

CIRCUIT COMPONENT INTERACTION

PULSING TRANSFORMER

The **pulsing transformer** (m) steps up voltage amplitude or voltage potential during pulsing operations.

The primary coil is electrically isolated (*no electrical connection between primary and secondary coil*) to form **Voltage Intensifier Circuit** (AA).

Voltage amplitude or voltage potential is increased when **secondary coil** (n) is wrapped with more turns of wire.

Isolated electrical ground (w) prevents electron flow from input circuit ground.

BLOCKING DIODE

Blocking Diode (f) prevents electrical "shorting" to **secondary coil** (n) during pulse-off time since the diode "only" conducts electrical energy in the direction of the schematic arrow.

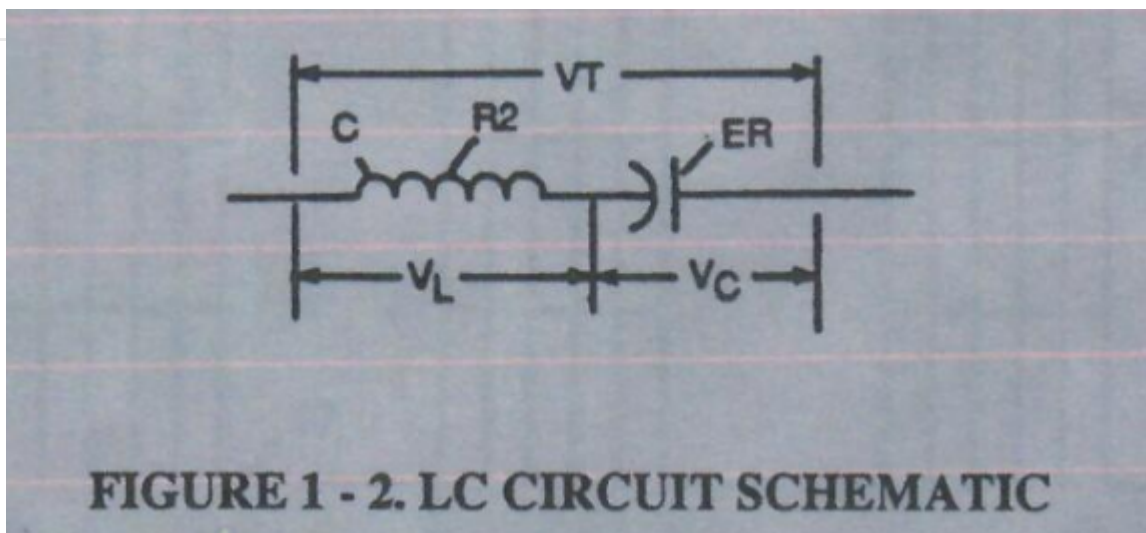
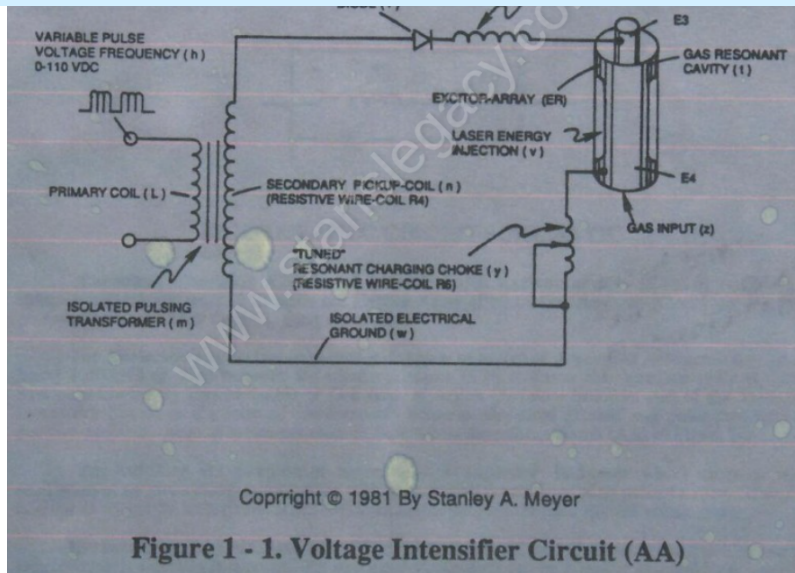


Figure 1-2. LC

Circuit Schematic

Resonant Charging Choke (c) in series with **Excitor-array** (E3/E4) forms an **inductor-capacitor circuit** (LC) since the **Excitor-Array** (ER) of **Gas Resonant Cavity** (t) acts or

performs as a capacitor during pulsing operations.



The **Dielectric Properties** (insulator to

the flow of amps) of **Argon Gas** (dielectric constant being 1.000545 @ 23°C) between the **electrical plates** (E3/E4) forms the **capacitor** (ER) of **Gas Resonant Cavity** (t).

Gas Molecule or Gas atom of **Argon** (Ar) now becomes part of the Voltage Intensifier Circuit in the form of "resistance" between electrical ground and pulse-frequency positive-potential... helping to prevent electron flow within the **pulsing circuit** (AA) of Figure 1-1.

The **Inductor** (c) takes on-or becomes a **Modulator Inductor** which steps up an oscillation of an given charging frequency when the effective capacitance of an pulse-forming network in order to charge the **voltage zones** (E3/E4) to an higher potential beyond applied voltage input.

The **Inductance** (c) and **Capacitance** (ER of t) properties of the LC circuit is therefore "tuned" to resonate at a certain frequency.

The Resonant frequency can be raised or lowered by changing the inductance and/or the capacitance values.

The established resonant frequency is, of course, independent of voltage amplitude, as illustrated in Figure 9BB.

The value of the **Inductor** (c), the value of the **capacitor** (ER of t), and the pulse-frequency of the voltage being applied across the LC circuit determines the impedance of the LC circuit.