LGB Locos with Factory Sound

LGB locos with factory sound have a circuit board between the track pickups and the motor. This allows the sound system to work in the range of 7-10 volts while the loco is stopped without the need for a battery. Then above 10 volts, the loco starts moving, with top speed around 20 volts.

A typical battery power conversion connects the output of the controller directly to the loco's motor. The loco will start moving at only 1 or 2 volts, and top speed is usually around 11 volts. So, we typically use 14.8V battery packs.

The LGB circuit board creates a problem when converting to battery power. If we connect to the same spot the track pickups were, the sound will work as before, but still no loco speed until 10V. The first 10V of the battery are wasted, and at 14.8V the loco is barely moving. We can increase the battery pack to 22.2V to get the top speed back. But a bigger battery is more expensive, heavier, and takes up more space. The other option is to use the 14.8V battery connected directly to the motor. Remove the LGB sound board and replace it with a 3rd party sound system, such as MyLocoSound or Phoenix, which will sound much better anyway.