

# RC TRANSMITTER FIELD CHARGER

*By George Steinen*

Many field chargers these days have become so complex in the design that they have become over-rated for their basic use. It's not that they aren't safely replacing the current used, it just seems they could be a little simpler.

The one shown as QAST is a transmitter field charger of the simplest form. It replaces the power used without complexity. It's a voltage controlled charger that will replace current to the transmitter on a one-on-one time used. Let's say the transmitter is used for 20 minutes, charging time would then be 20 minutes to replace what was used. The unit can be placed on a 2" square piece of Radio Shack predrilled project board. Parts from Radio Shack will cost less than \$8.00.

Parts: Two LEDs #276-066, one 1 ohm resistor #276-131. This one is a 10 watt and will work okay, just a little large for the job. A

2 watt is ideal. One 330 resistor #271-1113. One 1N4001 diode #276-1101. A DC power connector #274-1568 2.5mm that will fit the Futaba transmitter, or a #274-1569 2.1mm for Airtronics, JR, and Hitec.

What to expect when using the QAST field charger: Connect a 12 volt power source for input power to the charging unit. Both LEDs will light up, showing power to charge the transmitter is ready and standing by. Now take the tx charging plug and place it in the transmitter. One of the LEDs should go out or burn very dim. As the charging cycle is taking place, the LED that was of lower brilliance (or out) will come up to match the brightness of the other LED. At that time, the battery will be 75% charged. Charging time will be about 60 minutes to replace all but 20% of the battery capacity for an average healthy battery pack. The

charging rate will start out at less than one amp and slide down to 75 mA in much less time with good batteries. Input power must not exceed 13.2 volts; less than 12 volts will lengthen the charging time. If the battery being charged becomes warm, terminate the charge cycle immediately. Check battery voltage for a shorted cell.

A digital voltmeter across the one ohm resistor will give an indication of mA charging current. An example would be a reading of .250 volts would be equal to a milliamp (mA) current of 250. If using the digital voltmeter with the QAST charger and a reading of 1 volt (1000 millivolt) or more is seen, it would be an indication of one or two cells in the transmitter battery pack are shorted. A static voltage check of an 8-cell transmitter battery pack should be 10.2 volts for a healthy unit.



## QAST Simple transmitter quick & fast field charger

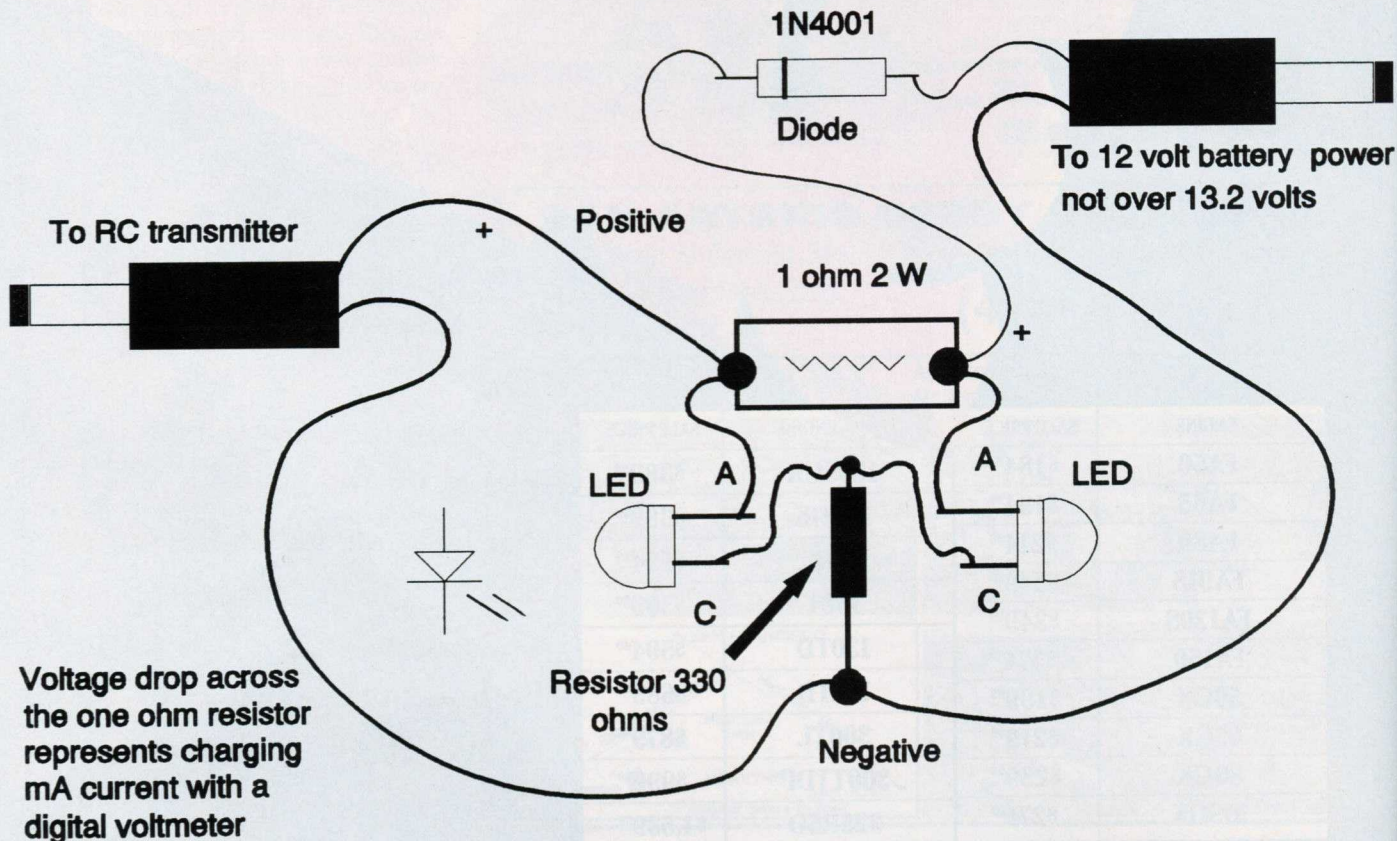


Figure 1