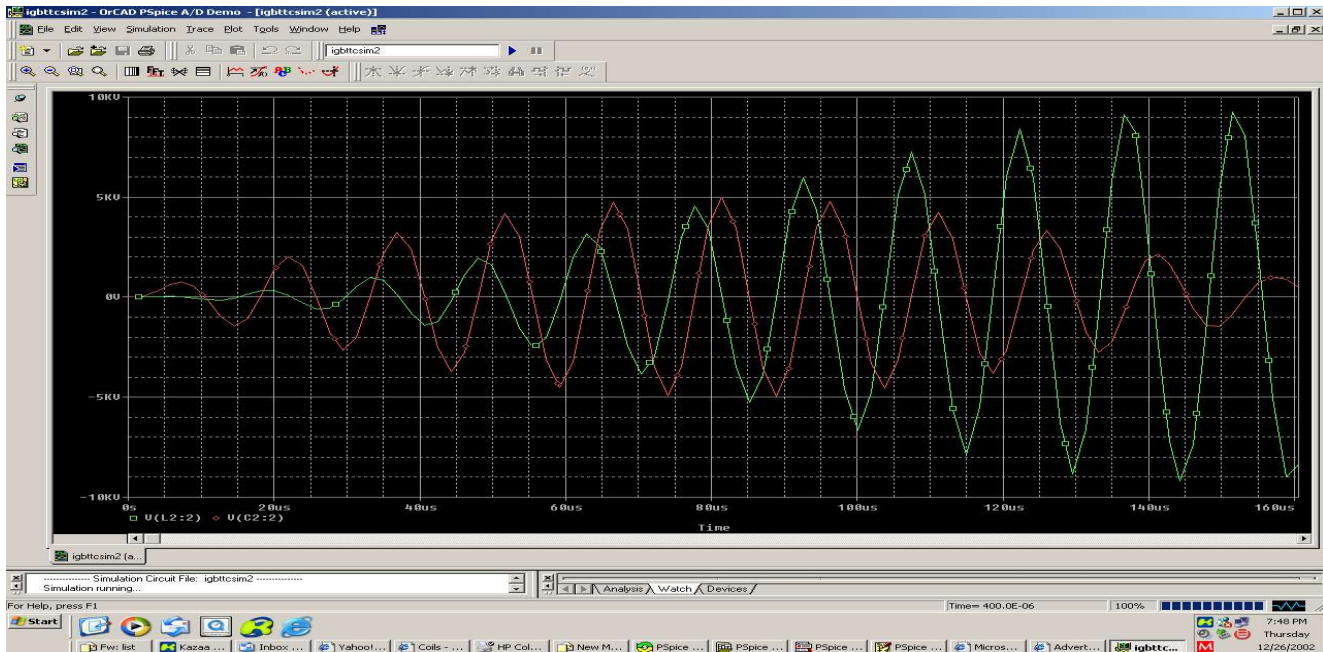
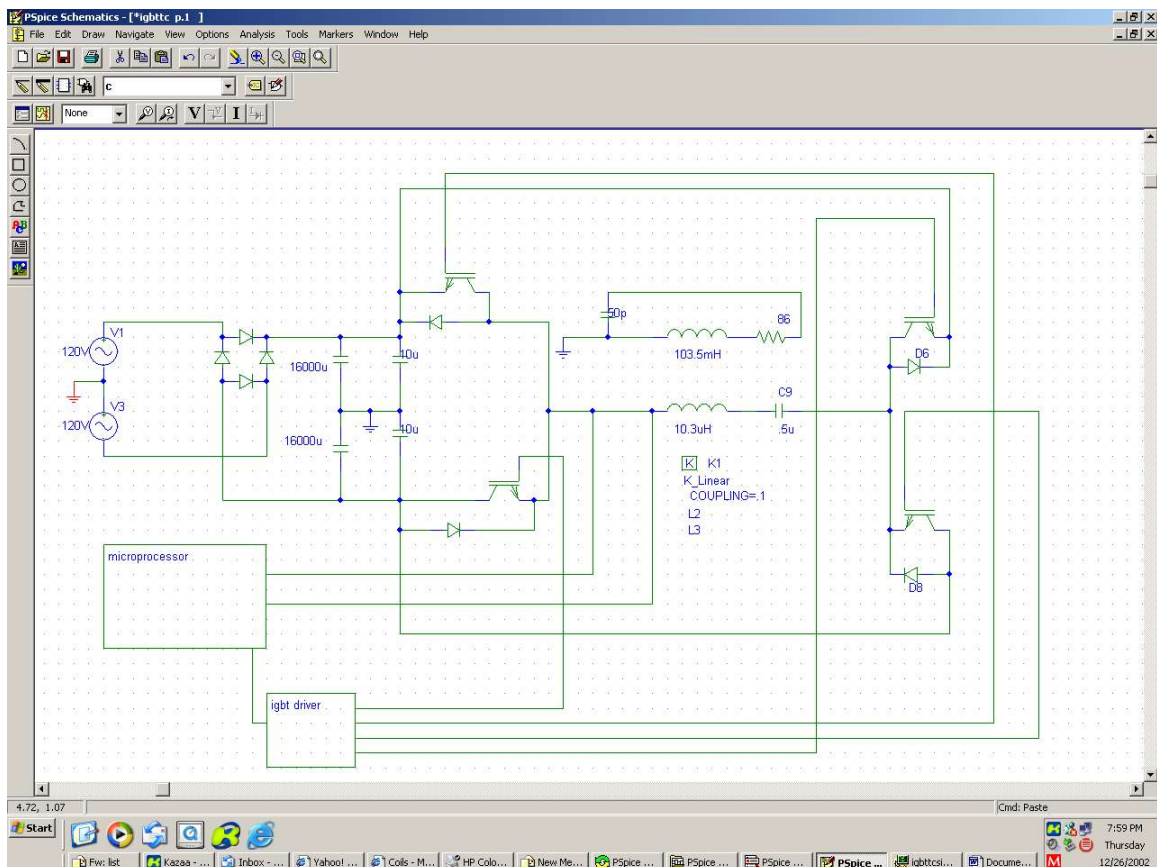


Mostly finished dual H bridge. Peak current is 1kamp, break rate is selectable, but switches are happy beyond 10kwatts.



Primary voltage in red, secondary voltage (scaled by root capacitance ratio) in green. The primary is soft switched at resonance (at current zero crossings) as energy is transferred to the secondary. At the peak (about 160 usecs), one leg of the bridge is held closed to eliminate energy transfer back to the DC power supply.



Simplified schematic. Microcontroller drives the primary at resonance (~70kHz) for about 10 cycles, approaching the rise time of a conventional coil. A peak current of 1kAmp is practical with parallel \$4 IGBT switches and big electrolytics. The primary resonance assures unity power factor.