AC Adapters / Power Supplies / Wall Warts

AC Adapters (referred to as Power Supplies and Wall Warts) are everywhere in the Commercial and Pro Audio / Electronics worlds. Understanding the difference between the output voltages (AC or DC) is critical when setting up or troubleshooting equipment. The input to these AC Adapters (when plugged into an AC wall outlet) will be 115VAC or 120VAC, but the adapter output will be different and is stamped on the adapters (see examples below).

AC Input / AC Output

The adapter above has a 9VAC output at 300mA (300 milli-Amps). Some of the most common AC outputs can be anywhere from 24VAC, 18VAC, 15VAC, 12VAC, and 9VAC (but are not limited to these output voltages).

AC Adapters are also referred to as "step-down" transformers due to the fact that they take the input of 120VAC and "lower" it (stepping it down) to a lower AC voltage, such as 120VAC to 9VAC in the example above.

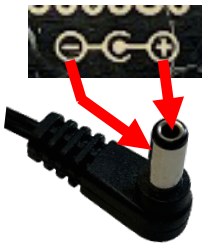
AC Adapter Replacement

When replacing any AC adapter, you must use the exact same Output Voltage rating as the one you are replacing.

If you cannot find a replacement adapter with the exact same "Current" rating follow these rules:
→ Do not use a replacement adapter with a "Lower" current rating (ever).
→ You may use a replacement adapter with a slightly "Higher" current rating as the equipment will only "draw" the current it requires.

AC Input / DC Output

The adapter above has a 15VDC output at 900mA (900 milli-amps). Some of the most common DC outputs can be anywhere from 24VDC, 18VDC, 15VDC, 12VDC, 9VDC, 5VDC (but are not limited to these output voltages).



Polarity Diagram: The diagram indicates that Positive is on the inside of the connector, and Negative is on the outside.

Video Clip!

Polarity: The white stripe on the cable is the "Negative" side.

What about the Current?

A very important property of any adapter is the Current Rating. The AC adapter (upper left) has an output current rating of 300mA (300 milli-amps). The DC adapter (upper right) has an output current rating of 900mA (900 milli-amps).