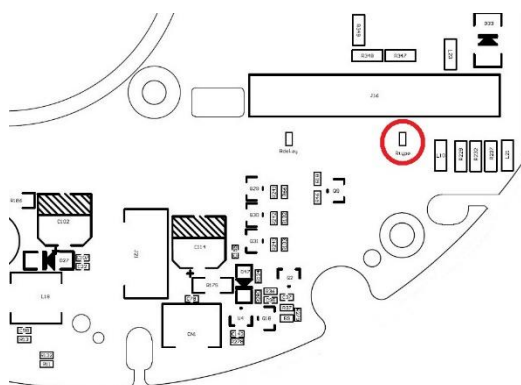


### 4.2. ELC unit type detection

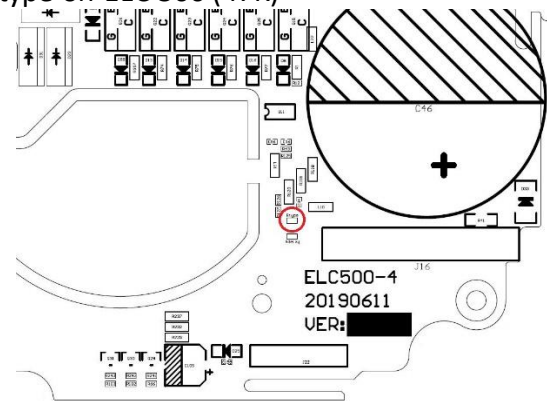
ELC firmware is the same for ELC 125 and ELC 500. The unit type detection is made by the resistor "Rtype" on the Head boards 270.221 for the ELC 125 and on the Capacitor boards 270.223 for the ELC 500.

Rtype value 10K for ELC 125, 22K for ELC 250 (not used), 47K for ELC 500

#### Rtype on ELC 125 (10K)



#### Rtype on ELC 500 (47K)



*Note: Rdelay resistor is reserved for a feature not used now*

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## 5. REPAIR ASSISTANCE

### 5.1. Error management

The following table describes the possible errors, which could be shown on the display if the unit micro controller detects them:

Error number	Description	Solution for user (User manual)	Solution for Service
1	Capacitor overvoltage	Switch the unit off, wait 2 minutes and switch the unit ON again. If the error shows up again, the unit requires a check-up at an authorized Elinchrom Service Centre.	For ELC 125: First, replace the Head board 270.221 For ELC 500: First, replace the Capacitor board 270.223
4	Charge timeout		For ELC 125: First, replace the Head board 270.221. If the problem isn't solved, replace also the AC Power board 270.216 For ELC 500: First, replace the Capacitor board 270.223. If the problem isn't solved, replace also the AC Power board 270.217
6	Voltage unstable (Charge hold error)		<i>Error never reported at this time. Please contact <a href="mailto:sav@elinchrom.ch">sav@elinchrom.ch</a> for support.</i>
8	Charge circuit error		For ELC 125: Replace the ELC 125 AC Power Board 270.216 For ELC 500: Replace the ELC 500 AC Power Board 270.217
18	Discharge circuit error		<i>Error never reported at this time. Please contact <a href="mailto:sav@elinchrom.ch">sav@elinchrom.ch</a> for support.</i>
28	LED heatsink temperature exceeds 120°C		Check the connection of the temperature sensor (NTC) on the LED Heatsink of the Central ring assembly 270.227 and/or replace the ELC MCU Control Board 270.213
32	Head board type unknown		<i>Error never reported at this time. Please contact <a href="mailto:sav@elinchrom.ch">sav@elinchrom.ch</a> for support.</i>
33	14VDC error		For ELC 125: First, replace the Head board 270.221. If the problem isn't solved, replace also the AC Power board 270.216 For ELC 500: First, replace the Capacitor board 270.223. If the problem isn't solved, replace also the AC Power board 270.217

### 5.2. Failures management

Failure Description	Solution for Service
Unit is not able to power-ON	Check the fuse inside the mains socket and/or replace the AC Power board (270.216 for ELC 125, 270.217 for ELC 500)
Modelling LED unstable (flickering)	Replace the Central ring Assembly 270.227
Modelling LED always at minimum power (not dimmable)	For ELC 125: Replace the Head board 270.221 For ELC 500: Replace the Head board 270.222
Flash light power unstable	Replace the Flashtube (24091 for ELC 125, 24092 for ELC 500)
Voltage Treatment Fail (during Burn-in test)	"Voltage Treatment Fail" is displayed when the Flash Capacitor voltage drops too fast when it is not charging. Usually, if there is electric leakage inside the capacitor, it will activate this error, which means the capacitor cannot be used. Update the ELC firmware with the last version, restart the Burn-in test. If the "Voltage Treatment Fail" is still displayed, replace the board as follow : For ELC 125: Replace the Head board 270.221 For ELC 500: Replace the Capacitor board 270.223
Unit unable to be updated	Unit is able to switch in "USB MODE", but an error message "Cannot find any Elinchrom device. Please connect on or ensure unit is in firmware update mode or retry" is displayed on your computer. Replace the ELC MCU Control Board 270.213

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## 6. KNOWN PROBLEMS

All known problems have a corresponding Technical Note available in the online **Technical Centre**.