

## AURICAP APPLICATION NOTES

Auricap film capacitors are not polarized. However, Auricaps have an outside foil that is a very useful noise shield when input and output impedances are considerably different values and it is connected to the lower impedance.

- 1) In all coupling applications the input to the Auricap should be the black lead and connected to the signal source or circuit output with the red lead continuing on to the next circuit input.
- 2) In all power supply decoupling applications the outside foil or black lead should be connected to ground and the red lead connected to the voltage to be decoupled. This is true for decoupling either voltage polarities.
- 3) In loudspeaker crossover applications, if the Auricap is in series, like feeding a tweeter, the black lead connects to the input binding post and the red lead connects to the tweeter. Where the Auricap is in parallel, as typically used for woofers, the black lead connects to the speaker connection that connects to the input binding post and the red lead connects to the other speaker terminal. Follow these same rules for midrange connections where you will have a combination of both.

The idea is to always have the outside foil connected to the lower impedance to provide outside foil shielding to noise. Circuit outputs are always lower impedance than inputs and should be connected to the outside foil.

Radial lead caps have one lead longer than the other. The long lead is the inside foil and to be treated the same as the red lead on the standard axial Auricaps. It follows that the shorter lead is the outside foil and functionally the same as the black lead.

## BYPASSING

Do not use bypass capacitors in the signal path. A single capacitor for DC blocking/AC coupling creates a simple path with one time constant. The signal quality will be compromised if a bypass or multiple bypass capacitors are added to a signal path capacitor. Bypass capacitors were used in the past to bypass low quality film capacitors or electrolytic capacitors. The bypass was the lesser of two evils. With the advent of better quality film capacitors the need for a bypass capacitor was eliminated. Bypass capacitors create multiple signal paths with multiple time constants. These time constants are very short but they can still be heard as a smear or overall loss of focus.

Always bypass power supply capacitors. This maintains a low source impedance to the power supply over a wide bandwidth. If budget and space permit it is good to use multiple value power supply bypass capacitors with the smallest value being installed directly at the active device. (Tube or transistor.)