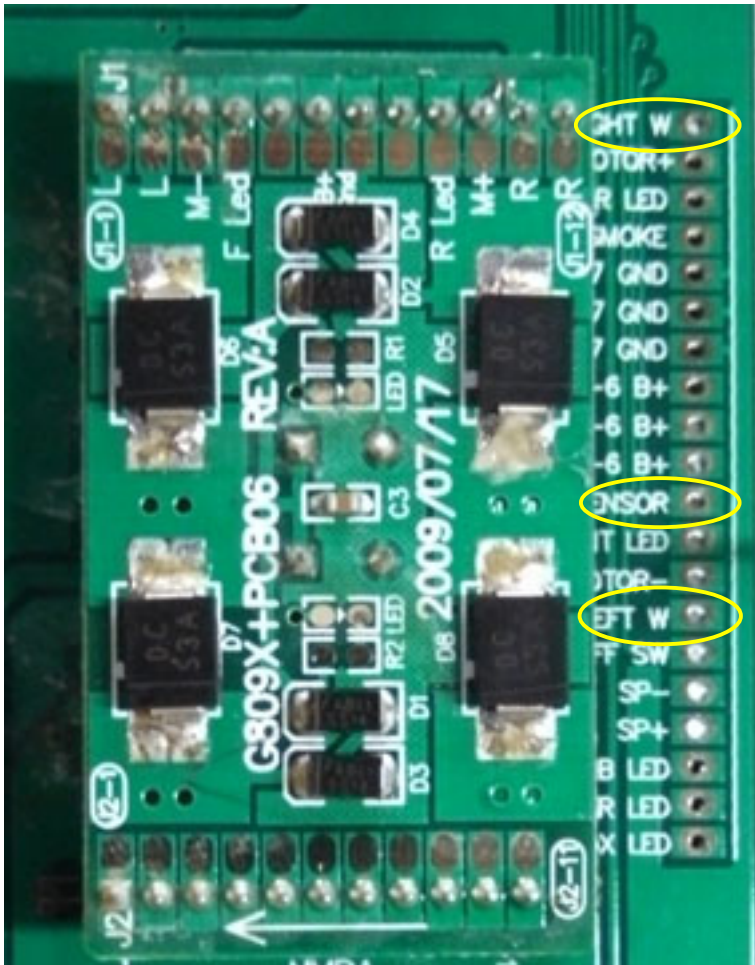# Wiring the Sound Board

The power and chuff sensor output to the sound board will require soldering and can be made either from the Bachmann plug in DC Dummy board or from solder connections on the side of the main circuit board. The connections we show are made to the main circuit board.

Along the edge of the main circuit board, adjacent to the Bachmann socket containing the Dummy board, are plated holes for soldering wire connections. These are labeled as to their purpose. We are interested in the positions marked "Right W", "Left W" and "Sensor"

The "Left W" and "Right W" are for power, "Sensor" is the optical chuff.

Powering the Sound Board

The 2K2, PB9, PB11 and PB11v6

Solder a length of wire to the "Right W" connection point; this is the right side rail pickups. Connect the other end of the wire to Terminal 1 of the sound board.

Solder a length of wire to the "Left W" connection on the circuit board; this is the left hand rail pickups. The other end of this wire connects to Terminal 2 on the sound board.

The Optical Chuff Sensor

SKIP THIS SECTION IF YOU PLAN TO USE A REED SWITCH OR SPEED FROM MOTOR VOLTAGE.

Powering the Sensor

Bachmann provides optical chuff sensors on this locomotive, however, they do not function at low track voltage. Bachmann has been kind enough to provide an auxiliary power input for these chuff sensors, so that they can be fed power while the track voltage is low or off, which is a 2 position screw terminal labeled "6V input" on rear of the Bachmann main circuit board, just behind the 3 switches for motor, power and polarity.

POLARITY IS MARKED ON THE 6V INPUT AND SHOULD BE FOLLOWED

The Phoenix sound board has an internal 5V supply which can be wired to the 6V chuff sensor power input on the Bachmann board. From the 2K2 connect Terminal 15 to "-" and Terminal 9 to "+". From the PB9, PB11 or PB11v6 connect Terminal 3 to "-" and Terminal 5 to "+".

Connecting the Sensor

The output of the chuff sensor connects to the chuff input of the sound board. You will need to solder a wire to the point marked "Sensor" on the Bachmann circuit board. The other end will connect to Terminal 15 on the 2K2, Terminal 10 on the PB9, Terminal 11 on the PB11 or Terminal 12 on the PB11v6.