Operator's Manual

BlueLine Diesel Locomotives
RELEASE 2

Blueline engines provide realistic sound with or without DCC remote control.

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08/01/08

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More information is available in the Blueline Technical Reference Manual available at www.broadway-limited.com.

Operation with a DC Power Pack

Your BlueLine diesel locomotive is ready-to-run. Simply place the locomotive on a track powered by any DC power pack with a variable output up to 16 volts DC. As you increase the track voltage, the sound system will begin functioning at around 7 volts DC. If you increase track power slowly, you will hear the sound of a diesel locomotive starting, then idling. As you slowly increase track voltage, you will hear the brake release sounds followed by the sound of a diesel engine increasing in speed as the locomotive prepares to move. Once under way, you will hear the engine increasing its RPM. There are a number of sounds the locomotive will produce automatically to simulate the sound of a full-size diesel locomotive.

If you do not use DCC, the DCMaster Analog Control Module (BLI stk# 1011 or PCM stk# 1001), is required for activation of the whistle, bell and some other sounds, and to control the volume. The DCMaster is shown in figure 1, connected between the power pack and the track.

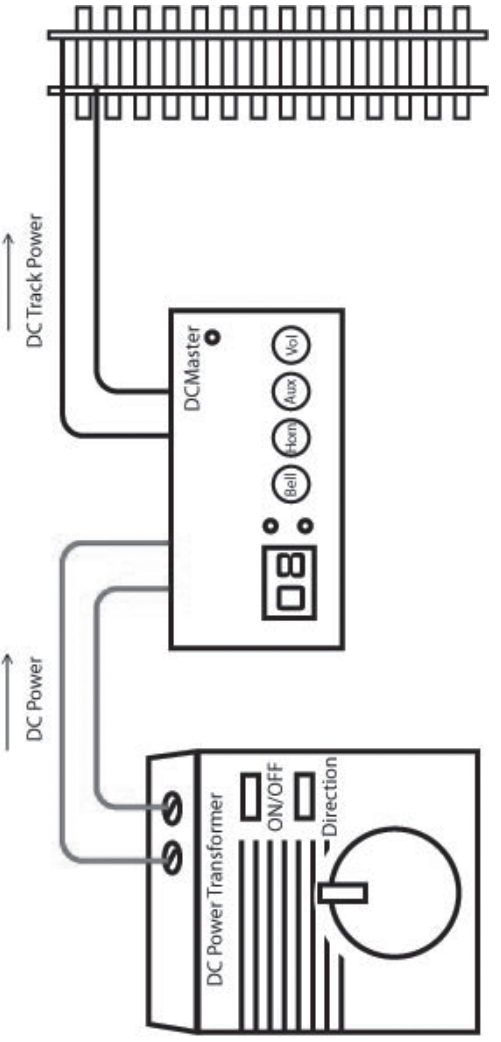


Figure 1.

Manually Activated Sounds

Horn

Plays when the "horn" button on the DCMaster is pressed. The BlueLine horn is highly playable. A quick press and release plays a short horn blast while holding down and releasing produces a long horn blast. Holding the horn active for a long blast,

	releasing quickly and pressing again, then releasing, plays an alternative horn ending. This ending is unique for each locomotive.
Bell	The bell turns on when the "bell" button on the DCMaster is pressed. It turns off when the "bell" button on the DCMaster is pressed a second time.
Air Compressor	Press the "AUX" button on the DCMaster while the locomotive is stopped.
Dynamic Brakes	Press the "AUX" button on the DCMaster while the locomotive is moving.

Automatically Activated Sounds

Startup	The sound of a diesel locomotive starting is heard when the track power is turned on.
Shutdown	The sound of a diesel locomotive being turned off is heard when track power is lowered to about 5 volts.
Brake Set	Plays automatically when the locomotive stops.
Brake Release	Plays automatically when the locomotive starts to move.
Brake Squeal	Plays automatically when the locomotive is slowed quickly.
Diesel Rev Levels	The sound of a diesel locomotive speeding up and slowing down is heard when the model changes speed.

Randomly Activated Sounds

The following sounds will be heard when the locomotive is running or sitting at idle. Various other random sounds may play if appropriate for each locomotive.

Spit Valve	Compressor
Air release	Air filling

Volume/Mute

To mute the sounds, press the "Vol" button once. To turn the sounds back on, press the "Vol" button once. Horn and bell still work when the other sounds are muted.

Your BlueLine locomotive's sound system has 8 volume levels that can be set from the DCMaster. At startup, it is at the loudest setting. To lower the volume, press the "Vol" button on the DCMaster two times quickly (like double-clicking a mouse button on your PC). The volume will decrease one level each time you do this. When the lowest level is reached the volume will start to increase with subsequent double-clicks of the button until the highest volume level is reached, at which point the locomotive brake sound will play to signal maximum volume.

Tip: To make the locomotive always start at a lower volume, set CV 133 to some number lower than 15. 0 is off, 15 is max.

Tip: The volume of many sound features can be set independent of the overall volume by setting CV's 135 through 152 with the DC Master. See the next section.

Setting Configuration Variables (CV's) without DCC

Your BlueLine locomotive's sound system is highly configurable even without DCC by using the DCMaster. Most of the locomotive's functions are controlled by setting Configuration Variables (CV's). To change a CV:

1. Place the locomotive on the track with track power off. Hold down both the "Aux" and Vol" buttons on the DCMaster while turning track power on to maximum voltage. The locomotive will not move. The display on the DCMaster will read "E01."

2. Press the bell(-) button or horn(+) button to scroll past E15, then to the CV numbers which range from 1-255 (There is no E in front of the CV numbers.) Stop at the one you want to change and press the "Vol" button.

3. Use the bell(-) button or horn(+) button to scroll to the new value, then press "Vol" to accept. The locomotive will make a 'beep' sound to acknowledge.

4. Turn off track power to finish programming.

Tip: The locomotive you are setting should be the only BlueLine locomotive on the track. Otherwise all locomotives on the track will have their CV's reset.

Commonly used DC settings are shown below:

#	Name	Description	Usual values	Factory Setting
CV8	Master Reset	Setting CV8 to 8 resets everything to factory settings.	8	8
CV130	Master Volume Sound Increment	There are 16 volume levels. Setting to 2 requires 8 double presses to get from off to loudest.	1,2,4,8	2
CV131	Analog Sound Unit Startup	A lower number causes the sounds to start at a lower track voltage.	0-255	56
CV132	Analog Sound Unit Shutdown	A lower number causes the locomotive shutdown sound to play at a lower track voltage.	0-255	48
CV133	Sound Unit Master Volume	higher number is louder.	0-15	15
CV135	Horn Volume	higher number is louder.	0-255	100
CV136	Bell Volume	higher number is louder.	0-255	100
CV137	Diesel Volume	higher number is louder.	0-255	100
CV138	Horn2 Volume	higher number is louder.	0-255	100
CV140	Coupler Volume	higher number is louder.	0-255	100
CV141	Uncouple Volume	higher number is louder.	0-255	100
CV142	Wheel Flange Volume	higher number is louder.	0-255	100
CV143	Compressor Volume	higher number is louder.	0-255	100
CV144	Manual Air Release Volume	higher number is louder.	0-255	100
CV145	Air Filling Volume	higher number is louder.	0-255	100
CV146	Brake Set Volume	higher number is louder.	0-255	100
CV147	Brake Release Volume	higher number is louder.	0-255	100
CV148	Spit Valve Volume	higher number is louder.	0-255	100
CV150	Dynamic Brake Volume	higher number is louder.	0-255	100
CV151	Brake Squeal Volume	higher number is louder.	0-255	100
CV152	Fuel Fill Volume	higher number is louder.	0-255	100
CV180	Bell Ring Interval	Increasing increases the time between bell rings	0-255	varies
CV184	Analog Brake Control	Increase to play the brake sound more frequently	0-255	64
CV188	Pitch Shift	Change to alter pitch of all sounds. Makes 2 locomotives sound different	0-255	128
CV222	Analog AUX Select for DCMaster	Selects which function is controlled by the Aux button. 0=Comp/Blower 1=Coupler sound 2=Front/rear light 3=Mars or Ditch lights	0-3	0
CV224	DC Easy Consist	Set consist position as front, middle or rear locomotive. Rear locomotive is facing rear. 0=single locomotive 1=front locomotive 2=middle eng. 3=rear locomotive	0-3	0
CV245	Enable Alternate Horn Ending	0=disable 1=enable	0,1	1
CV248	Enhanced DC Motor Startup Delay	Delays the motor start up after applying power. Used to match the speed of other sound locomotives. Higher value SHORTENS delay.	0-63	8
CV249	Enhanced DC Motor Control Momentum	Simulates momentum by delaying the response of the motor to track voltage changes. Lower=Shorter.	1-255	10
CV250	System response Momentum	Simulates momentum by delaying the response of the sounds and motor to track voltage changes.	1-255	1
CV251	Enhanced DC Motor Control Vmax	Voltage at which 100% of track power is sent to motor. (must be greater than Vmin)	0-255	150
CV252	Enhanced DC Motor Control Vmin	Track voltage at which motor will start moving. A Lower Value = Lower Start Voltage	0-255	80
CV253	Enhanced DC Motor Control Dmin	Portion of track power applied to motor at Vmin	0-255	50

Consists

BlueLine locomotives can be set to run in a DC consist with each other by setting CV 224 to 1,2, or 3, which designates the locomotive as front, middle or rear facing rear locomotive, respectively. The rear loco facing backwards since railroads commonly run the rear loco in reverse. This automatically sets the lights, bell and horn to respond appropriately. To break the consist, simply program zero into CV224. (To make the rear facing loco forward facing, Set CV224 to 3, then change CV223 to 1 to enable the rear light.)

BLI's BlueLine Locomotives are programmed from the factory to start-up just like the prototype, utilizing a realistic motor start-up delay that lets the diesel engine starting sounds finish before the train moves. To eliminate this delay and allow the locomotive to start moving instantly, increase CV 248 to a value of 63 using the DC Master (See Page 6 of this manual).

BlueLine locomotives start moving at a higher track voltage than non-sound locomotives. This is done to allow the sound system to start working before the locomotives moves. To double-head with non sound locomotives, unplug the top board (see Page 9 of the Operators Manual) and install in its place the two jumpers included with the locomotives as shown below. This connects the motor directly to track power. You will notice the engine can now move before there is enough track power to operate the sound system. Setting CV 131 to a value of 0 starts the sounds at the lowest possible setting.

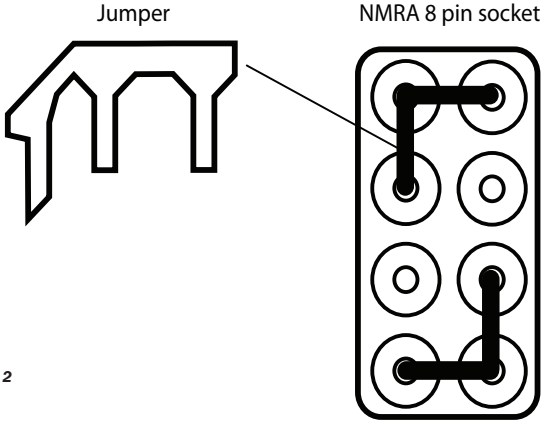


Figure 2

DCC Decoder Installation

Broadway Limited BlueLine locomotives can be easily equipped with the industry standard remote control known as Digital Command Control or DCC. To convert your BlueLine locomotive to DCC, simply remove the body. (This usually requires removing the couplers, and pulling gently at the sides of the plastic body shell.) Once the body shell is removed, you will see a small circuit board plugged into the top of the main sound circuit board. Gently remove this top board and set it aside, exposing the National Model Railroad Association (NMRA) medium plug.

Install Decoder. Your BlueLine locomotive's sound board is compatible with any NMRA compliant decoder. You can use any decoder that has an NMRA medium plug and will physically fit inside the locomotive. Included with the locomotive is an extension plug which goes between the decoder and the sound board to raise some decoders high enough to fit properly. Some recommended decoders are:

Brand	*Model*	*Extension?*	*Note*
Digitrax	DZ143PS	no	Tiny decoder. Excellent fit.
NCE	N14IP	yes	Tiny decoder. Excellent fit.
Lenz	Silver-MP	no	Excellent Back EMF. Must cut GREEN WIRE.
Train Control Systems	M1P-SH	no	Fits well. Runs Well.
ESU	LokPilot Micro#52610	no	Provides excellent back EMF in DC and DCC. Adjustable DC start voltage.
MRC	1650	yes*	*Must shorten plug leads and use extension to fit over light plug or leave light plug in J1.

Simply plug the decoder into the NMRA medium plug, with pin #1 (orange wire) oriented as shown and replace the body. On some locomotives, the decoder will only fit in one direction. If the locomotive runs backwards upon installation of a DCC decoder, simply rotate the decoder 180 degrees and reinstall. If the decoder cannot be rotated, reverse the direction by setting CV29 to 7 for 2-digit addresses or to 39 for 4-digit addresses. If the CV is changed to reverse direction, you must unplug the 4 wire plug from the socket labeled "J1" and plug it into the

socket labeled “J7” as shown below. This lets the motor decoder control the lights and ensures they match the engine direction.

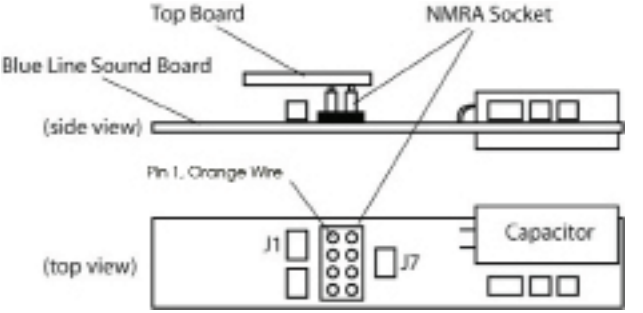


Figure 3.

DCC Operation

Once you have installed a DCC decoder, it will control the motor. The sound board has its own internal decoder to control the lights and the sound functions. ***The address of both decoders must be the same.*** Your BlueLine locomotive’s sound board comes preprogrammed as Engine “3”, as do most motor decoders. 128 speed step operation is recommended for best match of sounds to operation.

DCC Programming

To change the engine ID, Ops Mode Programming on the main line is highly recommended. First, make sure you can run the locomotive as engine #3 and blow the horn. Then, reprogram on the main track following the procedure for your DCC system. See page 19. (Note: Lenz systems do not allow changing address on the main line. Use the program track.)

Diesel Function Key Definition

Function Key	Description
F0	Front Light/Rear Light
F1	Diesel Bell
F2	Diesel Horn
F3	Uncouple/Couple
F4	Compressor / Dynamic Brake
F5	Ramp Diesel Engine Up
F6	Ramp Diesel Engine Down
F7	Ditch or MARS light On/Off (if equipped)
F8	Master Analog Volume/Mute
F9	Startup Diesel Engine/ Shutdown Diesel Engine
F10	Radiator Cooling Fan
F11	Air Filling/Air Release
F12	Brake Set/ Brake Release

Diesel Bell (F1)

Pressing F1 turns on the bell. Most controllers allow the bell to stay on until the F1 is pressed a second time.

Diesel Horn (F2)

Pressing F2 activates the horn. The BlueLine horn is highly playable. A quick press and release plays a short horn blast while holding down and releasing produces a long horn blast. Holding the horn active for a long blast, releasing quickly and pressing again, then releasing, plays an alternative horn ending. This ending is unique for each locomotive.
Some DCC controllers have the ability to vary the sound of the horn. This model is equipped with a variable "analog" whistle function that will operate if your system is capable of sending the signal.

Coupler (F3)

Pressing F3 when the locomotive is moving causes a coupling sound effect to play. The effect simulates two cars coupling. The uncoupling sound may be simulated by pressing F3 when the locomotive is stopped. This action

arms the uncoupling sound, making it ready to play. The actual uncoupling sound effect plays when the engine gets to speed step 3. (This can be adjusted to occur at any speed by entering the speed step into CV187.

Compressor and Dynamic Brakes (F4)

Pressing F4 activates the compressor when the locomotive is stopped. Pressing F4 again shuts the compressor off. The dynamic brake is activated by pressing F4 when the locomotive is moving. Pressing F4 again shuts the dynamic sound brake off. (The sound heard is the sound of the cooling grid fans that come on when the dynamic brake is used.)

Diesel Engine Rev Up (F5)

The Diesel RPM is normally controlled automatically. CV201, 202, and 203 set the throttle speed step at which the sounds increase from one RPM level to the next.

At any speed greater than step 1, pressing F5 will cause the engine RPM to increase one level per press. If the RPM is increased to its maximum level, it will stay there until the throttle is returned to zero. If the RPM is set to any intermediate level, it will stay there until the speed is increased to the speed step that would normally coincide with that RPM level, at which time the engine will return to automatic operation. This is used to simulate starting a heavy load. The engineer will increase the engine RPM, then start moving the locomotive.

Diesel Engine Rev Down (F6)

At any speed greater than step 1, pressing F6 will cause the engine RPM to decrease one level per press. This can be further customized using CV201, CV202 or CV203.

Mars Light (F7)

Pressing F7 will turn on the mars or ditch lights. Pressing F7 again will turn off the mars or ditch lights.

Master Volume and Mute (F8)

There are 8 volume levels that can be set from the DCC handheld cab. At startup, it is at the loudest setting. To lower the volume, press the F8 button two times quickly (like double-clicking a mouse button on your PC). The volume will decrease one level each time you do this. When the lowest level is reached the volume will start to increase with subsequent double-clicks of the button until the highest volume level is reached, at which point the locomotive brake sound will play to signal maximum volume.

To mute the sounds, press the F8 button once. To turn the sounds back on, press the F8 button once. Horn and bell still work when the other sounds are muted.

Tip: To make the locomotive always start at a lower volume, set CV 133 to some number lower than 15. 0 is off, 15 is max.

Startup/Shutdown Diesel Engine (F9)

The sound system powers up with all sound effects off. The startup sound effect is played by throttling up or by pressing F9. If the locomotive is already playing sound effects, pressing F9 initiates the shutdown diesel locomotive sound effect.

Radiator Cooling Fan (F10)

Pressing F10 activates the radiator cooling fan. Once the fan is active, pressing F10 turns the fan off. See Radiator Cooling Fan.

Air Filling and Air Release (F11)

Pressing F11 while the locomotive is stopped activates the air filling sound effect and while the locomotive is moving, pressing F11 activates the air release sound effect.

Brake Set and Brake Release (F12)

When the locomotive is at speed step zero, pressing F12 activates the brake set sound effect. When the locomotive is above speed step zero, pressing F12 activates the brake release sound effect.

The automatic brake set and brake release may be disabled by clearing bit 0 of CV227.

Brake Squeal

Brake squeal is an automatically generated sound if the preset conditions are met. The conditions are programmable and clearing bit one of CV227 disables the brake squeal effect. (See the BlueLine Diesel Technical Reference Manual.) A sudden change in throttle steps in a decreasing direction activates the brake squeal sound effect. DCC Brake Control (CV185) contains this value. The factory value is ten. Increasing this value decreases the brake sensitivity while decreasing this value increases the sensitivity. The more sensitive, the more likely the brakes squeal sound effect is activated.

The DCC Brake Timer (CV186) determines the time interval between throttle samples. The throttle samples are compared and if in decreasing magnitude and exceeding CV227 (above), the brake squeal sound effect is activated.

Randomly Activated Sounds

The following sounds will be heard when the locomotive is running or sitting at idle. Various other random sounds may play if appropriate for each locomotive.

Spit Valve	Compressor
Air release	Air filling

Tip: To make the locomotive always start at a lower volume, set CV 133 to some number lower than 15. 0 is off, 15 is max.

Tip: The volume of many sound features can be set independent of the overall volume by setting CV's 135 through 152 with the DC Master. See the next section.

CV Programming

The sound and operation of Blueline locomotives can be customized by setting a number of configuration variables (CV's). A list of DCC settings is shown on page 16. Broadway Limited Imports recommends programming your BlueLine locomotives on the main track using Operations Mode programming. BlueLine locomotives can also be programmed in Direct mode or Paged mode on the programming track. In most cases, programming can be done with the motor decoder installed. If a conflict arises, reset both decoders to their factory default, address 3, and program on the main line.

Instructions for basic programming using some popular DCC systems starts on page 20.

Reading CV's

Digitrax and Lenz systems can read Blueline CV's in any mode. Most MRC and NCE systems require a programming track booster to read CV's. A booster is not required to operate the train or to program CV's.

DCC Easy Consist

Start with each engine having a unique address.

You can create a consist by designating each engine as front, middle, or rear, then setting the consist address.

CV230 designates the position in the consist as follows:

CV230 = 1 for the Front Engine
CV230 = 2 for all Middle Engines
CV230 = 3 for the Rear Engine

Front Engine: Set CV230 = 1. Pick a consist address between 1 and 127 (10 for example) and program it into CV19.

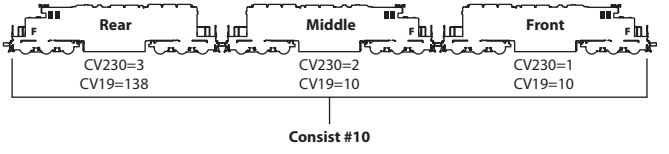
Middle Engines: Set CV230 = 2. Set CV19 = consist address (10 for example). (For a rear facing engine, Set CV 19 = the consist address plus 128. (138 for example if the consist address is 10).

Rear Facing Rear Engine: Set CV230 = 3. Set CV 19 = the consist address plus 128. (138 for example if the consist address is 10).

Front Facing Rear Engine: Set CV19 = Consist Address, then set CV 229=1 to set the lights.

Operate the consist by selecting its address as if it were a locomotive (Select loco #10 for example).

Note: Setting CV19 to zero removes the engine from the consist.



DCC CV's, descriptions, and default settings

#	Name	Description	Usual values	Factory Setting
CV1	Primary Address	DCC address	1-127	3
CV7	Manufacturer Version	Read only software version		varies
CV8	Manufacturer ID	NMRA manufacturers ID number	38	38
CV15	Unlock ID Code	Unlocked when CV15=CV16	0,1,2,3	0
CV16	Lock ID Number	Lock	0,1,2,3	0
CV17	Extended Address MSB	Valid when CV29 bit 5 =1, see tech manual	0-10239	Engine 128
CV18	Extended Address LSB	Valid when CV29 bit 5 =1	0-10239	Engine 128
CV19	Consist Address		0-255	0
CV21	Consist Address Functions Type 0	see tech manual	0-255	255
CV22	Consist Address Functions Type 1	see tech manual		
CV29	Configuration Bits	see tech manual		
CV33	F0(f) Output	selects which function F0 activates in forward		
CV34	F0(r) Output	selects which function F0 activates in reverse		
CV35	F1 Output	see tech manual		
CV36	F2 Output	see tech manual		
CV37	F3 Output	see tech manual		
CV38	F4 Output	see tech manual		
CV39	F5 Output	see tech manual		
CV40	F6 Output	see tech manual		
CV41	F7 Output	see tech manual		
CV42	F8 Output	see tech manual		
CV43	F9 Output	see tech manual		
CV44	F10 Output	see tech manual		
CV45	F11 Output	see tech manual		
CV46	F12 Output	see tech manual		
CV130	Master Volume Sound Increment	There are 16 volume levels. Setting to 2 requires 8 presses to get from off to loudest.	1,2,4,8	2
CV133	Sound Unit Master Volume	higher number is louder.	0-15	15
CV135	Horn Volume	higher number is louder.	0-255	100
CV136	Bell Volume	higher number is louder.	0-255	100
CV137	Diesel Volume	higher number is louder.	0-255	100
CV138	Horn2 Volume	higher number is louder.	0-255	100
CV140	Coupler Volume	higher number is louder.	0-255	100
CV141	Uncouple Volume	higher number is louder.	0-255	100
CV142	Wheel Flange Volume	higher number is louder.	0-255	100
CV143	Compressor Volume	higher number is louder.	0-255	100
CV144	Manual Air Release Volume	higher number is louder.	0-255	100
CV145	Air Filling Volume	higher number is louder.	0-255	100
CV146	Brake Set Volume	higher number is louder.	0-255	100
CV147	Brake Release Volume	higher number is louder.	0-255	100
CV148	Spit Valve Volume	higher number is louder.	0-255	100
CV150	Dynamic Brake Volume	higher number is louder.	0-255	100
CV151	Brake Squeal Volume	higher number is louder.	0-255	100
CV152	Fuel Fill Volume	higher number is louder.	0-255	100
CV159	System Lighting	Controls system lighting. See tech manual		
CV160	L1 Light Definition	see tech manual	0,1,2,3	varies
CV161	L1 Parameter 1	see tech manual		
CV162	L1 Parameter 2	see tech manual		
CV163	L1 Parameter 3	see tech manual		
CV164	L1 Parameter 4			
CV180	Bell Ring Interval	Increasing increases the time between bell rings	0-120	varies
CV181	Horn Fade In	see tech manual		
CV182	Horn Fade Out	see tech manual		
CV183	Horn Fade In Level	see tech manual		

CV185	DCC Brake Control	increasing decreases brake sensitivity	0-255	10
CV186	DCC Brake Timer	increasing decreases brake duration	0-255	1
CV187	Coupler	Sets the throttle speed step at which coupler sound is played.	0-255	3
CV188	Pitch Shift	Change to alter pitch of all sounds. Makes 2 locomotives sound different	0-255	128
CV201	DCC Rev Level One Throttle Stop	Sets the throttle speed step at which locomotive revs from idle to notch 1.	0-255	2
CV202	DCC Rev Level Two Throttle Stop	Sets the throttle speed step at which locomotive revs from notch 1 to notch 2.	0-255	8
CV203	DCC Rev Level Three Throttle Stop	Sets the throttle speed step at which locomotive revs from notch 2 to notch 3.	0-255	15
CV208	DCC Cab Light Throttle Stop	If equipped, cab light is turned on below this speed step.	0-255	3
CV209	DCC Brake Set Throttle Stop	Brake is set below this throttle level.	0-128	1
CV210	DCC Brake Release Throttle Stop	Brake is released when speed exceeds this throttle level.	0-128	2
CV225	DCC Control One	see tech manual		
CV226	DCC Control Two	see tech manual		
CV227	DCC Control Three	see tech manual		
CV228	DCC Startup Timer	Delay at start up to look for DCC signal.	0-255	2
CV229	DCC Extended Consist Lighting	see tech manual		
CV230	DCC Easy Consist	0=single locomotive, 1=front, 2=middle, 3-rear locomotive in consist.	0,1,2,3	0
CV240	Random Sound Generator Occurrence	Increasing decreases how often random sounds occur.	1-30	24
CV245	Enable Alternate Horn Ending	0=disabled 1=enabled	0,1	1

Write down your favorite settings:

CV #	Name	Value
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DCC Programming Quick Reference Guide

DEFAULT ADDRESS = 3
FACTORY RESET: Set CV 8 = 8

You should never need to lock your decoder. The Blueline sound system uses CV's that are specifically chosen to not conflict with those of your motor decoder. (The decoders can be locked to prevent conflict when reading CV's using CV 15 and 16. This should only be done by experienced operators.)

We recommend programming BlueLine locomotives on the main line in Ops mode. This prevents possible conflict between the sound decoder and the motor decoder. Ops mode programming will not reprogram all other locomotives on the layout, only those with the same address as the engine you are reprogramming . If you do not know the engine ID or the engine will not respond, reset CV08 to 8 on the program track, which will reset the Blueline sound board back to its factory default setting and change the address back to 3. You may also have to reset the motor decoder back to its default setting.

To reset motor decoders to factory settings:

To reset the motor decoder to its default setting, change the reset CV to the proper value for the decoder you are using. (NOTE: If you have set a lock code for the decoder in CV16, then CV15 must be set to the same code before resetting the decoder.)

NCE, Set CV30 to 2. (Must be done on Program Track)
Lenz Set CV8 to 33
MRC Set CV125 to 1
Most others, (including Digitrax) Set CV8 to 8.

Programming BlueLine locomotives using NCE Procab: To program a 4 digit address: Install the decoder as described on page 9. The locomotive default address is 3. You should be able to run the locomotive as Locomotive #3 and blow the horn. Leave the locomotive on the main track.

To reprogram, press the PROG/ESC button until the display reads "Program on Main". Press ENTER.

Display should read 0003. Press ENTER.

The first display option should read "1=ADR". Press 1.

The first display option should read "1=Long". Press 1.

Enter the new address, for example 2477. Press enter.

Note** Older Procabs systems cannot change from one 4 digit address to another. Change address to 3 first, then to the new 4 digit address.

To RESET BlueLine locomotive to factory default using NCE Procab on the Program Track:

Press PROG/ESC 4 times. The display should read "USE PROGRAM TRACK". Press Enter.

Display should say "2=CV". Press 2

The display should read "Enter CV NUM:". Press 8, then enter.

The display should "WAIT", then after 25 seconds say "Cannot Read CV". Press Enter.

Press "8", then enter.

The sound board should make a sound to indicate it was reset.

Reset your motor decoder now if it does not reset with CV8=8

Display should read "Enter CV". Enter the reset CV # for your motor decoder from the list on p 20. Press "Enter".

The display should "WAIT", then say "Cannot Read CV". Press Enter. Enter the reset value and press "Enter"

Press PROG/ESC.

The locomotive should now be reprogrammed back to ID#3.

Programming BlueLine locomotives using MRC Prodigy Advance:

To program 4 digit addresses into BlueLine locomotives using MRC Prodigy Advance: Install the decoder as described in the BlueLine Operator's Manual. The locomotive default address is 3. You should be able to run the locomotive as Locomotive #3. Leave the locomotive on the main track.

Press PROG repeatedly until the display reads "Prog Main Track". Press ENTER.

Press 3, then ENTER.

The display should say "ADR". Enter the new 4 digit address, for example, 2477. Press ENTER.

Press LOCO, then 2477 to run the locomotive.

To RESET BlueLine locomotive to factory default using MRC Prodigy Advance on the Program Track: Place the locomotive on the program track.

Press PROG repeatedly until the display reads "Prog Prog Track".

Press ENTER repeatedly until the display reads "CV #". Press 8 then ENTER.

The display will prompt for the value. Press 8, then ENTER. The locomotive will beep.

Reset your motor decoder now if it does not use CV8=8, by entering the CV# and Value from the table on Page 20

Press LOCO, then 3 to run.

Programming BlueLine locomotives using Digitrax DT400:

To program 4 digit addresses into BlueLine locomotives using Digitrax DT400: Install the decoder as described in the BlueLine Operator's Manual. The locomotive default address is 3. You should be able to run the locomotive as Locomotive #3. Leave the locomotive on the main track with track power on.

Press PROG. You will see "Pg" in the center of the bottom row of the display.

Rotate the left throttle counterclockwise until the display reads "AD2". Press the right throttle knob to make the display read AD4.

Use the keypad to enter the 4 digit address, 2477 for example. Press ENTER.

The display will ask "AD4on?=y." Press the Y+ key before the question disappears. (If it disappears, press enter again, then press the Y+ quickly.

Press EXIT.

Press LOCO, 2477, then ENTER to run the locomotive.

To RESET BlueLine locomotive to factory default using Digitrax DT400 on the Program Track.

Press PROG. You will see "Pg" in the center of the bottom row of the display.

Rotate the left throttle knob until "08=???" appears on the display.

Rotate the right throttle know until "08=08" appears on the display. Press Enter.
Reset your motor decoder now if it does not use CV8=8, by entering the CV# and Value from the table on Page 20

Press Exit. The locomotive ID # is now 3.

Programming BlueLine locomotives using locomotives using Lenz Digital Plus system.

The Lenz system does not allow programming locomotive ID on the main track. To program on the program track:

Press F, then 8.

The display should flash “PROGRAM”. Press enter.

Press the + key until the display reads “DIR”.

Press enter, then press + repeatedly until the display reads “ADR” then press enter.

The display should read “A*_”. Enter the address, 2477 for example, and press enter. The engine should beep several times and display the new address as A*2477

**If an error message occurs, you will get a message like “ERR02” press “ESC” and quickly re-enter the address. (You may have to do this several times. This is because the sound decoder has a capacitor that charges when the track power is turned on to program. This interferes with the signal. Once the signal is sent quickly several times, the capacitor will be fully charged and will no longer interfere. If this is not successful, the address can be entered manually by setting CV 17, 18 and 29. Call service for assistance.

To RESET BlueLine locomotive to factory default using Lenz system on the Program Track: Place the locomotive on the programming track.

Press F, then 8. The display should flash PROGRAM. Press enter. Press the + key until the display reads CV.

Press 8. Press Enter.

Press 8. Press Enter. The locomotive should beep to indicate the CV was changed.

Reset your motor decoder now if it does not use CV8=8, by entering the CV# and Value from the table on Page 20

Press ESC twice. The locomotive ID # is now 3.

Troubleshooting Guide

Problem: After programming, the engine will move, but there are no engine sounds or horn in DCC.

Likely Cause: The motor decoder was reprogrammed to a new address, but the sound decoder was not. On the main track, try addressing the engine using its previous address, 3 for example. Turn the throttle. The sounds should come on. Blow the horn. If this works, it indicates that the sound board is still programmed as address 3.

Solution: Leave the engine on the main line and reprogram from 3 to the new address using operations mode programming by following the instructions that came with your DCC system. (Instructions for some popular systems start on page 19 of this manual.)

If this does not work, reset the engine to its factory default and program the new address on the program track following the instructions starting on page 19.

Problem: After programming, the engine will not move, but the sounds start when the DCC throttle is moved.

Likely Cause: The motor decoder was not reprogrammed to a new address, but the sound decoder was. On the main track, try addressing the engine using its previous address, 3 for example. Turn the throttle. The engine should move. If this works, it indicates that the motor decoder is still programmed as address 3.

Solution: Leave the engine on the main line and reprogram from 3 to the new address using operations mode programming by following the instructions that came with your DCC system. (Instructions for some popular systems start on page 19 of this manual.)

If this does not work, reset the engine to its factory default and program the new address on the program track following the instructions starting on page 19.

Notes:

Notes:

Also available in the BlueLine offering exceptional value for your modeling dollar:

AT&SF 4-8-4, HO

N&W Class A, HO

EMD F7 A/B, HO

ALCO RSD-15, HO