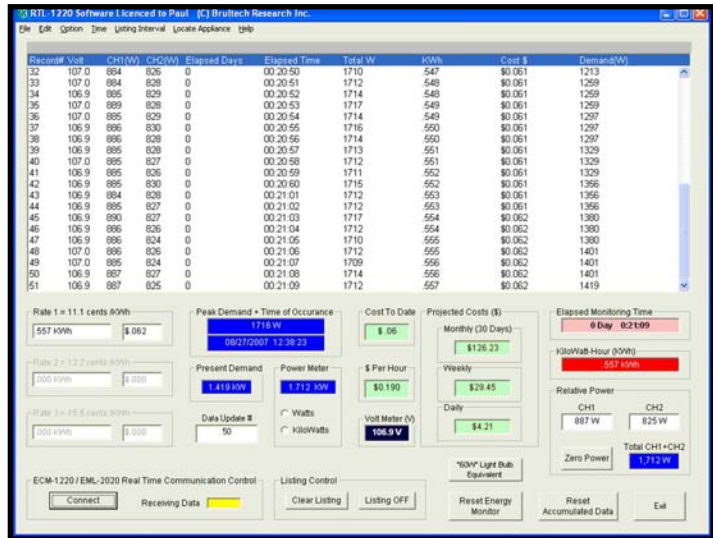


## RT-1220 Real Time Monitoring Software for EML2020 Energy Monitor (Includes USB Data Cable):

The **RT-1220** provides the user with the ability to interface any of the following Energy Monitors to a Windows based computer:

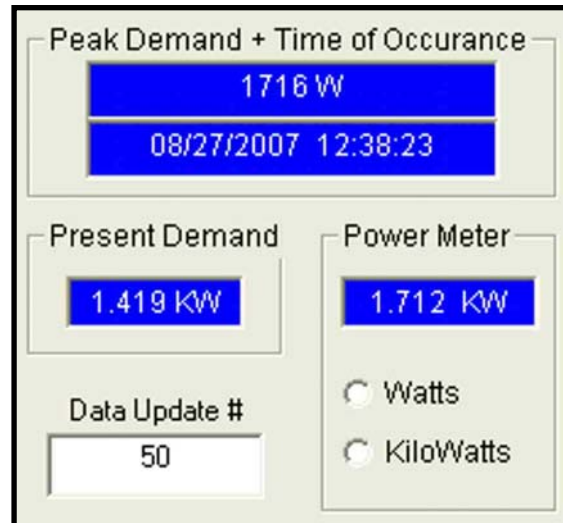
- EML-2020
- EML-2020H

As a load or electrical panel is being monitored with any of the above models of Energy Consumption Monitors, *real time energy* information is accessible via the USB port. This data, consisting of thousands of samples per second, is sent to the computer at a resolution of once per second.



With the RT-1220 software, this collected data provides the user with *not only* standard energy data such as:

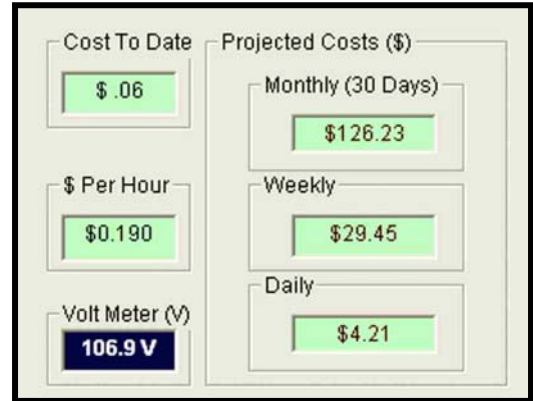
1. Instantaneous power (Watt or Kilowatt)
2. Accumulated energy (Kilowatt-Hour)
3. Line Voltage (Volt)
4. Cost of Energy Consumed
5. Elapsed Monitoring Time



**It also provides unique display features such as:**

- "Peak Demand" (based on highest energy Demand in any 15 minute period)
- Present Energy Demand
- Projected **Daily**, **Weekly** and **Monthly** cost of energy
- Dollar per Hour Rate of Usage

**PLUS**

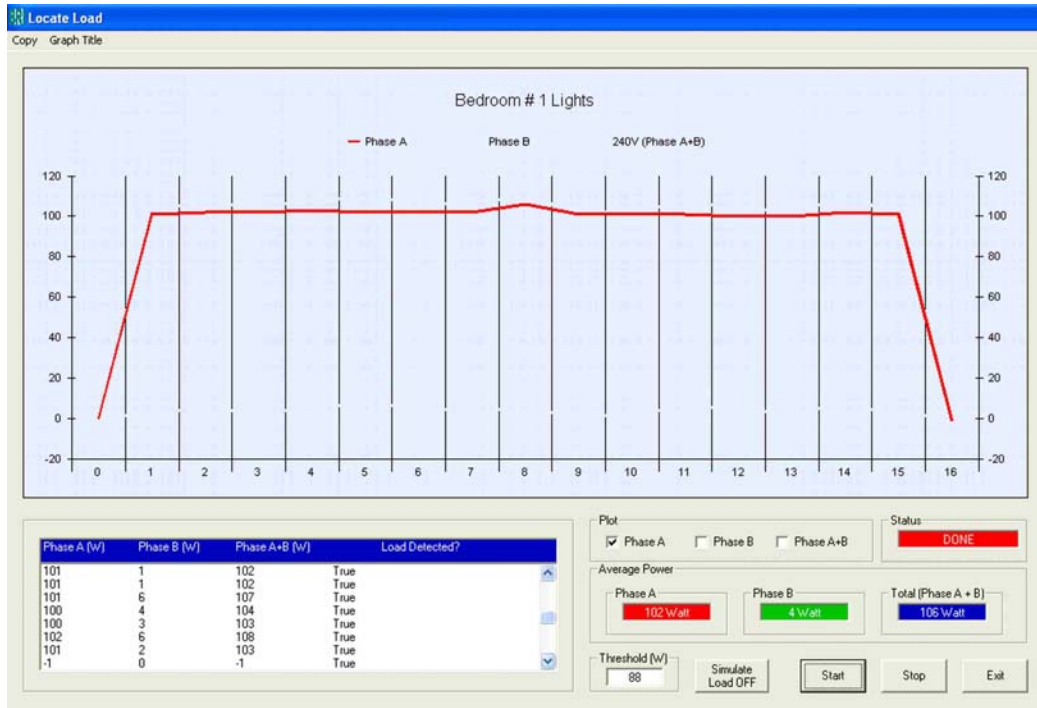


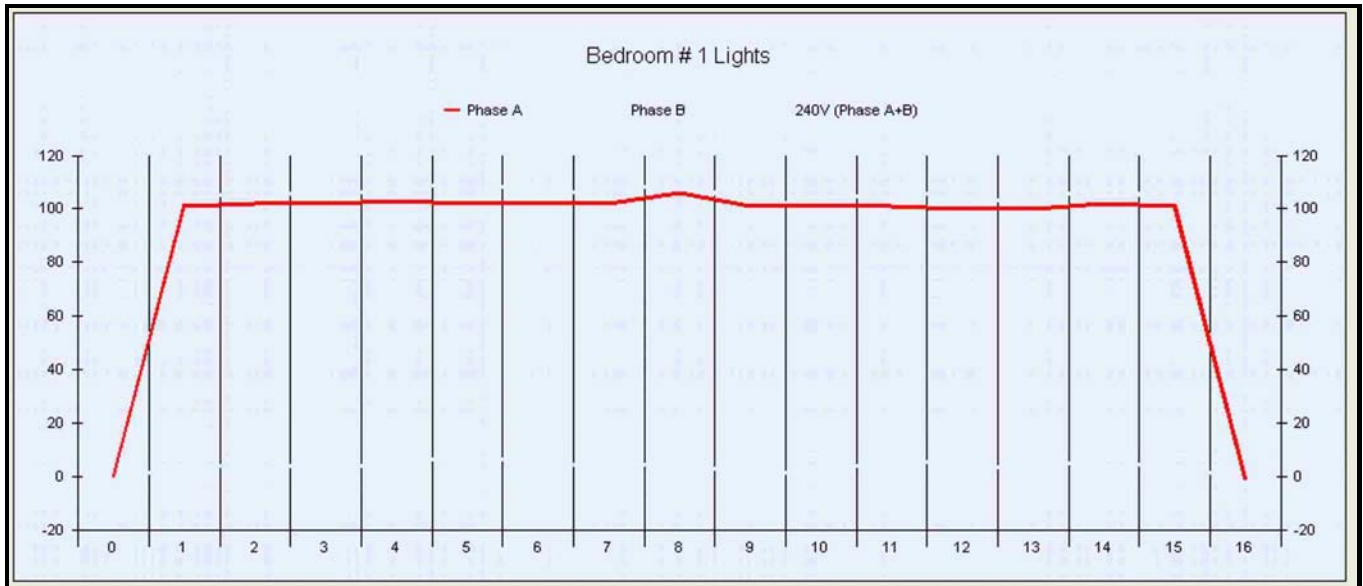
The RT-1220 software's capability really shines when connected to a multi-load panel, such as a residential electrical panel:

1. The "**Locate**" feature of the software allows you to view and graph the power usage of individual loads and appliances while monitoring the entire panel!

By cycling the selected load ON-OFF, the software calculates the change in power, then,:

- graphs the information on a chart (see picture)
- lists the Wattage value read every second
- displays the average Wattage of the load during the cycled "ON" time
- identifies which panel phase this load is connected to



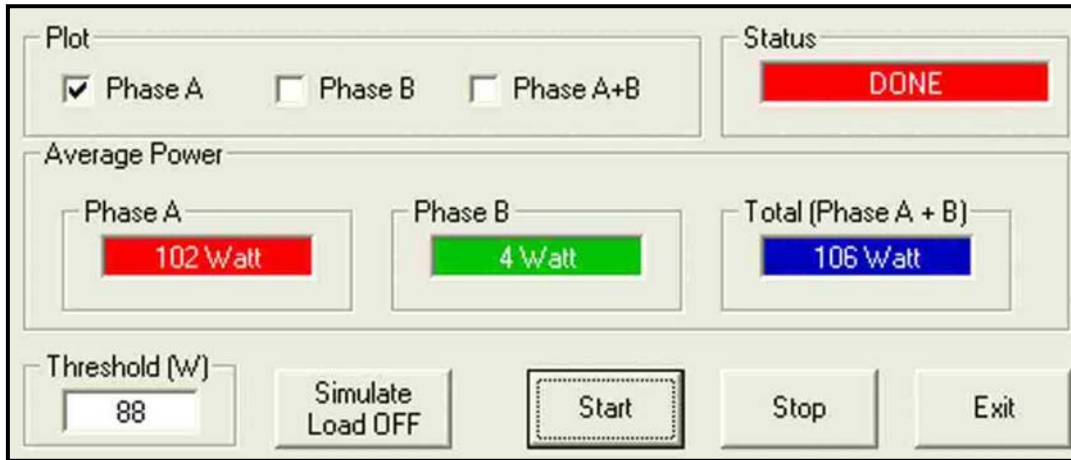


**Detecting Power Required for Bedroom Lights by Cycling the Bedroom Light Switch**



**The Clothe Dryer is Cycled ON for Approximately one Minute and Detected**

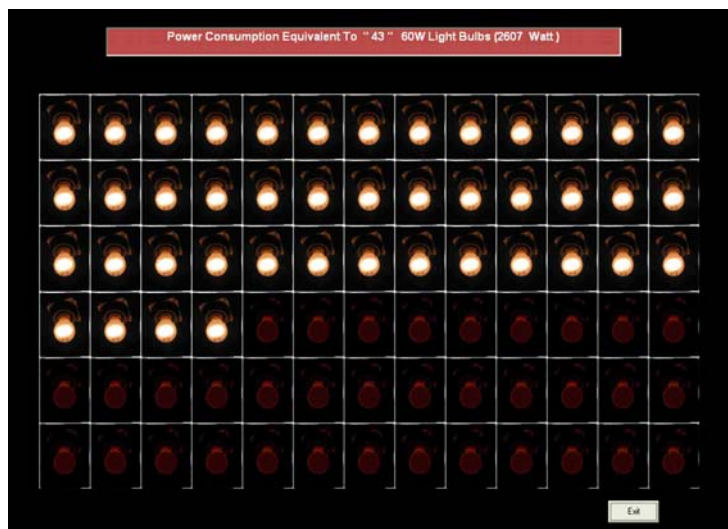
(Notice that Phase A uses more power because the 120V motor is wired to that phase. The Heater element is 240V, therefore consumes an equal amount from Phase A and B.)



The Box Displays the Analysis for the “Bedroom Light” Chart Example (above)

2. In order to make this information **useful to children** or anyone with **little understanding of energy consumption**, a special window screen may be opened on the computer, visually displaying the current energy usage in terms of **“the equivalent number of 60W light bulbs turned on for the amount of power used”**. This allows ANYONE to easily view “how much power” is being used at any point in time!

If you’re on your way out of the house, you can easily detect if the bedroom lights, or other unnecessary load is left on just by glancing at your computer monitor.



The Above Screen Displays, in “Real Time” the Total Energy Usage, Depicted Using “60 Watt Light Bulb” Equivalency

- Power is displayed separately for each phase of the panel. This is not only useful in determining if the panel is properly balanced, but is extremely useful in discriminating between various loads when analysing energy consumption.

Record#	Volt	CH1(W)	CH2(W)	Elapsed Days	Elapsed Time	Total W	KWh	Cost \$	Demand(W)
32	107.0	884	826	0	00:20:50	1710	.547	\$0.061	1213
33	107.0	884	826	0	00:20:51	1712	.548	\$0.061	1259
34	106.9	885	829	0	00:20:52	1714	.548	\$0.061	1259
35	107.0	889	828	0	00:20:53	1717	.549	\$0.061	1259
36	107.0	885	829	0	00:20:54	1714	.549	\$0.061	1297
37	106.9	886	830	0	00:20:55	1716	.550	\$0.061	1297
38	106.9	886	828	0	00:20:56	1714	.550	\$0.061	1297
39	106.9	885	828	0	00:20:57	1713	.551	\$0.061	1329
40	107.0	885	827	0	00:20:58	1712	.551	\$0.061	1329
41	106.9	885	826	0	00:20:59	1711	.552	\$0.061	1329
42	106.9	885	830	0	00:20:60	1715	.552	\$0.061	1356
43	106.9	884	828	0	00:21:01	1712	.553	\$0.061	1356
44	106.9	885	827	0	00:21:02	1712	.553	\$0.061	1356
45	106.9	890	827	0	00:21:03	1717	.554	\$0.062	1380
46	106.9	886	826	0	00:21:04	1712	.554	\$0.062	1380
47	106.9	886	824	0	00:21:05	1710	.555	\$0.062	1380
48	107.0	886	826	0	00:21:06	1712	.555	\$0.062	1401
49	107.0	885	824	0	00:21:07	1709	.556	\$0.062	1401
50	106.9	887	827	0	00:21:08	1714	.556	\$0.062	1401
51	106.9	887	825	0	00:21:09	1712	.557	\$0.062	1419

**Listing Display of :**

- CH1 Watt (Appliance1 or Phase A)
- CH2 Watt (Appliance2 or Phase B)
- Line Voltage
- Elapsed Time OR Actual Time/Date
- Total Wattage (CH1 +CH2 or entire 240V load)
- KWh Energy
- Cost of Energy
- Demand

Data is updated Once Per Second.....That's excellent resolution!

Listed Data may be saved to a Tab Delimited Text File, easily importable by Spreadsheets, Databases and Word Processors.

Sections of the Listed Data may be Highlighted, Copied and Pasted into other programs.

**Brultech Research Inc ECM-1220**

File Edit Option Time Listing Interval Help

**Listing Interval is set to: 1 Second**

Record#	Volt	CH1(W)	CH2(W)	Elapsed Days	Elapsed Time	Total Watt	KWh	Cost \$	Demand(W)
221	113.0	783	785	0	21:17:21	1568	53.765	\$5.699	1583
222	113.0	779	783	0	21:17:22	1562	53.766	\$5.699	1583
223	113.0	786	783	0	21:17:23	1569	53.766	\$5.699	1583
224	113.0	785	539	0	21:17:24	1324	53.766	\$5.699	1583
225	112.9	782	488	0	21:17:25	1270	53.767	\$5.699	1583
226	112.8	785	490	0	21:17:26	1275	53.767	\$5.699	1583
227	112.8	778	492	0	21:17:27	1270	53.767	\$5.699	1579
228	112.8	785	491	0	21:17:28	1276	53.768	\$5.699	1579
229	112.8	779	491	0	21:17:29	1270	53.768	\$5.699	1579
230	112.8	783	493	0	21:17:30	1276	53.768	\$5.700	1575
231	112.8	775	493	0	21:17:31	1268	53.769	\$5.700	1575
232	112.9	779	492	0	21:17:32	1271	53.769	\$5.700	1575
233	112.8	777	496	0	21:17:33	1273	53.770	\$5.700	1571
234	112.8	779	503	0	21:17:34	1282	53.770	\$5.700	1571
235	112.9	778	507	0	21:17:35	1285	53.770	\$5.700	1571
236	112.9	782	489	0	21:17:36	1271	53.771	\$5.700	1567
237	112.9	785	496	0	21:17:37	1281	53.771	\$5.700	1567
238	112.9	258	162	0	21:17:40	420	53.771	\$5.700	1564
241	112.9	760	491	0	21:17:41	1251	53.772	\$5.700	1564
242	113.1	699	495	0	21:17:42	1194	53.773	\$5.700	1549

Rate 1 = 10.6 cents /KWh

0.000 KWh    \$ 0.000

Rate 2 = 10.6 cents /KWh

40.865 KWh    \$4.332

Rate 3 = 10.6 cents /KWh

12.908 KWh    \$1.368

Peak Demand + Time of Occurance

**6625 W**

08/09/2007 15:49:35

Present Demand

**1.549 kW**

Data Update #

241

Cost To Date

**\$ 5.70**

\$ Per Hour

**\$0.127**

Volt Meter (V)

**113.1 V**

Projected Costs (\$)

Monthly (30 Days)

**\$192.72**

Weekly

**\$44.97**

Daily

**\$6.42**

Elapsed Monitoring Time

**0 Day 21:17:42**

KiloWatt-Hour (KWh)

**53.773 KWh**

Relative Power

Zero Power    **Power**

1,194 W

ECM-1220 / EML-2020 Real Time Communication Control

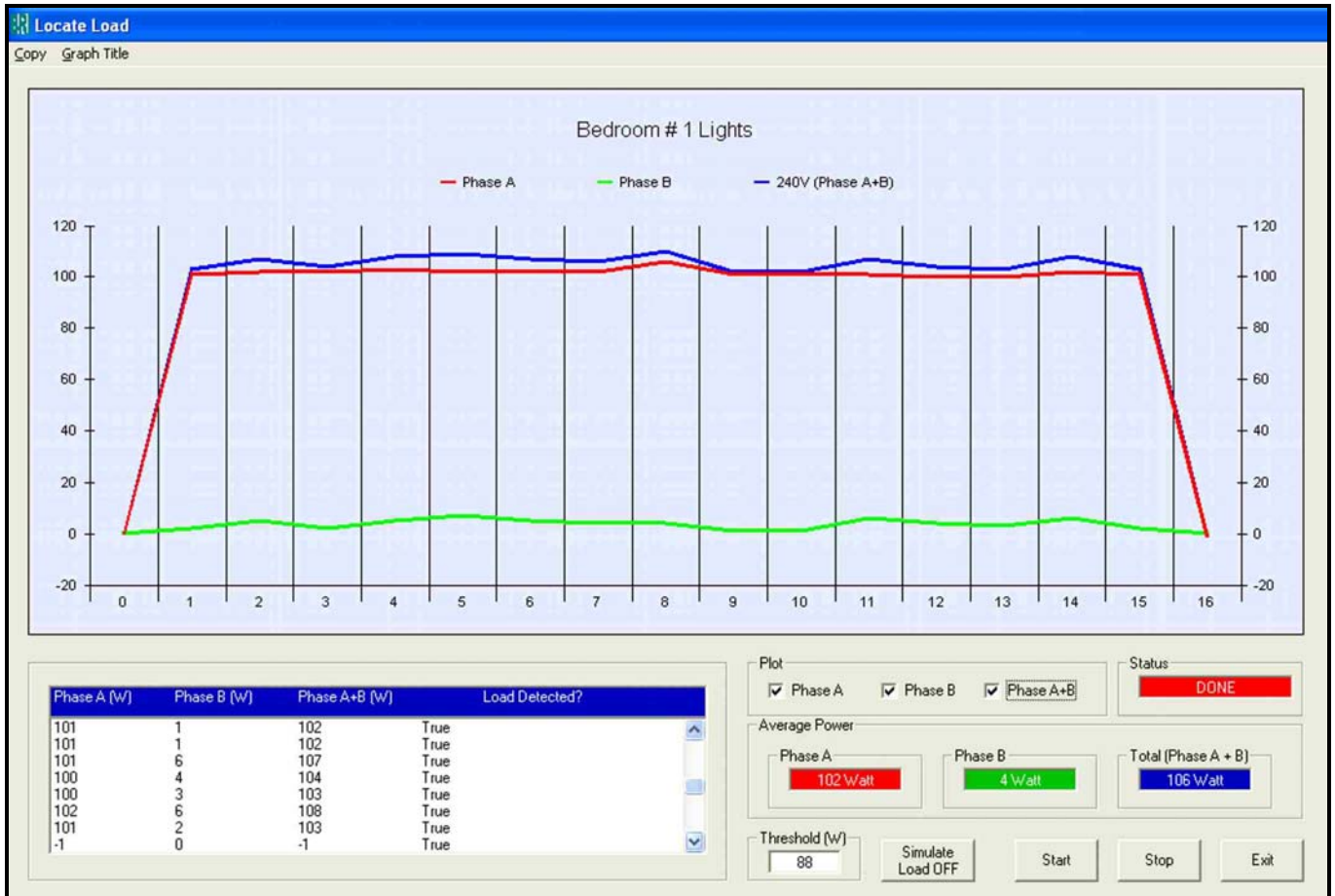
STOP Real Time    Join Session    Receiving Data

Listing Control

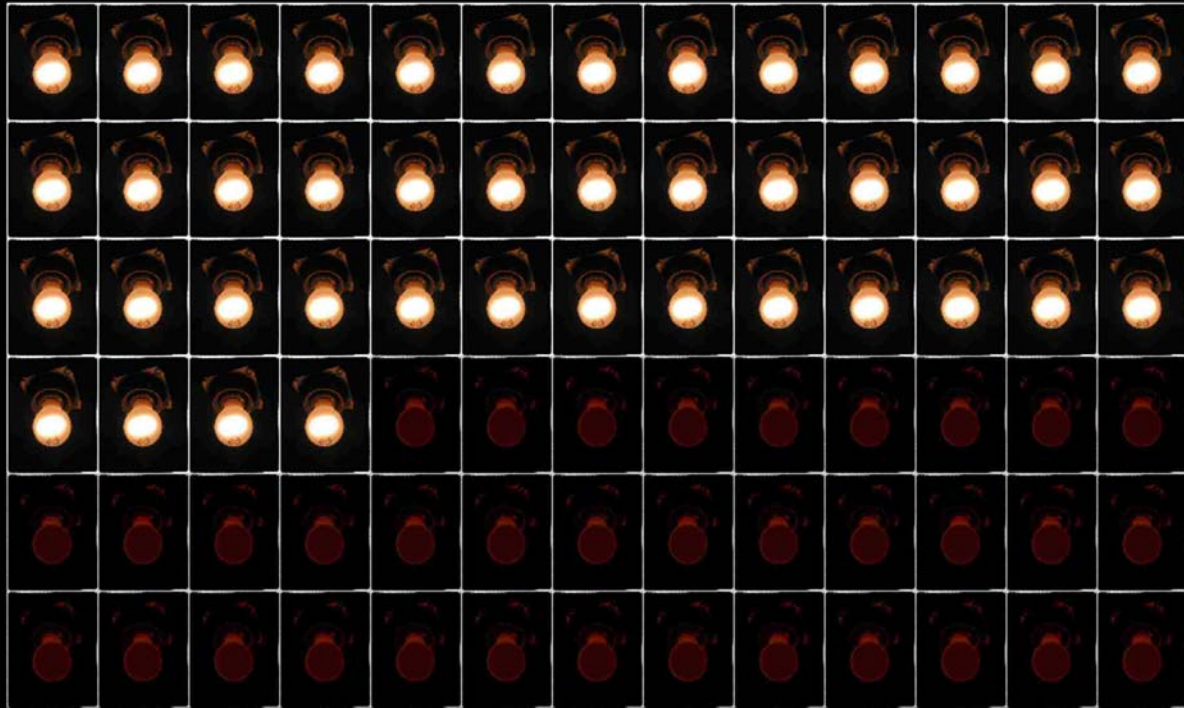
Clear Listing    Listing OFF

Display "60W" Light Bulb Equivalent Value of Power Consumption

Reset ECM1220    Reset Accumulated Data    Exit



Power Consumption Equivalent To " 43 " 60W Light Bulbs (2607 Watt )



Exit