

Setup of the Capacitor

Basically one differentiates between electrolytic and foil capacitors with varied C-tolerances. In the bipolar aluminium electrolytic capacitor (Fig.: 02) the oxide film on the aluminium anode serves as insulator and dielectric, whereas a liquid serves as a conducting interface layer. The foil capacitors (Fig. 03) typically feature metallic plastic film as insulator and dielectric. The MKT-Capacitor features a polyester film and the MKP-Capacitor a polypropylene film. The metal layers on the film form the anodes. Foil capacitors are concerning electrical losses and stability in the long-run in a multiple way more favourable than electrolyte capacitors, whereby they lend themselves to audio to applications in the audio field. The IT capacitors Audyn-Cap with the identification Kp-SN (tin foil) and the capacitors Audyn-Cap FF (Paper, Oil, Alu) have an exceptional position. The ranges of application and the technical data of the capacitors can be gathered from the data sheets in the manual.

Mode of action of capacitors

A capacitor basically consists of two metal foil bands insulated from each other. The insulation between the anodes is called dielectric. The capacitor is able to absorb electrical voltage and once again release it (Fig. 01). The electrical quantity is specified by the capacitance C (unit of measurement Farad).

If a capacitor behaves perfectly (puniest losses) depends on the design and the materials used. Particularly the multiple-turn coiling technique with an inductance, the resistance of the connection wires and the contacting are the causes for the resulting losses. During operation with alternating currents (e.g. audio signal) the plates are charged alternately. Like the inductor the capacitor, too, shows frequency dependent behaviour at alternating current. For low frequencies the capacitor presents a large resistance that reduces at higher frequencies. If a capacitor is connected prior to a speaker it receives predominantly higher frequencies. Lower frequencies are cushioned. Measures for the quality of the capacitor are the losses that occur during the reloading processes. The type of the capacitor plays a crucial role here.

Areas of Application

As the capacitors give a high resistance at a low frequency that disappears at an increasing frequency they are part of every diplexer in order to eliminate the unusable low sound signals from the high notes. Because relatively high currents flow furthermore through the capacitor the big selection takes place here.

But where are the differences?

The compatible component at the right place is the surety for good sound. The choice of the right capacitor, especially in the pathway of the signal, that can convince in the sound department is a resolvable task for the music lover.

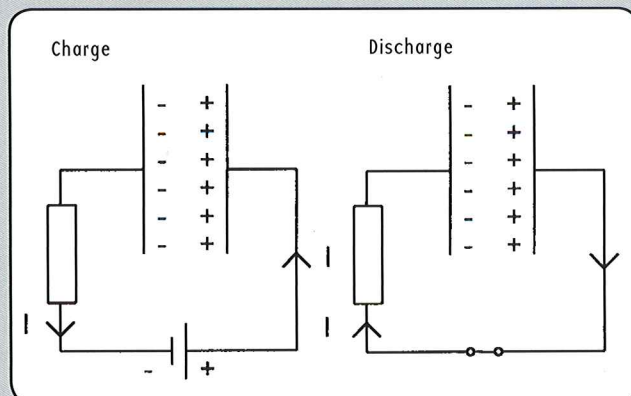


FIG. 01

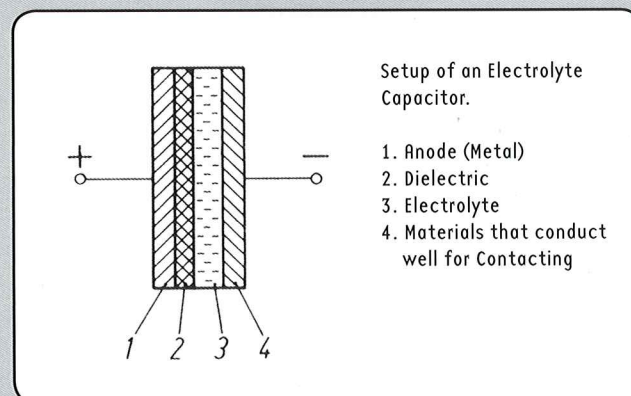


FIG. 02

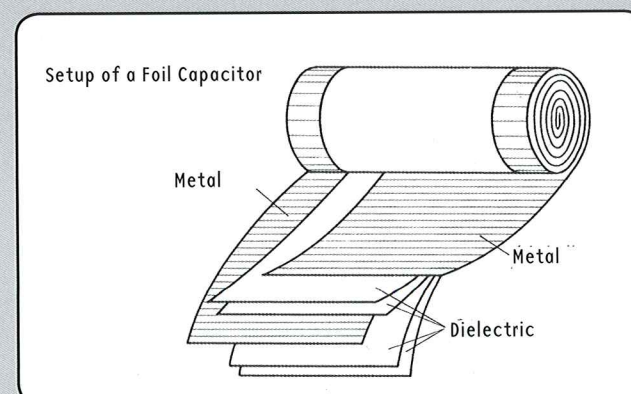


FIG. 03