



Baldwin 10-12-D Locomotive

Sound Fitted Information

Important: Please read this sheet before running your locomotive.

Many thanks for purchasing one of our **Bachmann Narrow Gauge** Baldwin Class 10-12-D Sound Fitted Locomotives. Please take the time to read through this sheet carefully before running your locomotive to ensure you get the most out of your model.

Decoder Info.

Decoder & Speaker Spec.

Decoder type: Zimo MX659N18
CV1 Address: 03
Speed Steps: 28/128
Speaker: 8 Ohms

For full details of the decoder please refer to information sheets on **Zimo MX659N18** available from **www.bachmann.co.uk**

For Best Results...

Please make sure your DCC system is set to run on 128 speed steps to obtain the very best results from this decoder.

Keeping the track, wheels and pick-ups clean are essential to ensure good electrical contact and will also contribute to the decoder working to it's best ability.

Loco Decoder Address.

This model is set with a default decoder address of 3.

Please note: This model should be removed from the track if you are changing the address of another model with an E-Z Command Control Centre.

Running on DC.

Your model is equipped with a Zimo MX659N18 sound decoder but will operate on DC powered track producing exhaust & motion, automatic and randomised sounds only.

Please note: If this model is to be controlled with an analogue (DC) output controller Bachmann Europe PLC recommend the use of a controller with a smoothed output. If you intend to use a feedback type controller, or one with PWM (pulse width modulation) please consult the controller manufacturer before using it with this model.

Operation Notes

Important: leaving approximately 1 second between function button presses will ensure a more reliable operation.

Here are short, simplified, explanations of the real life sound variations and how to manually alter the model's sounds to recreate them.

Chuffs are created by steam released from the blast pipe in the locomotive's smoke box which then passes out through the chimney. There are no chuffs when the locomotive is coasting or decelerating.

The Regulator controls the amount of steam available to enter the cylinders. The loudness of the exhaust produced by the model will increase automatically whenever the model is accelerating and for a few seconds after the new steady speed is reached. At this point, the sound level will be reduced to 'cruising' volume until a new speed is requested.

Closing the Regulator will reduce or prevent steam reaching the cylinders, reducing the exhaust sounds completely or to a barely audible whisper. These are the Coasting or Drifting sounds.

Reverser - Maximum power is available when a large volume of high pressure steam is admitted by the valves to the cylinders for the full duration of the piston's stroke. However, this isn't the most efficient way to operate since the exhausted steam is often close to boiler pressure. This is why a locomotive 'lifting' a heavy train typically using such a setting produces very loud and sustained chuffs.

To increase efficiency once on the move, the position of the valves can be adjusted by using the Reverser to restrict the duration in which steam is admitted to the cylinders by 'cutting-off' the supply before the piston has completed its stroke.

Air Brakes - When originally built, these locos did not have air brakes fitted. In later life some have been fitted with air brakes, this requires a compressed air supply provided by a steam operated compressor.

F21 replicates the sound of this air pump starting up, running at high frequency for a short duration to charge up the system and then decelerating to a slower rhythm which will play continuously until turned off.

To avoid the several seconds for the frequency to settle, **F22** has the sound of pump at the slow rate only.

Cylinder Clearing - As the cylinders cool, steam condenses inside. If this water is present when the pistons begin to move severe damage is likely to occur. To avoid this, before moving off the cylinders will be cleared of water by opening the cylinder drain cocks and introducing steam to warm the cylinders. This results in the typical forward jets of steam with the accompanying high frequency 'white noise'.

In cold weather or during shunting duties,

the driver may judge it prudent to leave the drain cocks open during slow speed running. You can simulate this by engaging **F3** before opening the throttle. Whilst stationary, there will be a continuous steam release sound. When the loco is moving, the sound will stop and start in sync with the cylinder motion, returning to continuous when the model comes to a halt.

Wagon Snatch - This feature simulates the sound of the couplings 'snatching' on harsh acceleration and wagons buffering on sudden deceleration by varied use of the throttle control.

- Increase the throttle by 4 speed steps (of 28) or 16 (of 127) or more and the wagon snatching sounds will play. Increasing by less and no snatching occurs.

- Reduce the speed by more 6 (of 28) or 24 (of 127) steps at a time and buffering sounds will play. Reducing by less and no buffering will occur.

Please note: This feature is disengaged when 'Light Engine' mode is selected (F14).

Function Instructions

Important; leaving approximately 1 second between function button presses will ensure a more reliable operation.

Trigger or latch? The characteristics of this Locomotives functions will depend on whether your DCC controller has the corresponding Function (F) button set to **Trigger** or **Latch**.

In the instructions that follow we have suggested the best setting for each F button in (*italic*) next to each title. Please consult your DCC controller instruction for how to change this.

F0. Directional Lights (*Latch*)

F0 - Will turn on the Directional Lights (if fitted). If your controller has one, please use its specific Directional Lighting button.

F1. Sound On/Off (*Latch*)

Please note: Without activating F1 your model will not make any of the automated sound effects.

F1 On - Will activate the automated sound functions and you will hear the background hiss of the boiler steam.

F1 Off - Will turn off all automated functions.

F2. Loco Brake (*Trigger*)

F2, short press - will reduce the speed by a small amount.

F2, longer press - will reduce the speed by a greater amount relative to how long you hold the button down for.

F3. Cylinder Drain Cocks (*Latch*)

F3 On - Will open the Cylinder Drain Cocks, this will play until they are turned off again.

The Cylinder Drain Cocks are used by the driver when raising steam; to prevent the build up of condensation and when stationary for more than a few minutes to prevent run away. If a driver suspects the engine is starting to prime (carry water over from the boiler to the cylinders) they will turn them on to prevent Cylinder Damage.

F4. Whistle Toot (*Trigger*)

F4 - Will play a typical whistle 'toot'.

F5. Reverser (Latch)

Engaging **F5** will simulate the use of the Reverser by changing the exhaust sounds from 'maximum power' to 'higher efficiency'. A real driver will use his skill and knowledge of the road to select the best combination of Reverser and Regulator positions for optimal efficiency.

F6. Shovelling Coal (Latch)

F6 On - more coal please fireman!

F7. Injectors (Latch)

F7 On - Will activate the injectors.

The injectors are used by the Fireman to add water to the boiler to maintain its water level. It does this by mixing cold water from the tanks and pressurised steam from the boiler, this gives the water the pressure required to overcome the boiler pressure.

Firemen often came into stations with the water pressure low and then use the Injectors to reduce the boiler temperature by just enough to prevent the Safety Valves from lifting at the station.

F8. Blower (Latch)

F8 On - activates the Blower sound effects.

The Blower is used when steam is being raised or to counter the dip in pressure when using the injectors. The blower promotes more draft through the firebox by blowing steam up the chimney. This creates a vacuum in the smokebox, thus drawing more air in through the firebox.

F9. Flange Squeal (Latch)

F9 On recreates the sound caused by friction between the flanges on the wheels and the track on sharper curves.

Please note; this function is speed dependent and will not action whilst the loco is stationary.

F10. Drive Hold (Latch)

Note: Locomotive will not stop until F5 is turned off

F5 On - Locks the speed at the point the F key is pressed (not necessarily the throttle value). This allows the throttle to be opened & closed in order to play the drive sounds more prototypically whilst maintaining a constant speed.

Turning **F5 Off** whilst moving will allow speed & sound to return to current throttle value.

F11. Hand Brake (Trigger)

F11 plays the sound of the hand brake being put on.

F12. Water Tank Filling (Latch)

F12 plays the sounds associated with filling the water tanks.

F13. Coupling Clank (Trigger)

F13 will play the sounds replicating the Coupling of the locomotive to another piece of rolling stock.

F14. Light Engine Mode (Latch)

F14 On will alter the driving characteristics of your locomotive to those of a light engine.

The sound effects of your engine will not change

F15. Fade all Sounds (Latch)

F15 Fades out all sounds until turned off.

F16. Guards Whistle (Trigger)

F11 will play the typical sound of a Guard's whistle at the station, signaling the imminent departure of a Train.

Please note; this sound will only function whilst the loco is stationary.

F17. 'Toot-Toot' Whistle (Trigger)

F17 Plays a 'Toot-Toot' of the Whistle.

F18/19. Medium/Long Whistle (Trigger)

F18 Plays a Medium length Whistle sound.

F19 Plays a Long length Whistle sound.

F20. Shunting Mode (Latch)

F20 will activate Shunting Mode which reduces the top speed of your locomotive giving you more control at slower speeds.

In shunting mode the lights, if fitted, will be illuminated at both ends.

F21. Safety Valve (Latch)

F21 On activates the sounds made when the Safety Valves lift.

The Safety Valves lift on a steam engine when pressure in the boiler is too high. This is caused by either the fire being too hot when not required or when the engine is coasting or at rest with a high water level and a roaring fire. Without the cylinders using steam, the pressure in the boiler rises and lifts the safety valves.

F22. Air Pump Sequence (Trigger)

F22 will play the sounds of the Air Pump.

The Air Pump is used by the driver to increase the air pressure used for operating the air brakes.

F23. Slow Air Pump (Trigger)

F23 plays a slower Air Pump sequence.

F24. "Brakes on" (Latch)**F25. "Right of way" (Latch)****F26. "Clear to Set Back" (Latch)****F27. Volume Up (Trigger)****F28. Volume Down (Trigger)****Function List - Baldwin 10-12-D**

No.	Function/Sound	F Button <i>Suggested Setting</i>	Sound Type
0	Headlamp	Latch	-
1	Sound - On / Off	Latch	-
2	Brake (Non-Latching)	Trigger	Continuous Play
3	Cylinder Drain Cocks	Latch	Single Play
4	Toot Whistle	Trigger	Single Play
5	Reverser	Latch	Continuous Play
6	Coal Shovelling	Latch	Single Play
7	Injectors	Latch	Continuous Play
8	Blower	Latch	Continuous Play
9	Flange Squeal	Latch	Continuous Play
10	Drive Hold (see text)	Latch	-
11	Hand Brake	Trigger	Single Play
12	Water Tank filling	Latch	Continuous Play
13	Coupling Clanks	Trigger	Single Play
14	Light Engine Mode	Latch	-
15	Fade All Sounds	Latch	-
16	Guard's Whistle	Latch	Single Play
17	'Toot-Toot' Whistle	Trigger	Single Play
18	Medium Played Whistles	Trigger	Single Play
19	Long Played Whistles	Trigger	Single Play
20	Shunt Mode	Latch	-
21	Safety Valves Lifted	Latch	-
22	Air Pump Sequence	Latch	Continuous Play
23	Slow Air Pump	Trigger	Continuous Play
24	'Brakes on'	Latch	Single Play
25	'Right of way'	Latch	Single Play
26	'Clear to set back'	Latch	Single Play
27	Volume Down	Trigger	-
28	Volume Up	Trigger	-



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