Kernow Model Rail Centre

Sound Decoder Notes – sound provided by Leggomanbiffo

Thank you for buying this Kernow Model Rail Centre exclusive Bachmann Thumper unit. Please read the notes below before trying your chip for the first time as some features may not work in the manner you are used to.

Function keys – introduction

1. Horns, air release, door slam and air tank sounds are all playable with the engine switched off, as per the prototype

2. Some sounds are speed dependent and may not produce a sound when the unit is stationary. As an example, the buffer clash sound will only be produced if the unit is moving at slow speeds

3. Some sounds operate automatically and are *enabled* by pressing the appropriate function key. An example is the playable brake sounds on F5. F5 can be left on all the time and the brake sound will be produced automatically when you 'brake' (ie reduce the throttle). If F5 is left off the brake sound will never be produced. Switch F5 on or off at any time as required

4. Flange squeal may be turned on and off at any speed, even when stationary. If turned on when stationary the sound will begin when the unit starts to move and increase in intensity as speed increases. As the unit comes to a standstill the squeal will slow and stop

5. Some sounds (eg horns, brake sounds etc) may be different in one direction to the other

Function key layout

F1 Engine start / stop (fades sound in or out if used when moving)

F2 Playable high horn (slightly different in either direction)

F3 Playable low horn (slightly different in either direction)

F4 Buffer clash (1 of 2 at random)

F5 Playable brake application when moving / brake dump when stationary

F6 Passenger door slam sequence (1 of 5 different slams at random, at random intervals)

F7 Compressor

F8 Spirax valve popping

F9 Automatic speed-dependant flange squeal

F10 Despatch whistle

F11 Guard to Driver 'right-away' signal (1 of 3 randomised guard's ding-ding bell and driver's buzz-buzz reply)

F12 Driver's door slam and latch (1 of 3 randomised)

F13 Not used

F14 Not used

F15 Not used

F16 Playable whistle (slightly different in either direction)

F17 Playable fuel and oil priming pump sequence. Press F17 to start fuel priming pump. Once fuel priming is 'completed', turn F17 off then back on again to stop the fuel priming pump and start the oil priming pump. Turn F17 off once oil priming is 'completed'

F18 Detonators

F19 Aux 1

F20 Aux 2

Driving technique

You can move around at slow speed with the engine still at idle; simply open the throttle to a low speed setting and leave it there. The revs will increase and then die back to idle.

There are several different departure sequences depending upon how wide the throttle is opened when stationary. Open the throttle to the desired speed and leave it there, letting the inertia do the rest.

Inertia settings are quite high because units do not race off from a standstill or stop on a sixpence. Coupled with the engine sounds themselves, this helps to create the impression of weight and power.

Brief, exaggerated movements of the throttle can be used to trigger thrash or coast at any speed. Once triggered, the throttle can be returned to its original setting (if required) to maintain speed. The inertia setting smooths out the throttle variation so that unit movement appears realistic. Once you learn how the trigger mechanisms work you will be able to thrash and coast at will, adding greatly to the driving experience.

If you reduce the throttle suddenly and trigger the coasting sound, the unit will remain in coast until you increase the throttle (ie you decide when you want the loco to apply power again).

Changing the 'master volume'

The overall sound volume is controlled by CV63 as before. This has a minimum permissible value of 0 and maximum of 192, and affectes all sounds by the same amount. A value around 130 is about right for the average home layout.

Changing volume of *individual* sounds in v4

In addition to the above, the *relative* levels of each sound can be adjusted up or down, if for example you think one particular sound is too loud or too quiet *in relation to all the others.* The text below details how to do this. If you want to change the volume of *all* sounds, see the section '*changing the master volume'* above

This information is given in good faith. Please read everything before you attempt it. *No responsibility is accepted for undesired effects.*

First of all you must set two indexing CV's as follows;

Set CV31 to 16

Set CV32 to 1

Once you've done that, the volume control for sound slot 1 (normally the engine sound) is CV259, slot 2 is CV267, slot 3 is CV275 and so on (add 8 each time all the way up to sound slot 24 which is CV443. Random sounds are CV451 and brake sounds are CV459).

You can set values from 0 (minimum volume) up to 128 (maximum).

Before you attempt this there are a few things you should be aware of;

1. If you don't check / set CV31 & 32 as stated before you start you *will* affect other functions which *will* have unintended consequences. CV259, for example controls multiple things depending upon what values are set in CV's 31 & 32. Set CV31 & 32 as stated, then make a note of all the volume values (CV259, 267 etc) before you start.

2. Sound slot 1 may not match up with F1, it depends on how they have been set up by the programmer.

3. Some DCC controllers may not be able to set CV's above 255.

In the unlikely event of the motor juddering at slow speed, this can easily be remedied using the following procedure;

Place the loco on the track with plenty of room in front and behind, or on a rolling road.

Set CV54 to zero.

Press F1. The loco will shoot off at high speed and then stop. Following this, the motor will run smoothly but you *may* then need to adjust the CV's for top speed (CV5) and mid speed (CV6) to suit your personal preference. Carry this out as follows;

Run the loco at full speed and adjust CV5 for a maximum speed that you are happy with, then set CV6 to half the value of CV5.