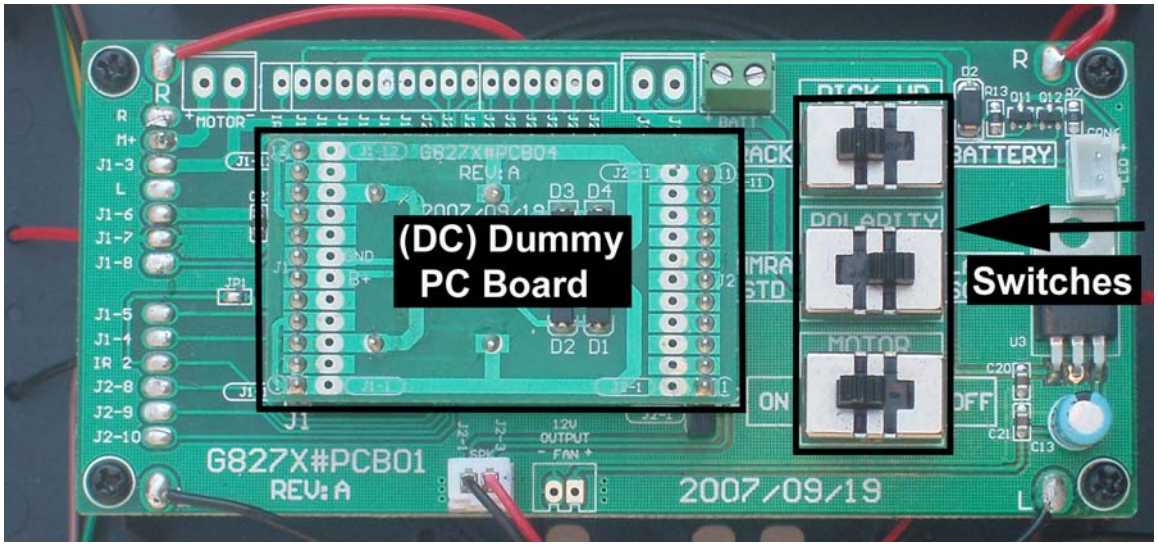
Quantum Aristo DC, DCC, and RC Install for Bachmann's K27 Large Scale Steam Locomotive

Bachmann has just released its Fn3 scale K27 with an Industry/NMRA proposed G scale decoder socket. Since this socket is an enhanced version of the Aristocrat decoder socket, the QSI Solutions Quantum Aristo K27 DC/NMRA DCC sound decoder will be a simple direct plug-in as shown here:

Because of Quantum's unique DC features, folks who use DC (analog) control can use the decoder and get the whistle, bell and chuff sounds without any special equipment. If more sound controls are desired the Quantum Engineer is a simple way to do it.

Should you wish to operate using R/C, then simply plug in one of the QSI Solutions Gwire receivers to the Quantum decoder. In this mode it is best if analog mode is turned off in CV29.

Should you wish to power your K27 using Batteries with Gwire R/C, then install a battery pack in the tender and switch the "**Pick Up**" switch in the tender to Battery.

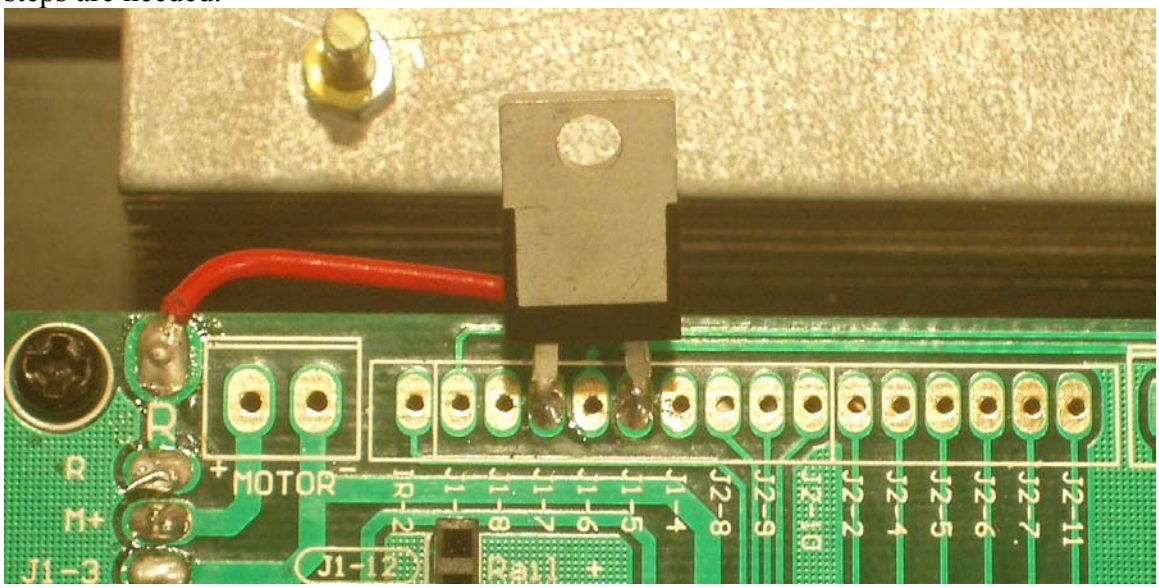


The following installation instructions are provided to gain the full benefits of the socket in the K27 when used with the Quantum Aristo sound decoder

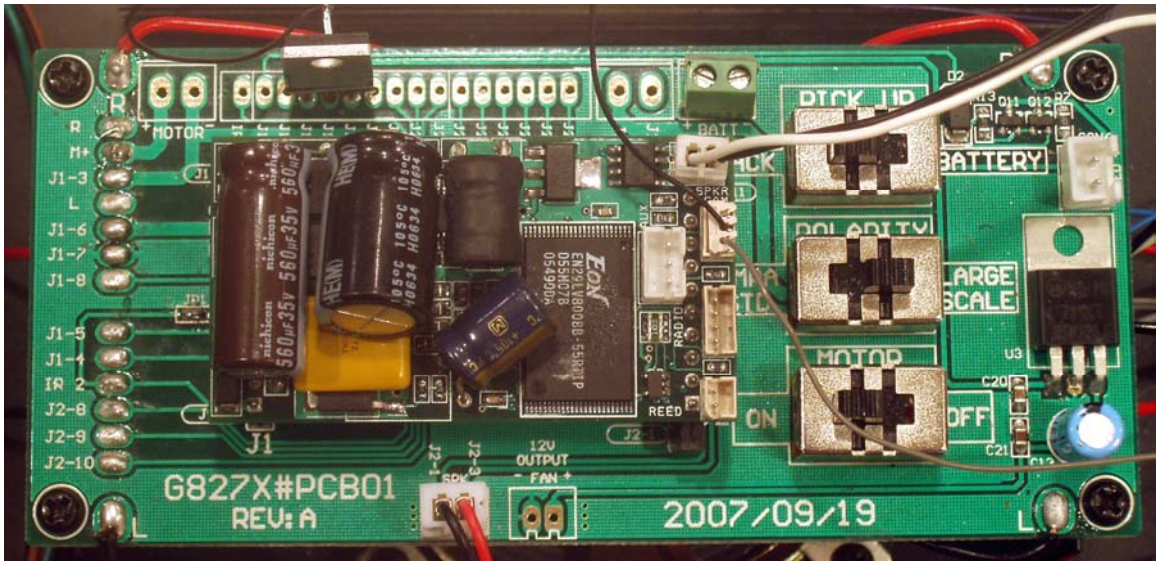
The first step is to install a speaker. The tender is designed to have a large 3 inch speaker installed under the main circuit board. Removing the 4 screws holding the board and moving it to one side provides easy access to the speaker area. Remove the 4 speaker placement screws, place the speaker in the space provided and reinstall the speaker holding screws. Solder the two speaker plug wires that come with your Quantum decoder to the speaker, reinstall the screws on the main board the main board and plug the speaker plug into the socket on your Quantum Aristo Decoder.

The Quantum Aristo decoder has precise automatic chuff synchronization that is easily configured to provide accurate chuff synchronized with the K27. If you choose to use the Auto Chuff option simply plug in the decoder and start operating.

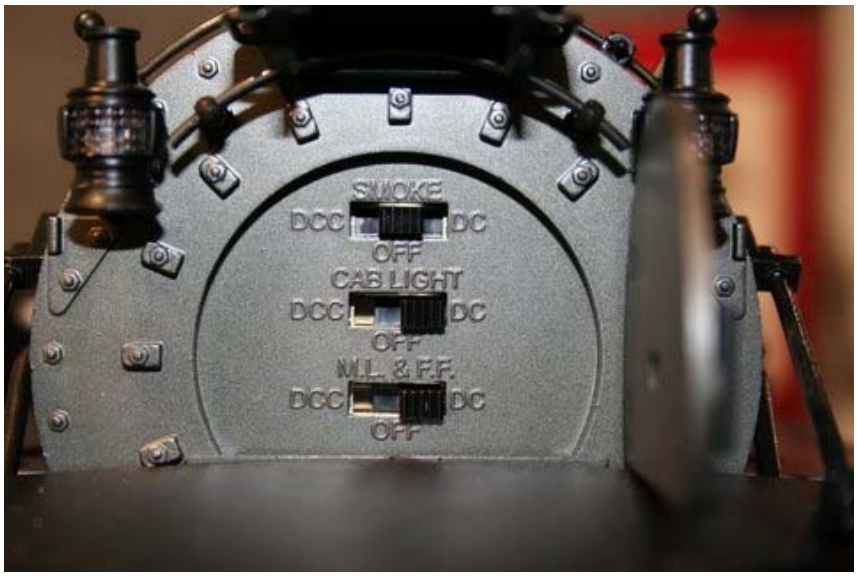
If you want to use the locomotive's internal optical chuff control the following additional steps are needed.



1) Bend pin J1:5 (the pin for the Chuff) so that when you plug in the decoder that pin is not inserted in the K27's socket.
2) Install a NPN transistor on the K27 main board in the tender. Almost any NPN transistor will work. A suitable one that is easy to install is Radio Shack #276-2017. At the side of the K27 main board in the tender are solder pads with holes. Transistors have three pins. One is Base, One is the Collector and the third is the Emitter. Refer to the package your transistor came in to determine which pin is which.
3) Insert the base pin of the transistor to the K27 chuff output (J1;5), and the emitter pin of the transistor in the ground connection (J1:7).
4) Solder the middle lead of the 3 wire cuff connector that came with your Quantum Aristo decoder to the collector pin on the transistor as shown in the photo.
5) Set CV49 to have a value of 0 and CV56 to have a value of 16. This activates the manual chuff mode.
6) The default mode is 4 chuffs per revolution, for 2 chuffs per revolution remove the 2/4 chuff solder jumper on the main board.



The current version of the Quantum Aristo only controls the motor, the sound, and the front and rear headlight. The cab light, firebox flicker, classification lights, and smoke unit can all be controlled using the switches behind the smokebox door To turn on the function move the switch to the **DC** position. An optional future lighting option for the Quantum Aristo Decoder will allow independent control of these functions through the DCC controller or you can install a function decoder for independent control of these additional functions.



For more information on configuring your Quantum Aristo product please contact:

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