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CHIPhERASER ®

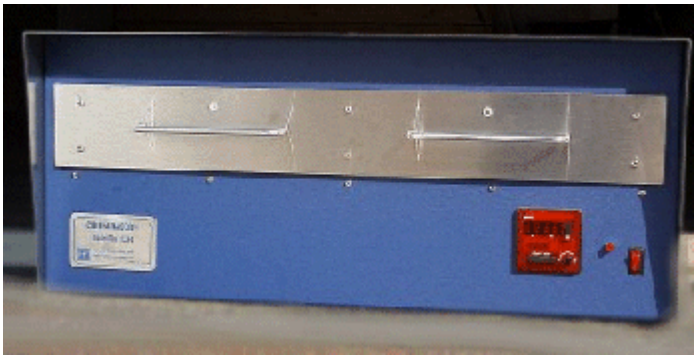
EPROM Erasers and Wafer Cleaners

JELIGHT CO.INC.established in 1978, is a recognized producer of quality ultraviolet light sources and relat equipment. The expertise gained throughout the years has assisted us in designing UV wafer and EPROM with superior performance and productivity.

High Intensity UV Lamp Design Operating intensity is at least 25% greater than competitive systems for inc throughput. Excellent uniformity insures fast and complete erasure.

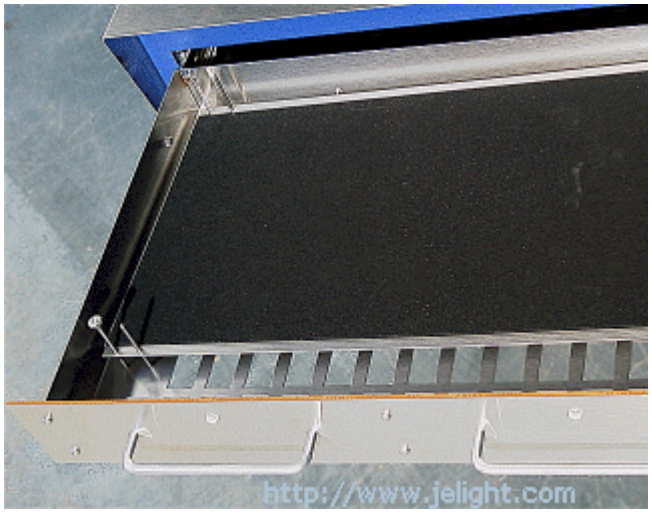
Features

- Quick load/unload trays for wafers and EPROMs.
- All-metal housing.
- Heavy duty construction for ruggedness.
- Units may be stacked to save space.
- Safety interlock to prevent accidental UV exposure.



- Units may be stacked to save the space
- Safety interlock to prevent accidental exp

- Digital timer and audible alarm with automatic shut-off for accurate operation.
- Conductive foam will protect your EPROMs against ESD
- Deep drawer for processing loaded P.C. board



How Do EPROMs Work?

The basic memory element was developed by Frohman-Bentchkowsky at Intel Corporation and was known as the Floating-Gate-Avalanche-Injection MOS (FAMOS) transistor. It was essentially a silicon gate MOS field effect transistor in which no connection was made to the gate. The gate was in fact electrically "floating" in an insulating layer of silicon dioxide. The devices have been fabricated in two structures: p-channel and n-channel. The p-channel devices were the first EPROMs available commercially, but many devices are now using n-channel technology. N-channel MOS devices have the advantage of being able to function with a single power supply.

By application of sufficiently large potential difference between the source and drain, charge can be injected into the "floating" gate which induces a charge in the substrate. The source-to-drain impedance changes and a "p-channel" or "n-channel" is created, depending upon the type of substrate. The presence or absence of conduction is the principle of data storage. Application of short wave (254 nm) ultraviolet radiation causes the gate charge to leak away and restores the device to its original unprogrammed state. EPROM manufacturers provide "nominal erasing energies" to their devices; the amount of UV energy required to erase a chip's memory. Erasing time can be calculated using following formula:

$$\text{Time(seconds)} = \frac{\text{Nominal erasing energy (W-sec / cm}^2\text{) X 1,000,000}}{\text{UV Irradiance (µW / cm}^2\text{)}}$$

Most EPROMs have a nominal erasing energy of 15W-sec/cm². Some chips, however, require as little as 6 or 10W-sec/cm², or as much as 25W-sec/cm², for complete erasure.

MODEL #	2436	1630	1224	9290	356	20	10	2436-220	1630-220	1224-220	9290-220	35
CAPACITY												
Individual EPROMS*	918	510	306	153	75	20	12	918	510	306	153	75
3" Wafers	96	50	32	16	6			96	50	32	16	6
4" Wafers	54	28	18	9	2			54	28	18	9	2
5" Wafers	28	18	8	4	1			28	18	8	4	2
6" Wafers	24	10	8	4	1			24	10	8	4	1
8" Wafers	12	6	3					12	6	3	1	
ERASING AREA												
(Tray in inches)												
Width	36.00	30.50	24.00	12.00	6.78	3.75	2.00	36.00	30.50	24.00	12.00	6.7

Depth	24.00	16.50	12.00	12.00	10.50	5.75	5.00	24.00	16.50	12.00	12.00	10
Height	2.50	5.50	2.40	2.21	1.25			2.50	5.50	2.40	2.21	1.2
TYPICAL INTENSITY												
(254 nm)	50,000	50,000	50,000	50,000	50.000	15,000	15.000	50,000	50,000	50,000	50,000	50
µW/cm2												
ERASING TIME (minutes)												
Nominal Erasing Energy												
6W-sec/cm2	2.0	2.0	2.0	2.0	2.0	6.7	6.7	2.0	2.0	2.0	2.0	2.0
10W-sec/cm2	3.3	3.3	3.3	3.3	3.3	11.1	11.1	3.3	3.3	3.3	3.3	3.3
15W-sec/cm2	5.0	5.0	5.0	5.0	5.0	16.7	16.7	5.0	5.0	5.0	5.0	5.0
POWER REQUIREMENTS												
Voltage (volt)	200-240	200-240	100-120	100-120	100-120	100-120	100-120	200-240	200-240	200-240	200-240	20
Frequency (Hz)	""" 60	60 " "	60	60	60	'60	60	50	50	50	50	50
Current (amp)	25	standard	standard	standard	standard	standard	standard	25	standard	standard	standard	sta
HOUSING DIMENSIONS												
(inches)												
Width	42	36	28	17	11	5	3	42	36	28	17	11
Depth ~	40	32	26	" 26	20	10	10	40	32	26	26	20
Height	1.7	17	12	12	11	2	2	17	17	12	12	11
TIMER	Digital	Digital	Digital	Digital	Digital	Dial	None	Digital	Digital	Digital	Digital	Di
	99 Hrs:	99 Hrs:	99 Hrs:	99 Hrs:	99 Hrs:	60		99 Hrs:	99 Hrs:	99 Hrs:	99 Hrs:	99
	60min	60 min	60 min	60 min	60 min	min		60 min	60 min	60 min .	60 min	60

*** 1:24 pin EPROM**

Nominal Erasing Energy	Erasing Capability: Chips/Hour
6W-sec/cm²	11,250 to 45,000
10W-sec/cm²	5,985 to 23,940
15W-sec/cm²	4,500

ALSO AVAILABLE :

- CUSTOM CONVEYOR BELT SYSTEMS UTILIZING UV GRID LAMPS FOR EPROM ERASING.
- CUSTOM CHIPhERASERS OF LARGER DIMENSIONS AND CAPACITIES.
- REPLACEMENT GRID LAMPS FOR OTHER EPROM ERASING AND UVO- Cleaning SYSTEMS.
- CASSETTE TO CASSETTE WAFER ERASING SYSTEMS.
- RADIOMETERS/PHOTOMETERS FOR MEASURING INTENSITY.
- TRAYS FOR WAFER ERASING.

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