

Quick Start Guide

For Bachmann®
DCC Sound-Equipped
Diesel Locomotives
with Ditch Lights



Featuring
DCC Sound Value
Technology by TCS

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For More Information Visit:

www.TCSDCC.com

Overview

Congratulations on the purchase of your Bachmann locomotive with digital sound installed. This state-of-the-art locomotive with a Sound Value Decoder incorporates TCS Digital Sound Technology with realistic operational performance and the benefits of DCC (Digital Command Control).

This Quick Start Guide assumes that you have some understanding of, or experience with, other "prototype" trains and TCS decoders. This guide covers the differences you may need to know between the decoder used in this model and any you may have used previously.

If you are new to DCC, you should start by visiting the TCS website at www.tcsdcc.com to watch the video tutorials provided by TCS.

Sound Value Decoder Features:

With Sound Value decoders, the prototypical sounds of locomotives are carefully recorded, preserved, and played back for an immersive railroading experience.

In addition to excellent audio performance, Sound Value decoders also feature Keep-Alive® UPS (Uninterruptable Power Supply) for uninterrupted operation, even over dirty track as well as Light Mode/Sound Mode function mapping that allows buttons to perform two actions independently.

Operational Features:

- Two available throttle modes: Traditional Throttle and Manual Notching
- Button actuated multi-stage and single stage braking
- Variable momentum for realistic acceleration and deceleration
- Auto-adjusting Back EMF for superior slow speed operation
- Automatic sounds when operating on DC power
- Supports 28/128 speed step modes
- Both simple and advanced consisting for MU (Multiple Unit) operation
- Supports 128 step user-loadable speed tables for completely custom speed curves

Light Features:

- Full Rule 17 dimming
- user-controllable ditch lights
- 17 different programmable lighting effects available

Sound Features:

- 1W+ amplifier for powerful sound in a small package
- Variable length horn/whistle sound for custom signalling
- A large number of sound variations to make MUs more enjoyable
- Function page mapping that allows you to control all 28 functions with just buttons 0-9

Throttle Modes:

Traditional Throttle Mode is the default throttle mode active on your locomotive model out of the box. This throttle mode mimics the “traditional” behavior of a DC locomotive where momentum values are very low, meaning the throttle response is very fast. Additionally, the prime mover notch will be determined exclusively by speed.

Manual Notching Throttle Mode operates just how it sounds. Automatic notching is disabled, meaning you are in complete control. Using the Manual Notching buttons (Function 10 and Function 11), you can shift the RPM of the prime mover at will to any of the 8 notches while independently controlling the speed with the throttle.

Programming Your Locomotive:

*Note that this Keep-Alive[®]-equipped decoder may require a programming booster for reliable programming operations with some systems. Visit your local hobby retailer for more information.

Address Programming:

The default address of all DCC decoders is 3, so you can start by placing the locomotive on the rails and selecting address 3 on your Command Station. To change the address to another number less than 126 (99 for some Command Stations), place the locomotive on the programming track and follow your Command Station instructions for programming CV 1 to your chosen address less than 126. For addresses higher than 126, use your Command Station's instructions for "long address" programming.

Bachmann E-Z Command[®]:

For Bachmann's E-Z Command[®] system, simply follow your command station instructions for programming the address (programming track not required).

Resetting Your Locomotive:

To reset your locomotive to factory default settings, you can program CV8=8.

Running Your New Locomotive:

Your new locomotive is pre-configured with all of the settings best suited to replicate the prototype. This means you can place your engine on the track and immediately start running with either a DCC Command Station or a variable DC power pack supporting up to 18V.

DCC Operation:

With your locomotive address selected, you can begin moving the locomotive with the throttle control, and controlling the light and sound functions with the function buttons.

DC Operation:

Your decoder will work best in analog mode when using an electronically regulated power pack which supplies smooth, filtered DC power. [Older rheostat-style power packs and pulse power packs will result in erratic and unreliable operation. This may be corrected with the addition of a TCS Analog Filter (AF1) available at tcsdcc.com.] If your power pack features a pulse power switch, leave it in the 'Off' position. Using a variable DC power pack with filtered output, your locomotive will come to life as soon as you place it on the track and ramp up the power to 7.5v and above. In DC operation, the headlights, ditch lights, directional horn, and bell sounds will function automatically based on direction and speed. Additionally, a grade-crossing quill can be triggered by quickly increasing the voltage.

Notes on DC Power Supply:

This locomotive can operate with both regulated and unregulated DC power supplies. Your locomotive is factory-set for regulated supply mode (standard for most newer power supplies). Older power supplies may require switching to unregulated power mode for best operation of your locomotive. If you wish to switch the operation mode from regulated to unregulated power, follow these steps:

1. Power the locomotive but DO NOT move it (sounds/lights are activated only).
2. Cycle the direction switch on your analog (DC) controller twice; the locomotive will announce it is now in unregulated supply mode.
3. To return to regulated power supply mode, cycle the direction switch twice again and the locomotive will announce it is now in operation under the regulated mode.

DCC Operation

E-Z Command®

Press function button 8 twice rapidly to switch from page 1 Sound Mode to page 1 Light Mode. Every double press of function button 8 after this will rotate to the next function page.

E-Z Command® Plus

E-Z Command® Plus users should rotate among the function pages by using the Function button on the *E-Z Command® Plus* command center ONLY. The Function button will light up green, blue, or red to indicate which of the three function pages is being accessed.

Diesel Sound Value Paginated Function Mappings for E-Z Command® System		
Press function button 8 twice rapidly to switch from page 1 Sound Mode to page 1 Light Mode. Follow the directions above for paginated function access with E-Z Command® or E-Z Command® Plus.		
Function Page 1:		
	Sound Mode	Light Mode
F0	Headlights On/Off (F10)	
F1	Bell	
F2	Horn – Long	
F3	Horn – Short	Ditch Lights On/Off
F4	Horn Quill	
F5	Train Brake	
F6	Prime Mover	
F7	Dims Headlight (Rule 17)	
F8	1x Press to Mute/Unmute 2x Press to Rotate Light/Sound Mode or Page	

**Diesel Sound Value
Paginated Function Mappings
for E-Z Command® System
(continued)**

Function Page 2:

F0	Manual Notch Up (F10)
F1	Manual Notch Down
F2	Coupler Close
F3	Coupler Release
F4	Brake Release
F5	Dynamic Brakes
F6	Momentum
F7	Crew Alert
F8	1x Press to Mute/Unmute 2x Press to Rotate Light/Sound Mode or Page

Function Page 3:

F0	Air Spitter (F20)
F1	Forward Quill
F2	Reverse Quill
F3	Stop Quill
F4	Rotate Horn/Bell
F5	Windshield Wipers
F6	Exhaust Fan
F7	Not Used
F8	1x Press to Mute/Unmute 2x Press to Rotate Light/Sound Mode or Page

Diesel Sound Value Locomotive Function Mappings for 28-Function Systems

Function pagination will still operate on any DCC-system, but is not necessary to use on systems that support all 28 functions. Press function button 8 twice rapidly to switch from Sound Mode to Light Mode.

To disable Function Pagination (while still retaining the ability to toggle between Sound Mode and Light Mode), set the values of the CV as follows:

CV 201 = 4

CV 202 = 19

CV 203 = 144

CV 204 = 251

Sound Mode Functions

F0	Headlights On/Off
F1	Bell
F2	Horn - Long
F3	Horn - Short Blast
F4	Horn Quill
F5	Train Brake
F6	Prime Mover Ignition
F7	Dims Headlight (Rule 17)
F8	1x Press to Mute/Unmute 2x Press to Rotate Light/Sound Mode or Page
F9	Not Used
F10	Manual Notch Up
F11	Manual Notch Down
F12	Coupler Close
F13	Coupler Open
F14	Brake Release
F15	Dynamic Brakes
F16	Toggle Momentum Mode
F17	Toggle Crew Alert
F18	1x Press to Mute/Unmute
F19	Not Used

**Diesel Sound Value
Locomotive Function Mappings
for 28-Function Systems
(continued)**

Sound Mode Functions (continued):

F20	Air Spitter
F21	Forward Quill
F22	Reverse Quill
F23	Stop Quill
F24	Rotate Horn/Bell
F25	Windshield Wipers
F26	Exhaust Fan
F27	Not Used
F28	1x Press to Mute/Unmute

Light Mode Functions:

F0	Headlight
F1	Not Used
F2	Not Used
F3	Ditch Lights ON/OFF
F4	Not Used
F5	Not Used
F6	Not Used
F7	Dims Headlight (Rule 17)
F8	Not Used
F9	Not Used
F10	Not Used
F11	Not Used

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COMPATIBLE
WITH THE NMRA
STANDARDS AND
RECOMMENDED
PRACTICES

In the event you have a defective or damaged product, do not return the locomotive to the store where it was purchased. After checking all procedures listed in this guide and the warranty included, contact us at:

Bachmann Industries, Inc.
1400 East Erie Avenue
Philadelphia, PA 19124 USA
service@bachmanntrains.com

Should you need service or repairs, please include a detailed description of your concern and complete contact information. For some service issues regarding DCC sound decoders, the Bachmann Service Department may forward your locomotive to TCS for resolution.



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