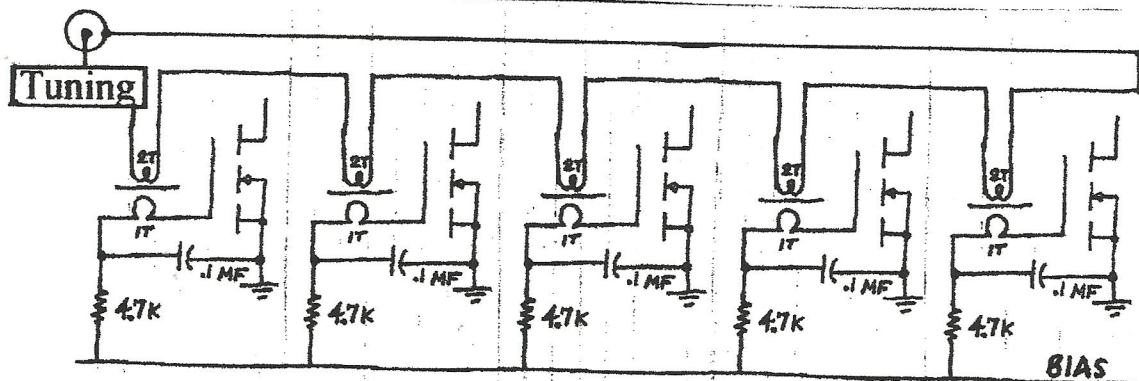


Driving Parallel Power Mosfets

When power mosfets are paralleled their maximum frequency of operation is limited by the resonance produced when their inputs are strapped together. With large fets this resonance can be below 10 Mhz and large differences in the magnitude and phases of drive voltages occur. A solution to this problem, which I shall call "Current Drive", is to drive each fet with a simple current transformer and series the secondaries. This has the following advantages over "Strap" paralleling. (Voltage Drive)



1. The resonance between fets is totally eliminated.
2. There is no longer a limitation on the frequency at which the fet can be driven.
3. ANY size fet can be driven this way.
4. The parasitic inductance in the fet package and the circuit is tuned out at a much higher impedance. (all with one component)
5. The circuit effectively puts the fets in series so that as more fets are added the input impedance goes up.
6. Fets with equal input impedences will have equal drive voltages and phases.
7. Input impedance is much less layout dependent than Voltage Drive. A PC board is not needed unless you want to use one.
8. Stability of the amplifier is improved since the ground return of the driving source can kept out of the heatsink circulating current path.

