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WWW.BOWSER-TRAINS.COM

Bowser Sound Equipped GMD SD40-2 OR SD40-2f (Red Barn)

Please go to www.LokSound.com for a complete user manual

Please test the locomotive on your main line using address 3. If there are any problems do a **FACTORY RESET**. Bowser recommends that you use a program track to do **Factory Resets**, address changes and CV changes.

Decoder-Reset

Write value 08 into CV 08.

Technical data LokSound Select Decoder

Operational modes:

NMRA/DCC with 14, 28, 128 speed steps
2-digit (short) or 4-digit (long) addresses
Analog DC (Dual mode, de-selectable)
Automatic recognition of operational mode
Supports ALL NMRA programming modes

Power:

Runs all DC and coreless motors
Silent, safe 31,25 kHz pulse width frequency BEMF
Motor output overload protected

Function outputs:

8 outputs
250 mA load per output
Outputs short-circuit protected

Sound:

Audio amplifier: 2W @40hms load
Speaker impedance 4-8 Ohms
Memory Capacity 32MBit
8 Sound Channels, All playable at once!
Over 20 different sounds!

Dimensions:

1.02 x 0.62 x 0.18 inch (25.5 x 15.5 x 4.5 mm)

Default Function Assignments

Function key	Effect
F1	Bell
F2	Playable Airhorn
F3	Coupler
F4	Dynamic Brake
F5	Class Lights W/G/R Each press changes light color
F6	AUX1 Forward + AUX2 Reverse Directional Ditchlights
F7	Switching Mode
F8	Sound (On/Off)
F9	Drive Hold
F10	Independent Brake
F11	Radiator (Fan) Sound
F12	Dimmer (Headlights)
F13	Slow Spitter Valve
F14	Hand Brake Wheel
F15	Hand Brake Ratchet
F16	Spitter on Shutdown Off
F17	Brake Set / Brake Release
F18	Sanding Valve
F19	Short Air Let Off
F20	Compressor
F21	Fast Spitter Valve

Diesel sound Volume Control table

Function (Diesel)	CV	Range	Default
Master volume control	63	0 - 192	180
Diesel Volume Control	259	0 - 128	99
Horn Volume Control	275	0 - 128	128
Bell Volume Control	283	0 - 128	128
Coupler Sound Volume Control	291	0 - 128	128
Dynamic brake Volume Control	299	0 - 128	128
Air Compressor Volume Control	307	0 - 128	128
Radiator Fan Volume Control	315	0 - 128	128
Detector Sound Volume Control	323	0 - 128	128
Crossing Comm Sound Volume Control	331	0 - 128	128
Railclank Volume Control	339	0 - 128	64
Brake Set / Brake Release	347	0 - 128	128
Sanding valve Volume Control	355	0 - 128	128
Short Air Let Off Volume Control	363	0 - 128	128
Short Airhorn Volume Control	371	0 - 128	128
Random sounds	451	0 - 128	128

BE SURE CV 32 IS SET TO 1 BEFORE CHANGING CVs 257-511

Sound Choices

This Factory equipped LokSound Digital Sound Decoder was built specifically to be correct for the Prototype of the model. You may find however that you would like different Sounds. All sounds can be changed with CV48 and your Command Station.

NO BOOSTER IS NEEDED

Diesel Decoders Airhorns		16 to choose
Airhorn name	CV 48 value	
Nathan K5LA		0
Nathan K3L		1
Nathan M5		2
Nathan P3		3
Nathan Old Cast P5		4
Nathan K3H	*default*	5
Leslie RS3L		6
Leslie RS5T		7
Leslie A125		8
Nathan M3		9
Leslie RS3K		10
Nathan K5H		11
Leslie A-125		12
Nathan M3H		13
Leslie S3E		14
Leslie S5TRF		15

Diesel Decoders Bell Types

Bell Type	CV 48 value
EMD Steel Bell	0
EMD Bronze Bell	*Default* 64

Diesel Prime Mover	
Brake Squeal Version	CV 48 value
EMD 16cyl 645E with turbo	Default 0 0

Add Totals from above for total Value in CV 48 5+64+0 = 69

Quick Start Guide CV Reference

CV	Name	Description	Range	Default
1	Short address	Short (2-digit) Address of engine	1 - 127	3
2	Start Voltage	Sets the minimum speed of the engine	1 - 255	3
3	Acceleration Rate	This value multiplied by 0.25 is the time in seconds from stop to maximum speed.	0 - 255	16
4	Braking Rate	This value multiplied by 0.25 is the time in seconds from maximum speed to stop.	0 - 255	32
5	Maximum Speed	Maximum Speed of the engine	1 - 64	64
6	Medium Speed	Medium Speed of the engine	1 - 64	64
17	Extended Address	See full manual online at www.loksound.com		
18				
29	Configuration Register	Add the desired values for each function to get the needed value of CV29	0 - 255	6
		Function	Value	
		Reverse the direction of travel (Forward becomes Reverse)	1	
		Speed steps 0=14; speed steps 2=28/128 speed steps	2	
		Analog Mode Enabled 0=disable; 4=enable	4	
		Address Select: 0=1-127 Primary address; 32=128-9999 Extended address	32	
32	Index Register	Index Register for access of CVs 257-511, CV32 should be 0 for changing CVs 1-256	0,1,2,3	0
48	Master Sound Select	Selects the Prime Mover Sound 0,16,32,64 - Horn Sound 0-15 - Bell Sound 0, 64 - Brake Squeal Sound 0,128 - Add the relative numbers from each sound to get total value for CV 48	0 - 255	3
63	Master Volume Control	Master Volume Control	0 - 192	180
124	Start-Up Delay	Prototype engines start moving when the prime movers reaches "notch one" many times this is difficult for model trains because of non-sound decoders or other brands of sound decoders without this realistic feature. This delay can be adjusted or turned off using CV 124, Bit 3.	-	4
		Function	Value	
		Bit 0 = Reserved	0	
		Bit 2 = Enable decoder lock	2	
		Bit 3 = Start-up delay	4	