

## ***Charge/Discharge JR 12***

### **(for Dartington International Summer School)**

For large ensemble, Faraday 'Dirty' Kinetic Generators, rectifier, capacitance smoothing, and oscillator circuits

#### ***Preliminary***

1. Make a Faraday 'Dirty' Kinetic Generator
2. Make a rectifier circuit to convert AC to DC current (see appendix)
3. Select a range of large value capacitors. These will be used for capacitance smoothing.
4. Build a simple oscillator (see appendix)

All of the oscillators should be the same pitch.

Current produced by the Faraday 'Dirty' Kinetic Generator is stored in capacitors that act as a pool/reservoir. The more capacitance/the greater the size of the pool/reservoir, the longer the capacitors will take to charge and discharge. An idiosyncrasy of this circuit, and a critical part of the piece, is that, as the capacitors discharge, a glissando and 'dying away' of sound occurs. It is left to the discretion of the performers to choose the number and size of capacitors used for smoothing. The discharging capacitors will influence the 'decay' or behaviour of each oscillator. Each performer should choose different capacitor values for their circuit. Try using very large capacitor values to extend the decay, and consequently the duration of the piece. Some examples of capacitor values are suggested in the appendix.

#### ***Performance***

On direction, each performer frantically shakes their Faraday 'Dirty' Kinetic Generator. As the capacitors charge, a chord approximately of the same pitch will eventually sound. Once all the capacitors are fully charged, a cue is given to stop shaking. A continuous sound will be present. The unified single pitch will gradually fragment into downward glissandi and an evolving cluster chord as the capacitors discharge. At different times, each oscillator will eventually cease sounding. The piece ends when the final sounding oscillator is silent.