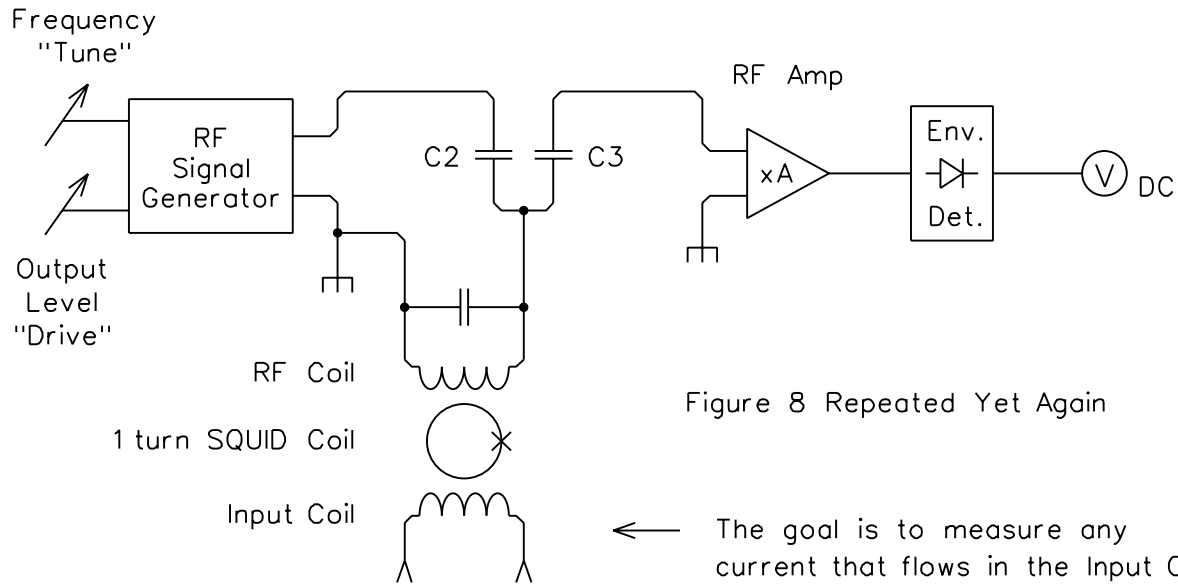


Yet More Details about Figure 8



I assume that the inductance of the 1 turn SQUID Coil does not change as a function of the flux passing through it so the reactive component of this impedance is constant. Rather the apparent resistive component of the 1 turn SQUID Coil changes, depending on how much energy it absorbs from the RF current, and this is a periodic function of the total flux passing through the SQUID Coil. The period is 1 flux quanta which for the coils in our SQUIDs corresponds to a change of about 1 uAmp in the DC or low frequency component of the current in either the RF Coil or in the Input Coil.

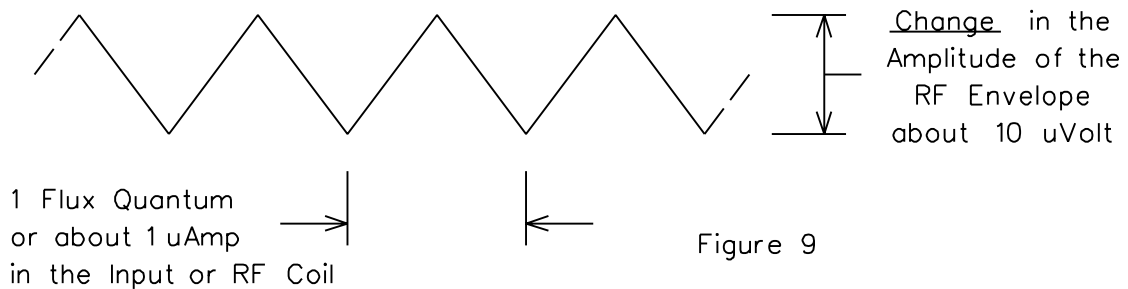


Figure 9 shows the total magnetic flux through the 1 turn SQUID Coil on the X axis and the Change in the RF voltage across the RF Coil on the Y axis. Recall that the RF Voltmeter in Figure 8 measures just that - the RF voltage across the RF Coil.

So far this is a noisy (because of the large bandwidth) and perhaps not very linear current meter that repeats every 1 uAmp. Three problems - first fix the noise problem.