

DE-50 MEMORASE® EPROM ERASER

Operating Instruction Manual



Memorase is a registered trademark of UVP, LLC

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Introduction - Ultraviolet Light

The invisible band of radiation just beyond the violet end of the visible spectrum is called ultraviolet light. That spectrum includes the wavelength that is instrumental in erasing EPROMs: 253.7nm, frequently referred to as approximately 254nm or 2537 Angstrom. The radiant incidence of this energy at the location of the EPROM is a function of the distance between the light source and the EPROM and the geometry of the light source. The DE-50 EPROM Erasing System design optimizes these elements to give the best possible performance.

Design Features

The DE-50 EPROM Erasing System is designed to provide safe tools for exposure of EPROMs to shortwave ultraviolet radiation. Features include:

- Superior reflectors that maximize UV output and distribution
- A 60 minute automatic shut-off timer
- A safety interlock prevents UV exposure to personnel
- PC board compatibility
- Long life, high intensity UV tubes for minimum erase times
- A viewport for each UV tube to observe tube operation
- A conductive foam pad to eliminate electrostatic build up
- A rugged metal housing

Specifications

The DE-50 EPROM Eraser has the following specifications:

Capacity:	50 EPROMs (24 pin type)
Size:	4.11 in. H (10.44 cm) x 11.70 in. W (29.72 cm) x 13.44 in. D(34.14 cm)
Drawer Depth:	1.375 in. (3.49 cm)
Weight:	13.75 lbs (6.25 kg)
Power:	100V, 50 Hz, 1 Amp 110V, 60 Hz, 1 Amp 230V, 50 Hz, 1 Amp

Operating Instructions

Set-Up Procedures

1. Slide the tray out unit it stops.
2. Press the EPROMs to be erased down into the foam pad. As the radiant incidence is somewhat greater near the center than the edges, place the EPROMs more towards the center unless the full capacity of the unit is to be used.
3. Close the drawer all the way. (The unit has a safety interlock and will not operate if the drawer is open.)
4. Plug in the unit and set the timer for the desired erase time. **When the timer is set and the unit is in operation, the five view ports will glow green without emitting harmful shortwave radiation.**

Erase Time and Exposure Considerations

Erase time is inversely proportional to the radiant incidence from the lamp at the EPROM surface. Radiant incidence from the lamp at the EPROM surface varies with EPROM location in the unit and with lamp temperatures, running time and individual lamp differences. The following table lists recommended times to erase all EPROMs placed in a new unit. Most EPROMs require a dosage of 15 W-sec/cm² for erasure. However, erasure requirements vary from 6 W-sec/cm² to 25 W-sec/cm². Check with the EPROM manufacturer for specific recommended dosages.

Model	Nominal Intensity μ W/cm ²	# of 24 Pin EPROMs	Typical EPROM Erasure Time in Minutes 15 W-sec/cm ²
DE-50	12,000	1 - 50	5.9 *

Average erasure time for repeated tests of 50 Intel 2732A EPROMs with recommended erasure dosage of 15 W-sec/cm².

Maintenance

CAUTION: Do not attempt to operate this unit while it is plugged into the AC outlet. Failure to unplug the unit from the AC outlet before disassembly will result in an electrical shock hazard.

WARNING: Do not attempt to operate this unit in the disassembled condition as that may expose the eyes and skin to shortwave UV light that is harmful to the unprotected eyes and skin!

This unit is virtually maintenance free. If the lamp fails to start, check to see that:

1. The unit is plugged in.
2. The drawer is pushed all the way in (listen for the click of the limited switch).
3. The timer is on.
4. Check the fuse to see if they are operational.

If a problem still exists, return the unit to the factory for inspection and repair. If the unit has been heavily used for a long time, it may be desirable to replace the lamp to reduce erase times to their original values.

Tube Replacement Steps

1. Unplug the unit.
2. Use a Phillip's screwdriver to remove back cover.
3. Remove drawer by sliding all the way out and then tilting upwards.
4. Using both hands, reach in each side of unit, grasp the tube and gently twist 90° (it does not matter which direction). Tube should easily slip out.
5. Slide new tube into the unit. Using both hands, gently push the replacement tube up and twist into place.
6. Replace unit back cover.
7. Replace drawer (be sure it is fully closed or safely shut-off will prevent unit operation).
8. Plug unit in and observe the viewport for that specific lamp to verify lamp operation.

UVP offers technical support for all of its products. If you have any questions about product use, operation, or repair, please call or fax UVP Customer Service at:

Corporate Headquarters USA: (800) 452-6788 or (909) 946-3197; Fax: (909) 946-3597

European Operations UK: +44(1)223 420022; Fax: +44(1)223 420561

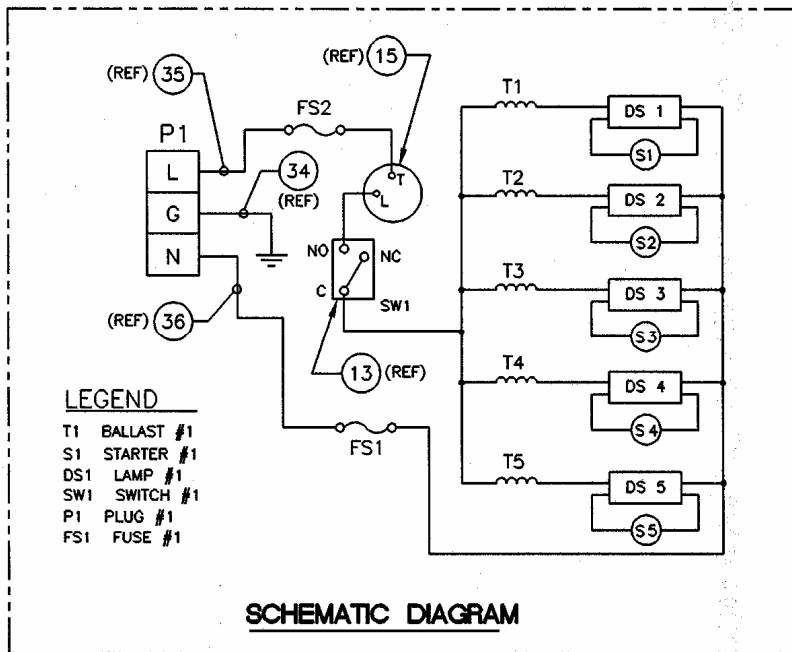
NOTE: A Returned Goods Authorization (RGA) number must be obtained from UVP before returning any equipment to UVP.

Replacement Parts List

<u>Description</u>	<u>Part Number</u>
Ballast, 8W, 100V	42-0005-03
Ballast, 8W, 230V	42-0005-04
Ballast, 8W, 115V	42-0005-01
Foam Pad	72-0049-01
Fuse, 1 Amp	56-0022-02
Fuse Holder	56-0004-01
Tube, Shortwave	34-0007-01

Schematic Diagram

The schematic diagram for DE-50 models is shown below.



Accessories

UVX Radiometer

Maximum efficiencies of all EPROM erasers rely on proper knowledge of lamp intensities. As with all mercury vapor discharge lamps, intensity decreases over time with use. Due to the general unpredictability of the rate of UV intensity decline, cumulative hour meters in EPROM erasers cannot accurately indicate lamp condition. Use of a shortwave ultraviolet measuring device is therefore the most effective method of determining proper erasure time and monitoring useful life of any UV source.

The UVX Radiometer equipped with a UVX-25 Sensor is such a state-of-the-art measuring device. Ideal for obtaining accurate UV irradiance measurements, the UVX is calibrated to NIST standards to assure accuracy of readings. Built to withstand day-to-day use in a production environment, the UVX delivers the needed measurements to assure accurate erasure time calculations.

Contact your local dealer for more information or call UVP at (800)452-6788 or (909)946-3197 in the USA or +44(1)223 420022 in UK/Europe.

Description	Part Number
UVX Radiometer	97-0015-02
UVX-25 Sensor	97-0016-01

Warranty

UVP's Memorase® DE-50 EPROM Erasers are guaranteed to be free of defects in materials, workmanship and manufacture for one (1) year from date of purchase. This warranty does not supersede any statutory rights that may be available in certain countries. Consumable and disposable parts including, but not limited to tubes, are guaranteed to be free from defects in manufacture and materials for ninety (90) days from date of purchase. For full warranty details, refer to the Warranty Card supplied with the equipment or contact UVP.