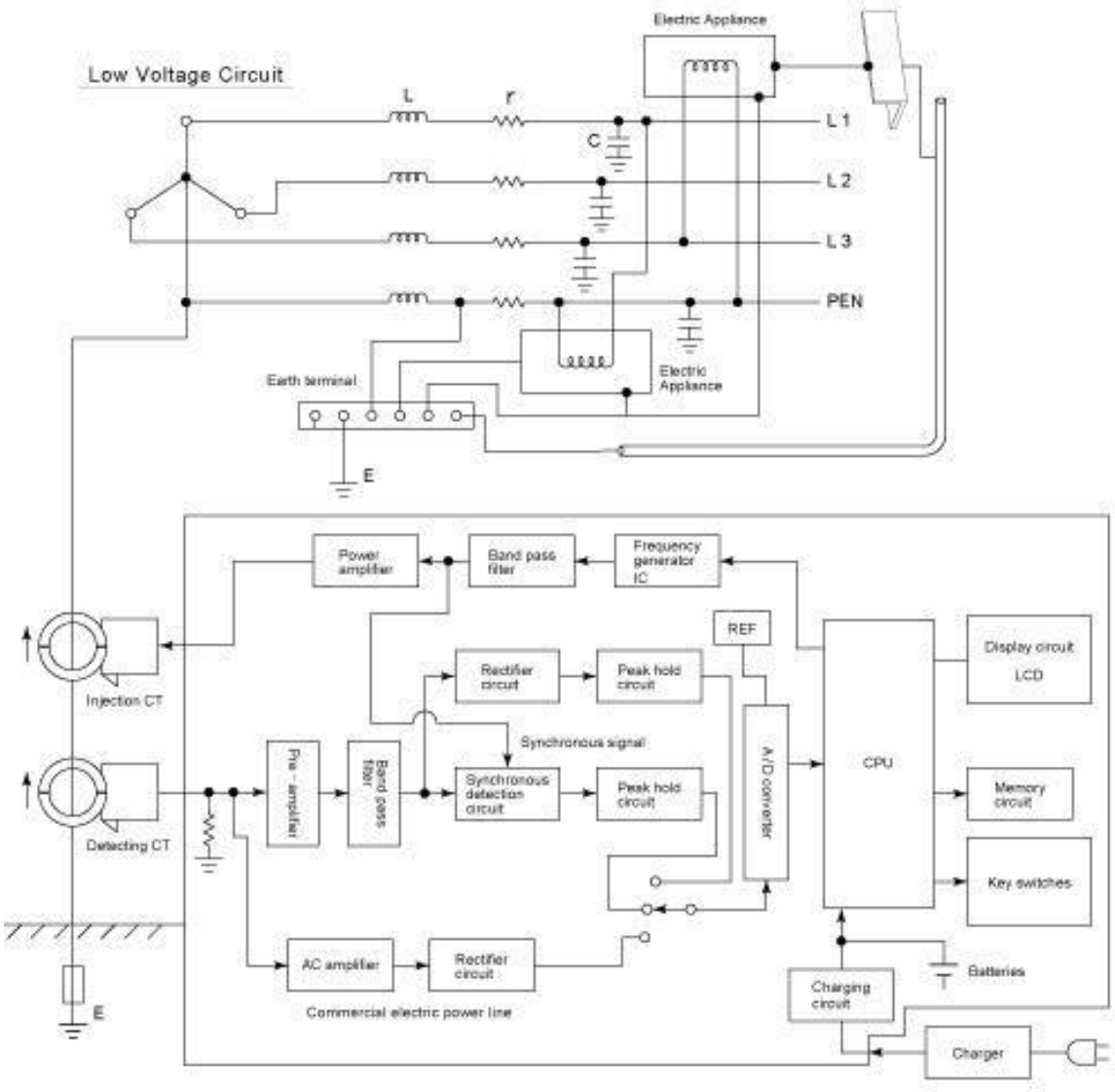
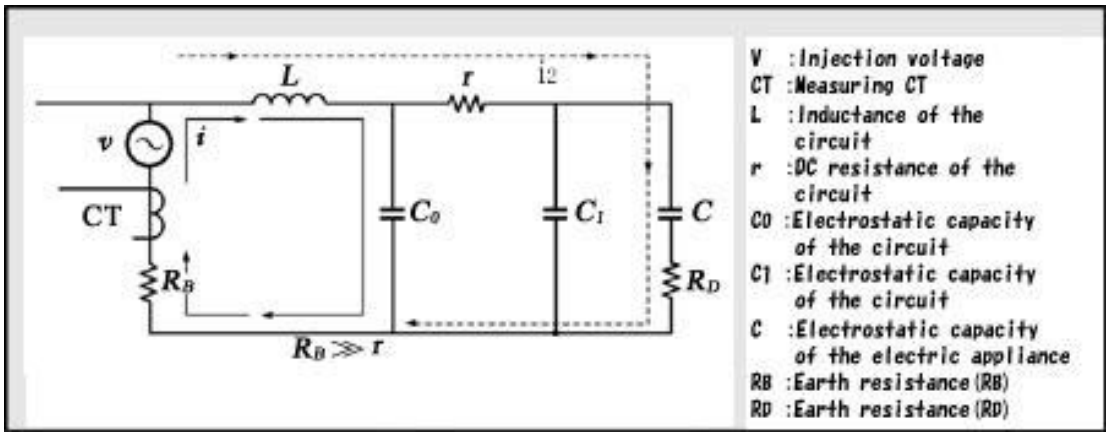
Measuring principle of clamp earth tester



Block diagram



Equivalent circuit

The block diagram and equivalent circuit show the measuring principle of CLAMP EARTH TESTER.
When the auto sweep signal (4kHz to 400kHz,320m$V_{p\text{-}p}$ (MET-1)) is injected into the circuit, the resonance phenomenon is caused at the certain frequency by inductance (L) and electrostatic capacity (C_0) or DC resistance (r) and electrostatic capacity (C_1) in the circuit and the current flow (i) is caused.
When the resonance phenomenon is caused, the current flow (i) become maximum. This maximum current (i) is measured by the measuring CT and used for the computation of the earth resistance value (R_B) with other calculation factors.
The resonance phenomenon is caused almost at 4kHz to 400kHz frequency in our field test.

Note: If the resonance phenomenon is not caused in the circuit, the current flow (i_2) is caused and the measured resistance value become $R_B+R_D+Z_C$.