



Data sheet: S0823 M7 Class

Updated 03/19

The function keys are assigned as follows:

F0 Lights On / Off, F1 Sound On/Off (Slot 1), F2 Whistle, Playable (Slot 3), F3 Whistle, Toot (Slot 19), F4 Blower (Slot 21), F5 Shovelling Coal (slot 5) / Aux 1 (Fire box Led), F6 Safety Valve (Slot 12), F7 Injectors (Slot 20), F8 Dynamic Brake, F9 Flange (Slot 15), F10 Drive Mode (Light or Heavy), F11 Guards Whistle (Slot 10), F12 Drain Cocks (Slot 23).
F13 Coupling clank (Slot 8), F14 Shunt mode, F15 Auto Uncoupling cycle,
F16 Master Volume Control, Toggle On/Off to change or leave On for Mute
F17 Aux 2, F18 Aux 3, F19 Aux 4

Auto sounds, Steam Hiss (Slot 24), Intelli-Brake (Slot 27), Blower (Slot 21), Westinghouse pump (Slot 6).

Note: 1) **F15 works great with KD couplings. Turning On will reverse the Loco, Uncouple and move away all at the press of the Key. Direction dependent.**
2) **All bare wires must be insulated to prevent decoder damage**

How to set up your decoder

It is impossible for us to set up this decoder to run perfectly out of the box with every manufactures motor / gearbox combination. However, try it first and should your model run unsatisfactory, following these guidelines will ensure you get the very best running possible. Make sure the decoder has been installed correctly and that any unused wires are insulated and all track, wheels and pick-ups are clean.

Step:

1. Make sure your system is set to run on 128 speed steps to obtain the very best from this decoder.
2. With sound OFF, Set up the motor load control CV's 51 – 55. (info sheet available for download)
3. Set up speed required with CV's 2 – 6, or speed curve 67 - 94.
4. With sound ON re-sync the chuff rate with CV's 57, 58. (info sheet available for download)
5. Adjust volume levels. (info sheet available for download)

Notes:

1. Read CV's and make a note of their value before making any changes. However should you make a mistake changing CV 08 with a value of 08 will reset all CV's to SWD factory default. (As supplied)
2. No brake squeal if loco speed < 20%.
3. **Sound Sync CVs for OO. 57 = 55 & 58 = 14**

Getting the most out of your model.

We have created this project to further enhance your driving experience and allow you more interaction with your model.

Users of older DCC systems with a limited number of readily accessible F Keys will now find ours have been rearranged to give access to important functions without the need for re – mapping.

Please see the reverse of this sheet for a quick start guide, or see separate sheet for detailed driving instructions.

Have fun.

Caroline, Steve

(For further help & Advice please see our website: www.southwestdigital.co.uk)

SWD the *REAL* Sound in your loco - **NOW** with '**U**' Drive

Congratulations, you now have the best sound decoder you can buy with the latest and most versatile sounds available for British locos. This is as near as you can get to the correct sounds and methods of driving a model steam loco. Drive it hard, drive it gently, it's all up to you.

So it's early morning and you arrive at the loco shed to pick up the loco allocated to you for today's trip. You find the loco – today a **M7** – waiting for your first command. On your controller, select the appropriate address for the loco, (Default 03). **Press F1**. This will bring your loco to life and you will hear the gentle simmering sound of a steam loco at rest. **Press F4**. You will now hear also the locomotive's blower. The fire has been lit and the loco oiled round by the preparation crew, but now it is time for you to ready it for its day's work. **Press F5**. Now the sound of the fire door opening and the fireman shovelling coal into the fire can be heard. When sufficient coal has been fired onto the growing fire, **Press F5 again** to close the fire door. **Press F7** and you can hear the injector topping up the boiler with water, **Press F7 again** to turn off the injector when you have put sufficient water into the boiler. Keep the blower on whilst all this has been going on. Turn the blower off (**Press F4**) and you are now ready for the road.

This is where you discover one of the latest features of your **SWD** sound decoder. You have two sound ranges to choose from. Since we are only moving the loco off shed and towards the station and your train, we shall be driving gently at first, so **Press F10**. The engine is currently known as being 'cold' – that is not fully warmed through – and there is probably condensate (water) in the valve chests and cylinders. We must clear this, so as not to damage the engine, so **Press F12**. You will immediately hear the loud hiss of steam passing through the cylinders and out to atmosphere via the cylinder drain cocks. Now with your controller, slowly move off. This is where you discover another piece of innovation from **SWD**. As you gently accelerate, you will hear the steam from the drain cocks alternate between the cylinders and the ends of the cylinders. When you reach, say 20mph, shut off the drain cocks by **Pressing F12** and you will hear the engine gently chuffing along. When you reach the station, couple onto your train by **Pressing F13** and prepare to leave. When ready, **Press F11** to hear the Guard's whistle. **Press F3**, and the Driver replies with either a single or double toot on the loco whistle. Now you are ready to go. **Press F10** and the loco will no longer behave in a gentle manner. With your controller start the train and enjoy the sound of your loco 'barking' loudly as it gets the train away and accelerates to whatever speed you choose. At high speed it will purr along. When you have reached the required speed, turn your controller back one notch (this will vary slightly with differing makes of control equipment) and the sound will be that of a loco still pulling but in a notched-up manner. If you wish to simply coast, turn back another notch and the loco will continue to run at whatever speed you set but you will only hear the sounds of a loco coasting, particularly the clanking of the valve gear. You can coast at any desired speed right down to bringing the train to rest. If you do so, don't forget to turn on the blower as you stop by **Pressing F4**.

You can move between the two sounds (gentle or hard driving) at any time you choose with **F10**. You can also alter the overall volume via **F16**. This raises the volume in 5 steps and then returns to quiet again. We recommend that you play with the various facilities available to you – **Press F10** when running fast and hear your loco still pulling but somewhat more gently; **Press F9** when slowly moving around sharp curves in your station area and hear the flanges squeal against the rail; **Press F6** to hear the (very loud) sound of the safety valves; **Press F2** to hear the playable whistle (**it continues as long as you hold down F2**).

We are sure you will enjoy using this updated SWD creation.

Detailed driving instructions

(F0) Lights

(F1) Sound On/Off

Driving. Opening your throttle will take power to the throttle position. When you have reached the required speed, the sound will fall back automatically to that of a loco still pulling but in a notched-up manner. Increasing the throttle will return to a loud bark whilst reducing your throttle a couple of digits (this will vary between different systems) will cause your loco to coast, where it will stay until the Loco stops or the throttle is increased. You can open your throttle whilst coasting and the exhaust sound will return to the throttle position. Likewise reducing the throttle will coast as above. **Turning F1 ON/Off on the move will fade sound In / Out.**

(F2) Whistle Playable.

(F3) Whistle Toot

(F4) Blower The Blower can be played at any time. However this will automatically play when coasting.

(F5) Shovelling Coal F5 On/Off , Aux 1 is also set up as a Firebox flicker.

(F6) Safety valve F6 On/Off will turn the safety valve On/Off

(F7) Injectors F7 On/Off will turn the injectors On/Off

(F8) Dynamic Brake This is a **NEW** positive brake regardless of throttle position, the higher the value in CV 179 the quicker you will stop. Max value 255. F8 ON will look at the value in CV 179 (default 64) 25%. Turning Off F8 your throttle will again look at the value in CV4 (default 100) when slowing down. With a higher value in CV4 you can adjust CV179 to your liking therefore when coasting to a stop, will feel more prototypical.

(F9) Flange squeal This will not work when stationary, speed dependant.

(F10) Drive mode

Turning on F10 will allow you to drive with very light chuffs, ideal for a station pilot or light shunting. You can turn off at any time to automatically return to the main exhaust sound.

(F11) Guards whistle

Turning on when stationary will randomly blow one of two guards whistles and pause. When turned Off, the driver replies with a single toot.

(F12) Drain cocks A continuous sound will play whilst stationary, but will be synchronised whilst moving.

(F13) Coupling F13 On/Off will play once

(F14) Shunt mode If On will reduce speed

(F15) Uncoupling cycle

Works great with KD couplings. Turning On will reverse the Loco, Uncouple and move away all at the press of the Key. Direction dependent. (Use with F10 on for more effect)

(F16) Master volume

Master Volume Control, Toggle On/Off to change or leave On for Mute

Westinghouse Pump

F1 On will enable the Westinghouse pump. It has a delayed start and once enabled will run itself automatically until switched OFF.

(F17) Aux 2

Purple wire. **If not used insulate or Remove.**

In order to change the output voltage, adjust CVs as follows:

CV 31 = 16, 32, = 0,

286 = (Default 15) Max value 31

(F18) Aux 3

Turquoise wire. **If not used insulate or Remove.**

In order to change the output voltage, adjust CVs as follows:

CV 31 = 16, 32, = 0,

294 = (Default 15) Max value 31

(F19) Aux 4

Pink wire. **If not used insulate or Remove.**

In order to change the output voltage, adjust CVs as follows:

CV 31 = 16, 32, = 0,

302 = (Default 15) Max value 31

Volumes

Before making any Volume changes make sure index CV 32 = 1

Individual volume range is between 0 – 128 and can be changed as follows:

F Key	Slot	Description	CV	Value
1	1	Engine	259	128
-	2	-	267	-
-	3	-	275	-
-	4	-	283	-
5	5	Coal Shovelling	291	64
-	6	Westinghouse Pump	299	45
2	7	Whistle	307	96
13	8	Couple Up	315	64
-	9	-	323	-
11	10	Guards Whistle	331	64
-	11	-	339	-
6	12	Safety valve	347	96
-	13	-	355	-
-	14	-	363	-
9	15	Flange Squeal	371	96
-	16	-	379	-
-	17	-	387	32
-	18	-	395	64
3	19	Eng Toot	403	96
7	20	Injector	411	50
4	21	Blower	419	64
-	22	-	427	-
12	23	Drain cocks	435	96
-	24	Steam	443	96
-	25	-	451	-
-	26	-	459	-
-	27	Intelli-Brake	467	64
-	28	-		-
-	29	-		-
-	30	-	491	-
-	31	-	499	-
-	32			
Before making any Volume changes to Slot 033 make sure index CV 32 = 2				
-	33	Brake Squeal	259	64