Laser Interaction

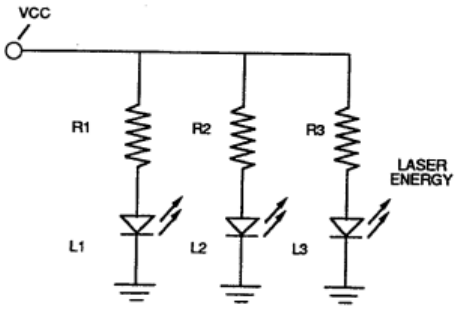

FIGURE 1-11: LED CLUSTER ARRAY

Light-emitting diodes arranged in a **Cluster-**

Array (see Figure 1-11) provides and emits a narrow band of visible light energy into the voltage stimulated water bath, as illustrated in Figure (1-13) as to Figure (1-12).

Figure (1-13)

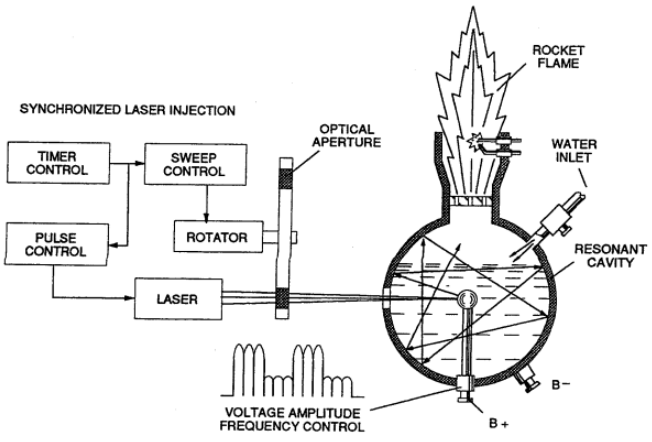

FIGURE 1-13: LASER INJECTED RESONANT CAVITY

Figure (1-12)

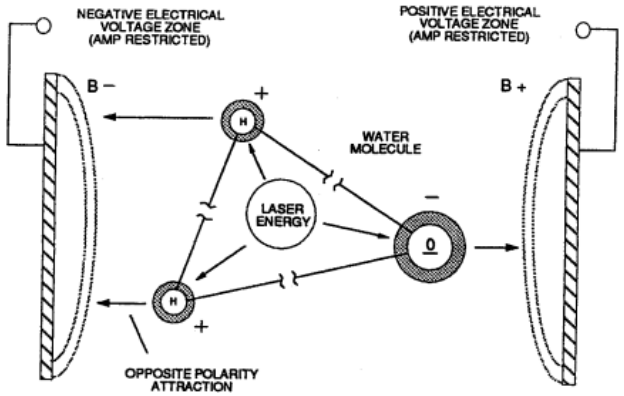

FIGURE 1-12: PHOTON ENERGY AIDS RESONANT ACTION

The absorbed **Laser Energy** (Electromagnetic Energy) causes many atoms to lose electrons while **highly energizing** the liberated **combustible gas ions** prior to and during thermal gas-ignition.

Laser or light intensity is linear with respect to the forward current through the LEDs, and, is determined by:

(Eq 15)

$$Rs = \frac{V_{in} - V_{led}}{I_{led}}$$

Where

I led is the specified forward current (typically 20ma. per diode); V led is the LED voltage drop (typically 1.7 volts for red emitters).

Ohm's Law for LED circuit in parallel array, and is given by (Eq 16)

(Eq 16)

$$P\,watts = Vcc \quad I\,t$$

Where
(It) is the forward current through LED cluster-Array: Vcc is volts applied (typically 5 volts).

Whereby

Laser or light intensity is variable as to duty cycle on/off pulse-frequency from 1Hz to 65 Hz and above is given by
(Eq 17)

(Eq 17)

$$Le \sqrt{\frac{(ION)^2 \text{ X } T1}{T1 + T2}}$$

Le is light intensity in watt;

T1 is current on-time;
T2 is current off-time;
and (ION)=RMS value of load current during on-period.

Injecting **Laser Energy** into the **Electrical Polarization Process** and controlling the intensity of the light-energy causes the **Combustible Gases** to reach a **higher energy-**

state (*electromagnetically priming the combustible gas ions*) which, in turn, accelerates gas production while **raising gas-flame temperatures** beyond "normal" gas-burning levels.

Injecting "**Electromagnetically Primed**" and "**Electrically Charged**" **combustible gas ions** (from water) into other light-activated **Resonant Cavities** further promotes gas-yield beyond voltage/laser stimulation, as illustrated in Figure (1-16) as to Figure (1-18).

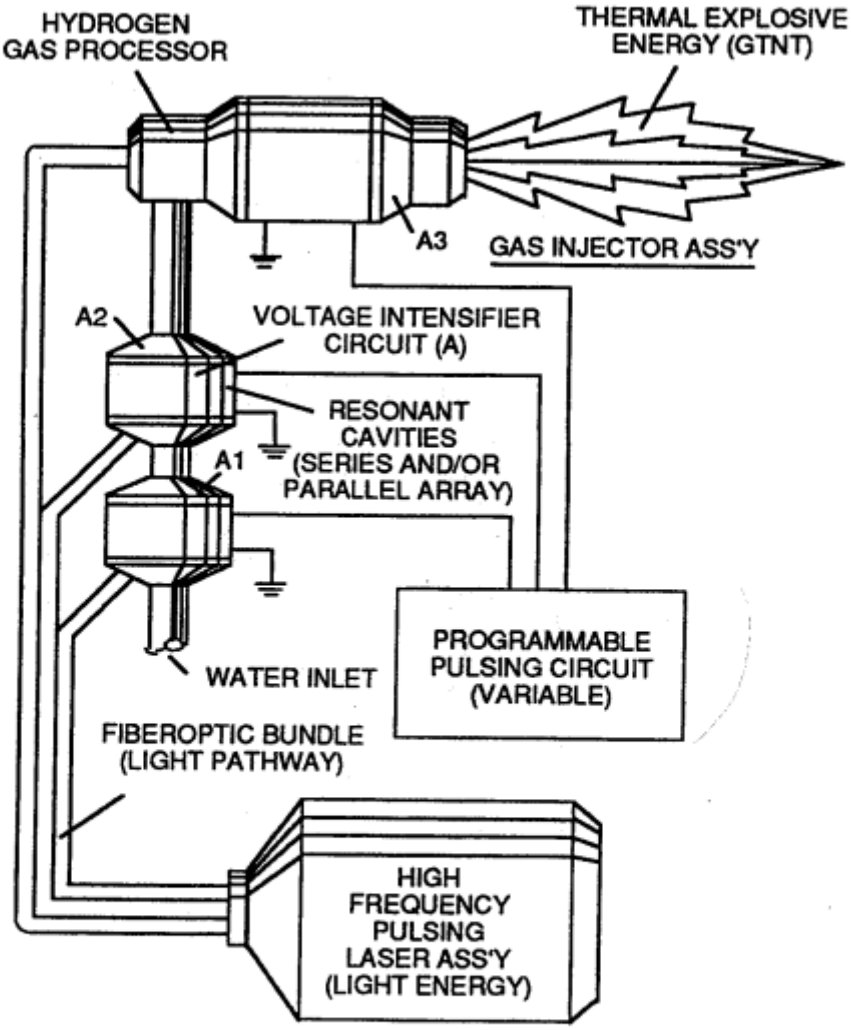

FIGURE 1-18: GAS INJECTOR FUEL CELL

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