



# LokSound V4.0 and LokSound Select Manual Notching Quick Start Guide

Please go to [www.LokSound.com](http://www.LokSound.com) for a complete user manual

## LokSound... Sound Super-Detailed!

Most Diesel / Electric locomotives in the world use notched fuel controls to determine how much power the engine is supplying to the generator, which in turn supplies electrical power to the traction motors at the driving wheels. In general the number of notches is 8, with the driver selecting notches 1 through 8 as required in driving the locomotive. Since there is no direct connection between the locomotive engine, and the driving wheels, engine RPM is fully decoupled from the speed of the locomotive over the rails. Therefore a locomotive may be moving 15 mph going up a grade with a heavy train pulling hard in notch 8 at full RPM, or coasting down a hill at 60 mph with the locomotive idling at notch 1. LokSound (V4.0) (Select) now allows this driving characteristic to be fully modeled on your layout.

LokSound (V4.0) (Select) decoders support full manual notching capability for Diesel / Electric sound projects beginning at LokProgrammer Software version 4.3.0 and beyond. Sound projects created with previous versions of the software are updated to manual notching capability when opened and a firmware update is performed on the decoder. You may find that you need to map the "Manual Notch up" and "Manual Notch down" keys to your preferred Function (F) buttons.

In order to establish manual notching on your sound project and decoder, you should first open the sound project you wish to enable using version 4.3.x programming software. Open the "Function mapping" section of the software, select 2 function keys you wish to devote to MN, open the dropdown menu in the column labeled "Logical functions", and select the option for either "Diesel notch up" or "Diesel notch down", put one selection on each of the 2 keys. These keys are now designated for notch control. (Note: Manual Notching is not required to be in place, if you wish not to use it, simply do not set up the function keys for MN, you can come back at anytime to enable the capability, or remove it.) Then write the updated sound project to the decoder, you will notice this will update the decoder firmware. Once it is complete you are ready to run with manual notching!

Once you set up your sound project for manual notching (MN) and write the sound project to the decoder, manual notching is easy to use. 2 function keys are required for MN to operate, one key for notch up, and the other key for notch down. MN can be engaged when the model is standing with engine running, or engaged on the fly after moving off in the normal manner. When standing, press notch up, engine will notch up the drive RPM sound as determined by each drive step in the project. The number of notches increased depends on how long the key is engaged, and when the key is disengaged it will hold the notch it settles at. (With a little practice you will be able to "time" your desired notch.) You can then use the down notch key and reduce notch, or engage until RPM settles at idle. While running, operation is the same; engine sound is fully decoupled from locomotive speed, so you can now simulate the full spectrum of locomotive operation just as you can observe by watching operating prototype locomotives in action on the rails. Once you have engaged MN it stays in effect until the locomotive is brought to a stop, AND the sound is brought down to idle. Then the operation reverts to normal pre-manual notching behavior, and can be engaged again when you wish. You do not need to change a CV to go between Manual Notching and Normal Notching. This can be done "on the fly" as you feel it is desired.

