

Quick Start Guide

For Bachmann®
Econami Sound Value
Equipped Locomotives

Featuring DCC
Sound Technology
by SoundTraxx®



For service/repair, contact the Bachmann Service Department by visiting www.bachmanntrains.com/home-usa/service.php, calling 1-800-356-3910 (toll-free within the U.S. and Canada), or emailing service@bachmanntrains.com. Bachmann's Service Department is available Monday through Friday, 8:30 am to 4:30 pm ET.

Please note your call will be answered as soon as a service technician is available. We thank you in advance for your patience.

You can also send your locomotive to:

Bachmann Trains
Service Department
1400 East Erie Avenue
Philadelphia, PA 19124

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 SoundTraxx for resolution.

Notice

The information in this document is subject to change without notice.

Neither Bachmann Industries, Inc. nor SoundTraxx (Throttle Up!) shall be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from the furnishing, performance or use of this material.

This document contains information protected by copyright. No part of this document may be photocopied or reproduced in any form without the prior written consent of Bachmann Industries, Inc.

Product names mentioned herein may be trademarks and/or registered trademarks of their respective companies. Bachmann is a registered trademark of Bachmann Industries, Inc. SoundTraxx and Econami are trademarks of Throttle Up! Corp.

Overview

Congratulations on the purchase of your Bachmann locomotive with digital sound installed. Econami is designed to further enhance your model railroading experience at an affordable cost while incorporating SoundTraxx Digital Sound Technology and the benefits of today's DCC (Digital Command Control).

This Quick Start Guide assumes that you have some understanding of, or experience with other SoundTraxx Digital Sound Decoders. It covers the differences you may need to know between these decoders and any you may have previously used.

If you are new to SoundTraxx Digital Sound Decoders, you should start with the *User's Guide* which will walk you through the various aspects of programming your sound decoder, as well as some tips on troubleshooting. For the power user, the *Technical Reference* is a complete reference for advanced programming techniques that provides a list of all of the CVs available for use with your sound decoder and their exact function and make-up. These documents are available in PDF format on both the SoundTraxx (www.soundtraxx.com) and Bachmann (www.bachmanntrains.com) websites. Please note that you need to have Adobe® Acrobat Reader installed on your computer to open and print these files. This is available as a free download from www.adobe.com.

Features

SoundTraxx Digital Sound Decoders have a great number of features designed to enhance your operating experience. The custom decoder installed in your locomotive has been pre-programmed for a great ready-to-run experience. However, there are many features available that you may wish to experiment with or adjust to suit your personal preferences.

Sound Features

For users of other SoundTraxx decoder models, you will be pleased to find the same high fidelity sound that you are accustomed to. You will, however, find some differences in the sound features and you will find them outlined in this *Quick Start Guide*. For those operating your trains in DC mode, there are several automatic sound effects that will occur in response to the motion of the locomotive.

Throttle Features

The Digital Sound Decoder that comes with your Bachmann model has many advanced throttle features as part of SoundTraxx's Hyperdrive2™ Advanced Motor Control. With the addition of these features, you will be able to better control your locomotive speed under varying conditions.

Decoder Specifications

- Supports extended address mode for assigning any locomotive number up to 9,999
- Supports advanced consist addressing
- Supports Operation Mode Programming, allowing CVs to be changed on the mainline without using a programming track
- Supports Flex-Map™ Function-mapping

Throttle Specifications

- Supports 14, 28 and 128 speed step modes
- Programmable acceleration, deceleration and starting voltage for prototypical starting and stopping

Lighting Specifications

- Supports Rule 17 operation or automatic direction control

General Sound Specifications

- Adjustable Volume Controls
- 1-Watt Audio Amplifier
- Adjustable master volume level and individual sound effect volume levels
- Adjustable 7-band equalizer to optimize tone and speaker performance

Steam Effects

- 4 selectable Steam Exhaust Chuffs
- 16 selectable Whistles or Airhorns (varies with model)
- 2-cylinder, 3-cylinder, and articulated exhaust selections
- Wheel-slip selections for articulated exhaust
- Dynamic Digital Exhaust
- Long and Short Whistle effects
- 6 selectable Bells with multiple ring rates
- 5 selectable Airpumps
- Cylinder Cocks
- Drifting function
- 4 selectable Dynamos
- Blower sound effects

Diesel Effects

- 5 selectable Prime Movers (all 8 notches)
- 16 Selectable Airhorns
- Long and Short Airhorn effects
- 7 selectable Bells with multiple ring rates
- 2 selectable Compressors

Quick Start

Your Digital Sound Decoder has been installed with all CVs pre-programmed so you can begin using your locomotive immediately without having to worry about making adjustments. Items such as the exhaust chuff rate have already been calculated and optimized for the locomotive. The decoder is set to operate immediately using either a 12 volt DC power pack or NMRA-compatible DCC command station.

Operating with DCC

Your locomotive will respond to address 3 as it would if you had just installed any DCC decoder. As these decoders have two rather than four lighting outputs, we have made some changes to the standard function assignments so that those using command stations with limited function keys can access some additional sound functions. These function assignments are in the *Steam* and *Diesel Operation* sections of this document.

For now, simply set your controller to Locomotive Address 3, place the locomotive on the mainline and away you go! The default function assignments for your decoder are listed below. To activate a function, simply press the appropriate key on your controller.

Operating in Analog Mode Using a DC Power Pack

While the sound system installed in your Bachmann model is first and foremost a DCC decoder, it may be used on a DC powered layout. You may control your locomotive using an ordinary power pack though operation will be a bit different than when running non-decoder equipped locomotives.

With the power pack's throttle set to zero, the decoder will be silent as it has no power. The throttle must be turned up to around 5 volts or so to provide sufficient voltage to power up. At this point, you will begin to hear the background sounds for steam or diesel models.

Increasing the throttle further to around 7.5 volts or so will set the locomotive in motion, increasing speed as the throttle is increased. Note that the direction can only be changed when the locomotive is stopped.

When operating in analog mode, be careful not to exceed the decoder's input voltage rating of 27 volts. **When your track voltage exceeds 21 volts, the decoder will automatically shut-off the sound and motor and flash the front and rear lights: back down on the throttle immediately.**

Important: Your sound decoder will work best in analog mode when using a high quality, electronically regulated power pack, preferably one that supplies smooth, filtered DC power. Older rheostat style power packs and pulse power packs will result in erratic and unreliable operation and should not be used with this sound decoder. If your power pack provides a Pulse power switch, leave it in the 'Off' position.

Depending on the quality of the power pack's track voltage, some automatic sound functions may require

a higher sensitivity setting than DCC operation to avoid continual triggering of the sound effect.

Automatic Sound Functions in DC

The decoder has also been pre-programmed so that the bell will automatically come on at a predetermined track voltage and as the voltage is increased, will turn off. This is designed to replicate the proper use of the bell when an engine is passing through a yard or approaching a station platform.

User-Adjustable Features

CV 8: Manufacturer ID/Factory Reset

CV 8 contains the NMRA-issued Manufacturer ID Code (141) assigned to SoundTraxx and it can reset CV settings to factory defaults. Enter a value from 8 to 13 into CV 8 to reset the desired CVs: 8=Full CV reset, 9=CVs 1-128, 10=CVs 129-256, 11=CVs 1.257-1.512.

Econami is for users seeking a versatile decoder capable of simulating a range of prototypical scenarios. Although this quick start guide does not address configuring CVs, you can adjust the decoder's settings to fit an extensive variety of operating preferences. For instance, you can select from an array of prototype-specific sound effects, configure lighting effects and features, and customize motor control.

You can adjust CVs to customize the following features and settings included in Econami, which supports Operations Mode and Service Mode programming:

- F11 braking for prototypical brake application with brake squeal sound effects
- Adjustable master volume level and individual sound effect volume levels
- Adjustable 7-band equalizer to optimize tone and speaker performance
- Flex-Map function mapping technology for reassigning function keys F0-F28 to any effect, controlling the directionality of lighting outputs, configuring automatic effects, and mapping any effect to the emergency stop button
- Hyperdrive2 advanced motor control for refined low-speed operation
- Acceleration and deceleration momentum rate configuration for prototypical starting/stopping
- Linear (default), 3-point, and 28-point speed curve configurations for custom throttle control
- Primary ("short") and extended ("long") addressing to assign the locomotive's address from 1-9,999
- Advanced consisting to lash up multiple units and run them together
- DCC and DC (analog) operating modes

User-Adjustable Steam Features

- Selectable sound effects, include: 16 whistles, 6 bells, 4 exhaust chuffs, 4 dynamos, 4 airpumps, and 3 couplers
- 2-cylinder, 3-cylinder, and articulated exhaust
- Wheel-slip selections for articulated exhaust
- Dynamic Digital Exhaust for adjusting chuff and side rod clank in response to changes in speed

User-Adjustable Diesel Features

- Selectable sound effects include: 16 airhorns, 7 bells, 5 prime movers, 2 air compressors, and 3 couplers
- Auto-manual RPM notching control for prototypical operation
- Engine interlock for prototypical engine startup
- Adjustable auto-notching sensitivity for prototypical operation
- Dynamic braking mode selections to alter the engine-RPM notch setting when the dynamic brake function is turned on

Steam Operation

Automatic Sounds

Automatic sound effects will become active when the decoder receives power; the automatic sound effects enabled by default are defined below:

Auto-Exhaust

2-cylinder exhaust for a light steam locomotive is active by default. The chuff cadence is automatically adjusted in response to motor speed.

Side Rod Clank

The “clanks” of the side rod occur with the chuff.

Airpump

The airpump sound effect simulates air pressure being maintained in the reservoir during operation. The pump cadence will revert to its most rapid setting every time you engage the coupler and every third time you apply the brake function.

Blower

The blower simulates draft being maintained near the exhaust nozzle in the smoke-box during operation.

Activating Functions

Select address 3 using your cab or command station, and refer to the following descriptions of each default function to activate effects.

Direction Key

Pressing the direction key will issue the sound of the Johnson bar changing position and reverse locomotive direction.

Emergency Stop Button

Pressing the emergency stop button will issue the emergency brake application sound effects and immediately bring your train to a stop.

Note: Pressing function keys will toggle functions F0-F28 “on” or “off.”

F0: Headlight, Backup Light & Dynamo	
F1: Bell	
F2: Whistle	
F3: Short Whistle	
F4: Cylinder Cocks	
F5: Drifting Mode Enable	
F6: Drifting Mode Disable	
F7: Dimmer	
F8: Mute	
F9: Grade-Crossing Signal	Not available on Bachmann E-Z Command®
F10: Blowdown	
F11: Brake Squeal/Brake Release	
F12: (not used)	
F13: Couple/Uncouple	
F14: Switching Mode	
F15: (not used)	
F16: Water Stop	
F17-22: (not used)	
F23: “All Aboard!”/Coach Doors	

For additional information regarding CV configuration, visit www.soundtraxx.com/factory/bachmann.php.

Diesel Operation.

Automatic Sounds

Automatic sound effects will become active when the decoder receives power; the automatic sound effects enabled by default are defined below:

Auto-Start

When the decoder first receives track power, the prime mover will start automatically and bring engine RPM to idle while the locomotive is stopped.

Auto-Notching

Increasing the throttle setting from a stop will advance the engine RPM sound effect through eight RPM notches from idle (notch 1) to notch 8. Decreasing the throttle to zero will reduce engine RPM from notch 8 to idle.

Air Compressor

When the prime mover is on, the air compressor sound effect simulates air pressure being maintained in the reservoir during operation. The air compressor will turn on every time you engage the coupler and every third time you apply the brake function.

Poppet Valve

The sound of the poppet valve plays at random intervals in the background during operation.

Activating Functions

Select address 3 using your cab or command station, and refer to the following descriptions of each default function to activate effects.

Direction Key

Pressing the direction key will reverse locomotive direction.

Emergency Stop Button

Pressing the emergency stop button will issue the emergency brake application sound effects and immediately bring your train to a stop.

Note: *Pressing function keys will toggle functions F0-F28 “on” or “off.”*

F0: Headlight/Backup Light	
F1: Bell	
F2: Airhorn	
F3: Short Airhorn	
F4: Dynamic Brake	
F5: RPM+	
F6: RPM-	
F7: Dimmer	
F8: Mute	
F9: Grade-Crossing Signal	Not available on Bachmann E-Z Command®
F10: (not used)	
F11: Brake Squeal/Brake Release	
F12: (not used)	
F13: Couple/Uncouple	
F14: Switching Mode	
F15-22: (not used)	
F23: “All Aboard!”/Coach Doors	

For additional information regarding CV configuration, visit www.soundtraxx.com/factory/bachmann.php.



COMPATIBLE WITH THE
NMRA DCC STANDARDS AND
RECOMMENDED PRACTICES



www.bachmanntrains.com
Printed in China