Using the ESU LokProgrammer
A Closer Look

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Largo, Florida

Acknowledgements

- Matt Herman – ESU
- Nick Santo – https://nixtrainz.com
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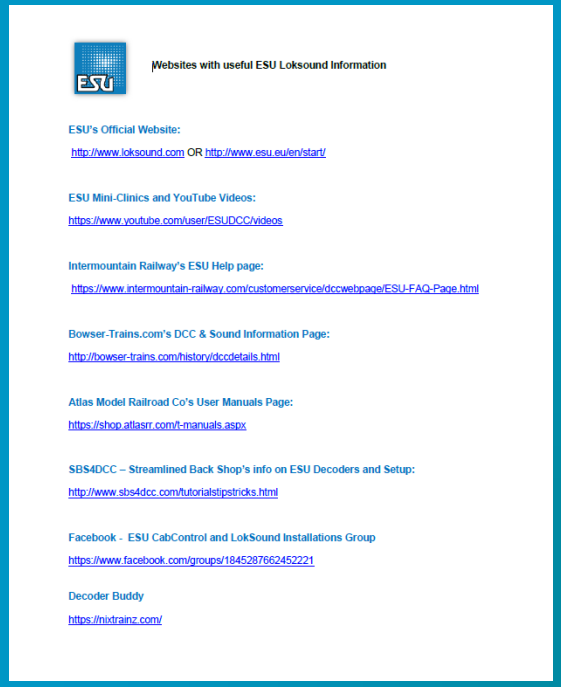
- Jeff Aley – Prototype Rails Cocoa Beach
- Bill Schneider – Rapido Trains

Comparison of Popular ESU Decoders

Feature	Loksound Select	Loksound V 4.0	Loksound V 5.0	LokPilot
Can be modified w/ LokProgrammer	Yes	Yes	Yes	Yes
Rated Speaker Impedance	4 Ohms	4 Ohms	4 Ohms	N /A
Audio Quality	8 bit	8 bit	**16 bit**	N/A
Rated Output in Watts	1 Watt	1 Watt	**2 Watts**	
Simultaneous Audio Channels	8 channels	8 channels	**10 channels**	N/A
Number of Functions	8	8	**10**	Up to 6
Can modify/change/add individual sound per decoder	No	Yes	Yes	N/A
Future Features can be added via Firmware upgrades	Yes*	Yes*	Yes	Yes
Supported Protocols	Marklin, M4, Selectrix, DCC	Marklin, M4, Selectrix, DCC	Marklin, M4, Selectrix, DCC*	Marklin, M4, Selectrix, DCC
Can accept PowerPack (stay alive circuit)	Yes	Yes	Yes	Yes

For a copy of the handout from this clinic:



Websites with useful ESU Loksound Information

ESU's Official Website:

http://www.loksound.com OR http://www.esu.eu/en/start/

ESU Mini-Clinics and YouTube Videos:

https://www.youtube.com/user/ESUDCC/videos

Intermountain Railway's ESU Help page:

https://www.intermountain-railway.com/customerservice/dccwebpage/ESU-FAQ-Page.html

Bowser-Trains.com's DCC & Sound Information Page:

http://bowser-trains.com/history/dccdetails.html

Atlas Model Railroad Co's User Manuals Page:

https://shop.atlasrr.com/t-manuals.aspx

SBS4DCC – Streamlined Back Shop's info on ESU Decoders and Setup:

http://www.sbs4dcc.com/tutorialstipstricks.html

Facebook - ESU CabControl and LokSound Installations Group

https://www.facebook.com/groups/1845287662452221

Decoder Buddy

https://nixtrainz.com/

http://www.dccgeek.com/downloads.html

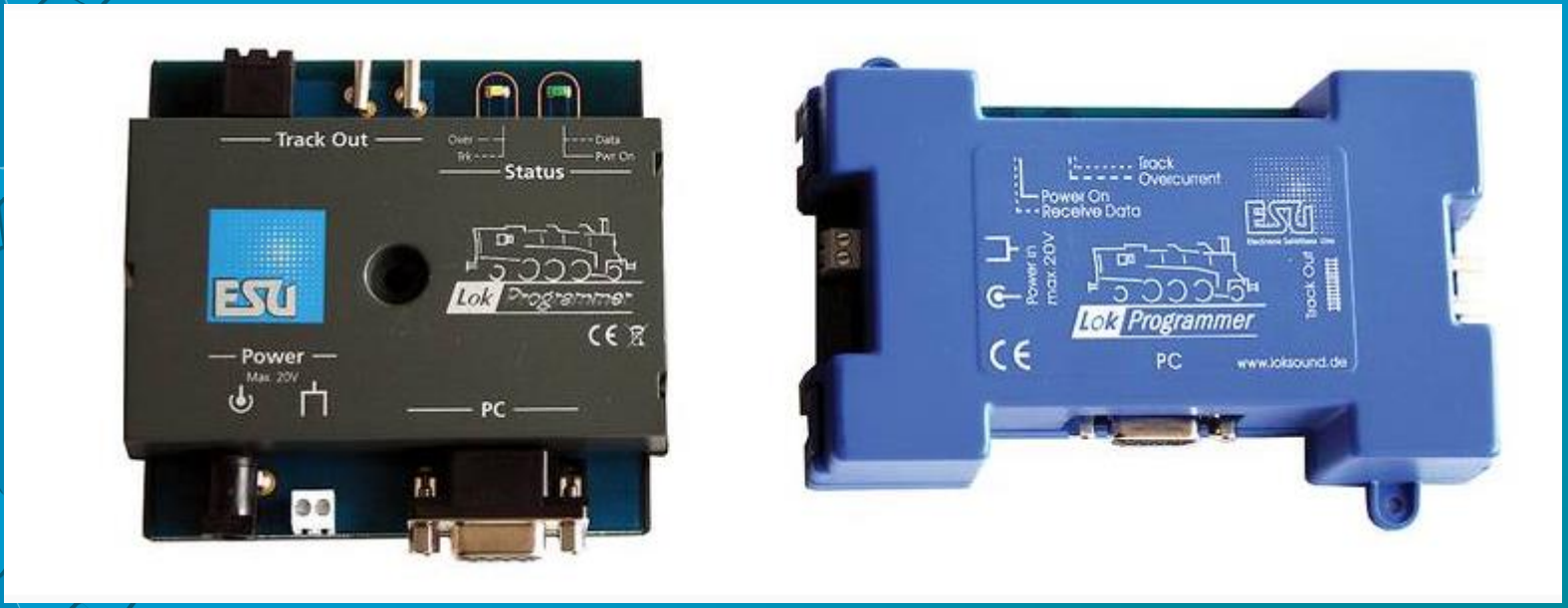
Why get a LokProgrammer?

- Change the sound(s) saved on the decoder.
- Ease the programming process. Setting of all digital parameters of the Loksound decoder such as address of the loco, operation speed, maximum speed, braking deceleration, brightness of bulbs etc; are set with your computer very easily - no cumbersome entering of CVs (configuration variables) with your command station.
- **Rearrange / reconfigure your sounds and transfer them to the LokSound decoder.**
- You **can use all sounds that can be downloaded to your computer hard disk.**
- **Sound can be allocated to different events.**
- **Additional sounds can be activated via function buttons.**

Objectives For This Clinic

- How to upgrade a Loksound/LokPilot decoder
- How to change the locomotive ID
- How to setup functions to use in a consist
- Understanding ESU Function Mapping
- How to adjust your speed, momentum and braking
- How to change your sound file set.
- How to add/change individual sounds
- How to change your individual sound levels and master volume
- How to add custom sounds to your decoder (For V.4 and V.5 only)

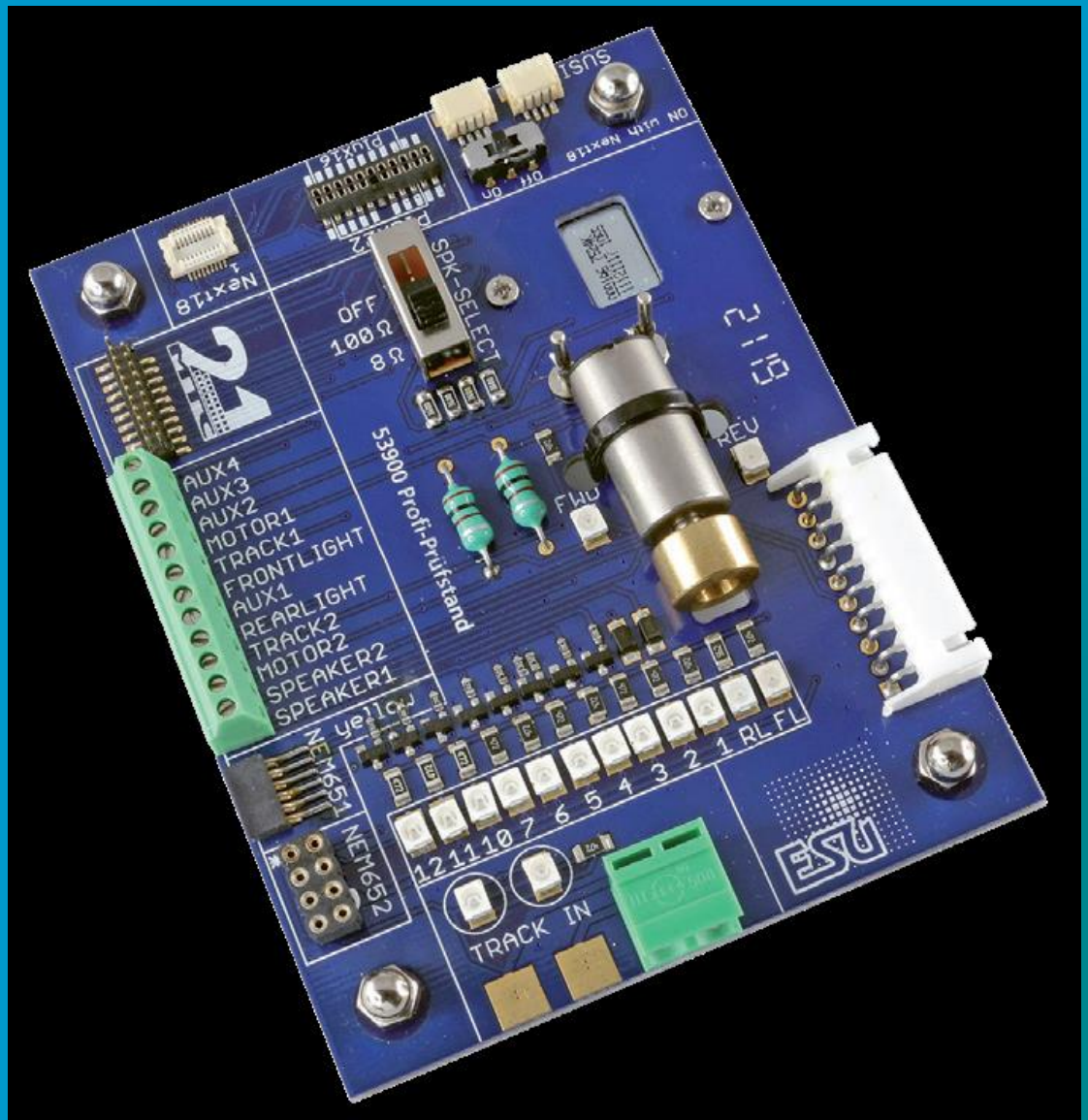
The ESU LokProgrammer



Latest Style

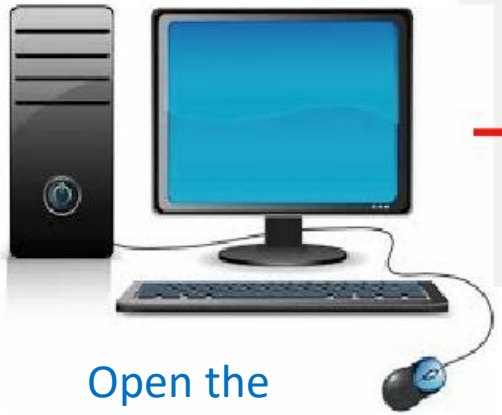
Previous Style

Recommended accessory: the ESU Decoder Tester



Upgrading Your Locomotive

Download
The File from
ESU's website



Open the
downloaded file in the
LokProgrammer software

Program the decoder and when appropriate, upload newer sounds and features into the decoder

Test run the locomotive
with the LokProgrammer

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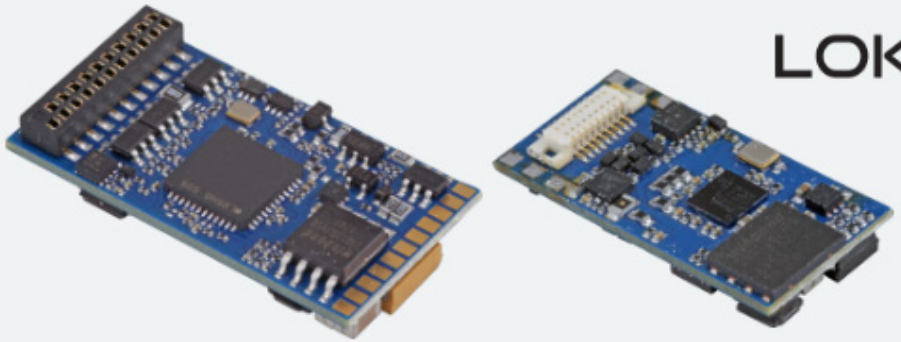

LOKSOUND
EST. 1999

LokSound 5

Do you want the best sound and motor control in the industry? Then you want to install the LokSound 5 into your locomotives!

1 2 3 4

Breaking News:

23.08.2019
LokProgrammer Software 5.0.8. released

25.05.2018
New Video "Side Button Programming on ESU Mobile Control II Throttles" online!

25.05.2018
New Video "How to Update the CabControl WiFi DCC System" online!

17.05.2018
ECoS & CabControl Firmware 4.2.3. & Mobile Control II App Version 1.1.4. published

The ESU LLC USA office will be closed from Dec 23rd 2019 thru Jan 5th 2020 to celebrate the Christmas Holiday with our families. We will be back in the office to serve you again on Jan 6th 2020.
The ESU germany office will be closed from december 23rd trough Jan 6th2020. ESU germany will be back on Jan 7th 2020.
Merry Christmas and Happy New Year from all of us at ESU!

https://loksound.com

Downloads

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"Service - For us more than just a promise"

A comprehensive customer service also means for us to keep you steadily informed about news and updates. Please check our download section for instruction manuals, additional information and catalogues about our products. Furthermore we offer a variety of sounds for free download. Help yourself!

Sound files

Go here to download your sound schemes

This section is a true repertory for fans of sound: Rummage in our steadily growing fund of originial sounds. Fore sure there will also be an appropriate sound for your locomotive.

Firmware and software

Go here for the LokProgrammer software

Here you can download the latest LokProgrammer software as well as the recent firmware for our decoders.

Instruction manuals

Download the pdf files and save them!

You need further information? Here you will find the instruction manuals for all our products. Find out what ESU products achieve, even before purchase...

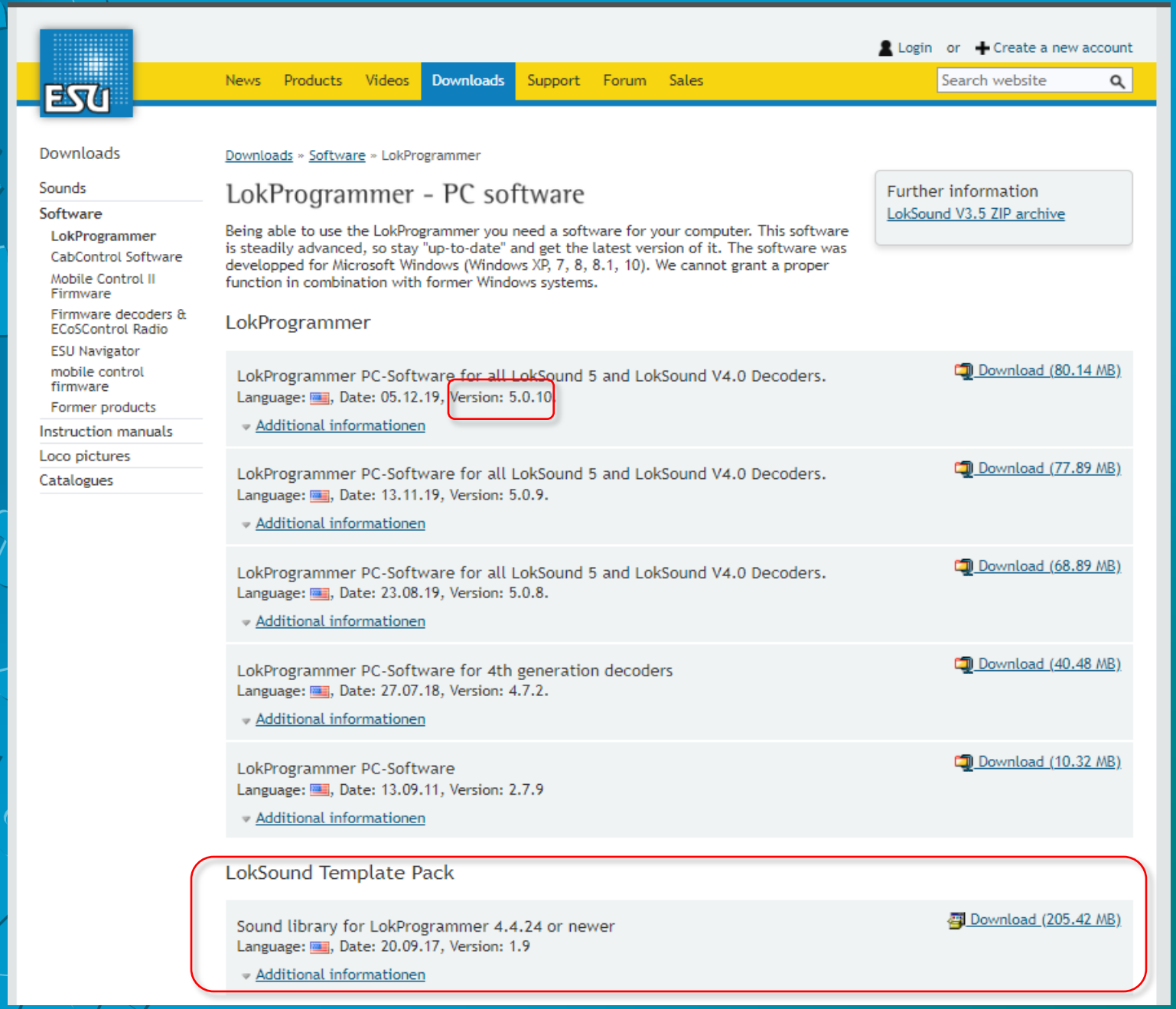
Loco Icon Bazaar

Here you are able to download free loco icons for your ECoS or provide your self-created images to other ECoS users.

Catalogues

Of course you can see over our catalogues online or even print it.

Download the Latest LokProgrammer Software



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Downloads » Software » LokProgrammer

LokProgrammer - PC software

Being able to use the LokProgrammer you need a software for your computer. This software is steadily advanced, so stay "up-to-date" and get the latest version of it. The software was developped for Microsoft Windows (Windows XP, 7, 8, 8.1, 10). We cannot grant a proper function in combination with former Windows systems.

Further information
LokSound V3.5 ZIP archive

LokProgrammer

LokProgrammer PC-Software for all LokSound 5 and LokSound V4.0 Decoders.
Language: , Date: 05.12.19, Version: 5.0.10
Additional informationen — Download (80.14 MB)

LokProgrammer PC-Software for all LokSound 5 and LokSound V4.0 Decoders.
Language: , Date: 13.11.19, Version: 5.0.9.
Additional informationen — Download (77.89 MB)

LokProgrammer PC-Software for all LokSound 5 and LokSound V4.0 Decoders.
Language: , Date: 23.08.19, Version: 5.0.8.
Additional informationen — Download (68.89 MB)

LokProgrammer PC-Software for 4th generation decoders
Language: , Date: 27.07.18, Version: 4.7.2.
Additional informationen — Download (40.48 MB)

LokProgrammer PC-Software
Language: , Date: 13.09.11, Version: 2.7.9
Additional informationen — Download (10.32 MB)

LokSound Template Pack

Sound library for LokProgrammer 4.4.24 or newer
Language: , Date: 20.09.17, Version: 1.9
Additional informationen — Download (205.42 MB)

Downloads

Sounds
- LokSound 5
- Generation 4.0
- Generation 3
- Generation 2
- Generation 1

Software
Instruction manuals
Loco pictures
Catalogues

Sounds - A whole variety of our capabilites...

... this is what we offer you on this website for free download. Thanks to our unique sound technology you are able to transfer every sound available onto your decoder (via the Lokprogrammer). Have fun while rummaging in our sound archive!

By the way: It´s worth to stop by from time to time as we steadily extend our choice of sounds.

More sounds...
...are available from our distributors in Italy and the UK:

LokSound 5 family
Here you can find soundfiles for our current line of LokSound 5 and LokSound 5 DCC decoders

V.5 Files

LokSound V4.0 Family, LokSound Select
Here you can find soundfiles for our current line of LokSound V4.0 and LokSound Select decoders.

V.4 and Select Files

LokSound V3
Please find here the sounds for the LokSound V3.5 decoder, LokSound XL V3.5, LokSound micro V3.5, LokSound M4 V3.0 and LokSound V3.0 decoder. You also find here sounds for many locos of Brawa, Mehano, Roco, etc.

LokSound2
The LokSound2 decoder was introduced in 2001 and was a huge success: It was installed in many locos, e. g. Mehano or Roco. Here you find all sounds for the second generation of LokSound - also for XL V2.1.

LokSound "classic" - the prime father of all LokSounds
In 1999, the LokSound "classic" decoder laid the foundations for ESU: He was not only the first LokSound decoder in due time, but also one of the first ESU products for model railway. Here you can still download appropriate sounds for your locos.

LokSound 5 European Sound files

Here you can find sound files for LokSound 5 Decoders of European prototypes

> Browse projects

LokSound 5 factory equipped sounds

LokSound 5 Factory Equipped Sound files

> Browse projects

LokSound 5 North American and Australian Sound files

Here you can find sound files for LokSound 5 Decoders of North American and Australian prototypes. We make some Canadian files as well...

> Browse projects

LokSound 5 North American & Australian factory Equipped Sound files

Here you can find LokSound 5 project files we created especially for the usage with selected LokSound factory equipped locomotives

> Browse projects

LokSound V4.0 European Soundfiles

Here you can find sound files for LokSound V4.0 Decoders of European prototypes

> Browse projects

LokSound V4.0 & LokPilot V4.0 for Factory Equipped Locomotives

Here you can find LokSound and LokPilot V4.0 project files we created especially for the usage with selected LokSound factory equipped locomotives. All settings done according to the locomotive printed circuit board.

> Browse projects

LokSound V4.0 American & Australian Sound files

Here you can find sound files for LokSound V4.0 Decoders of North American and Australian prototypes. We make some Canadian files as well...

> Browse projects

LokSound Select Retail Soundfiles

Here you can find sound files for LokSound Select Decoders

> Browse projects

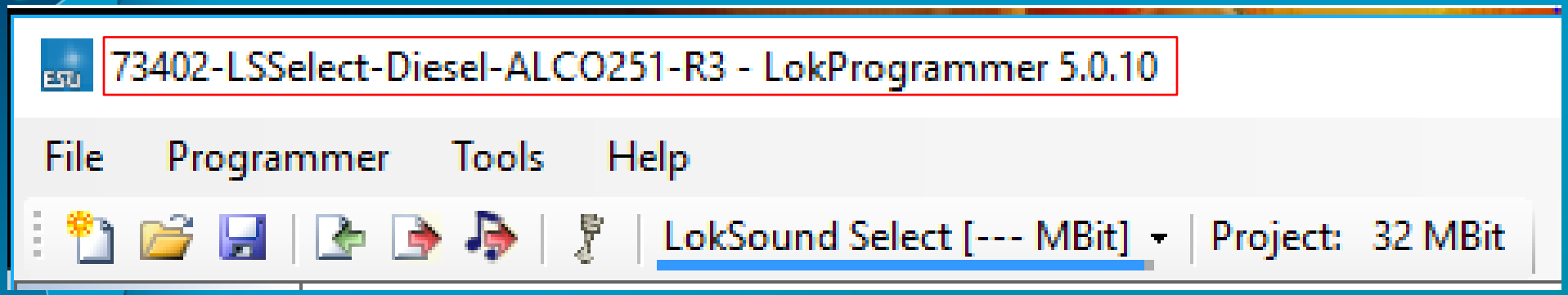
LokSound North American & Australian Factory Equipped Sound files

Here you can find LokSound North American and Australian Sound files we created especially for the usage with selected LokSound factory equipped locomotives.

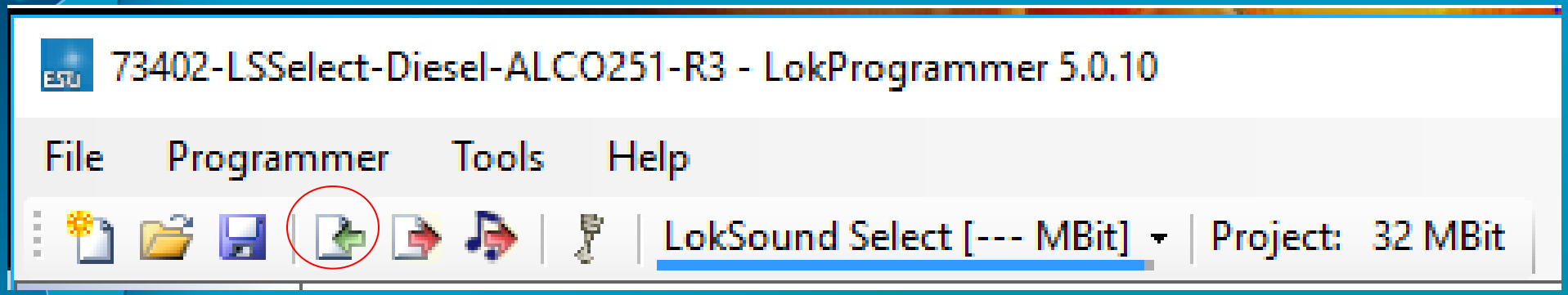
> Browse projects

Key Items Using the LokProgrammer

The Name / Description of the Decoder File you are working in

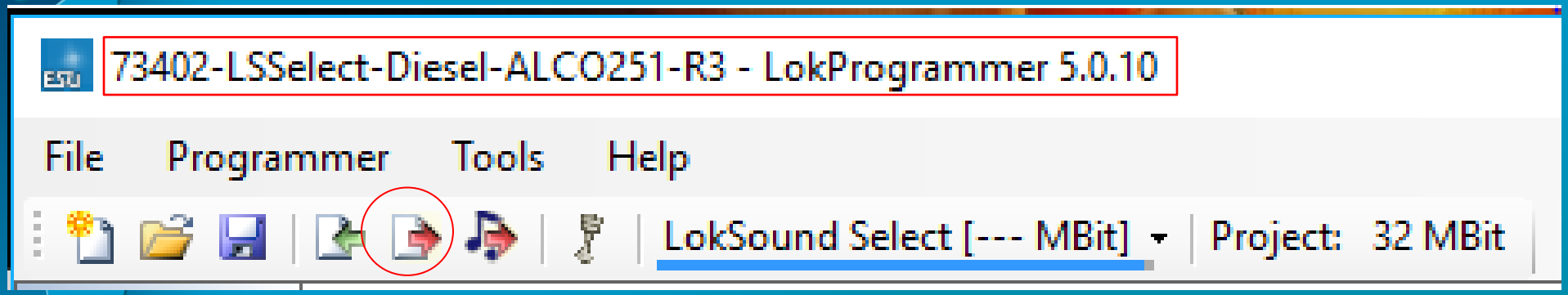


Key Items Using the LokProgrammer



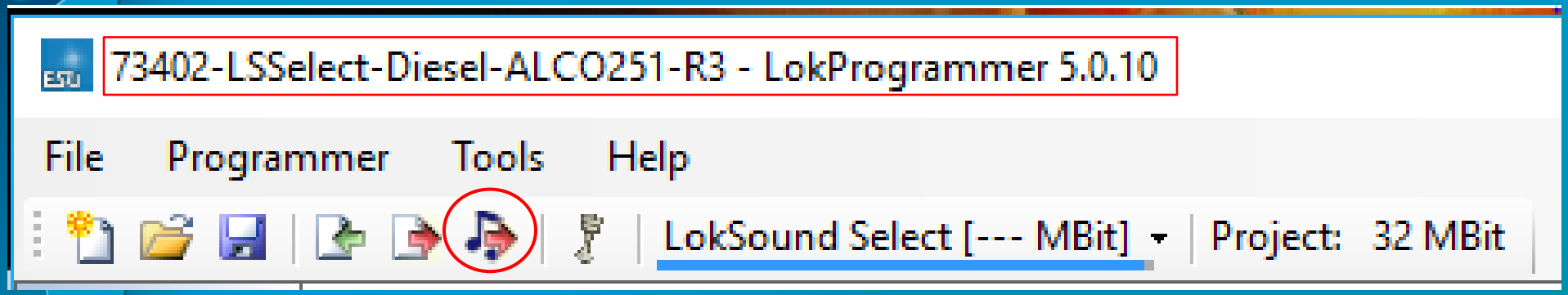
Read the Decoder
This uploads the existing CV settings
Into the decoder file

Key Items Using the LokProgrammer



Write to the Decoder
This will save CV settings, and also
allow you to make the settings permanent

Key Items Using the LokProgrammer

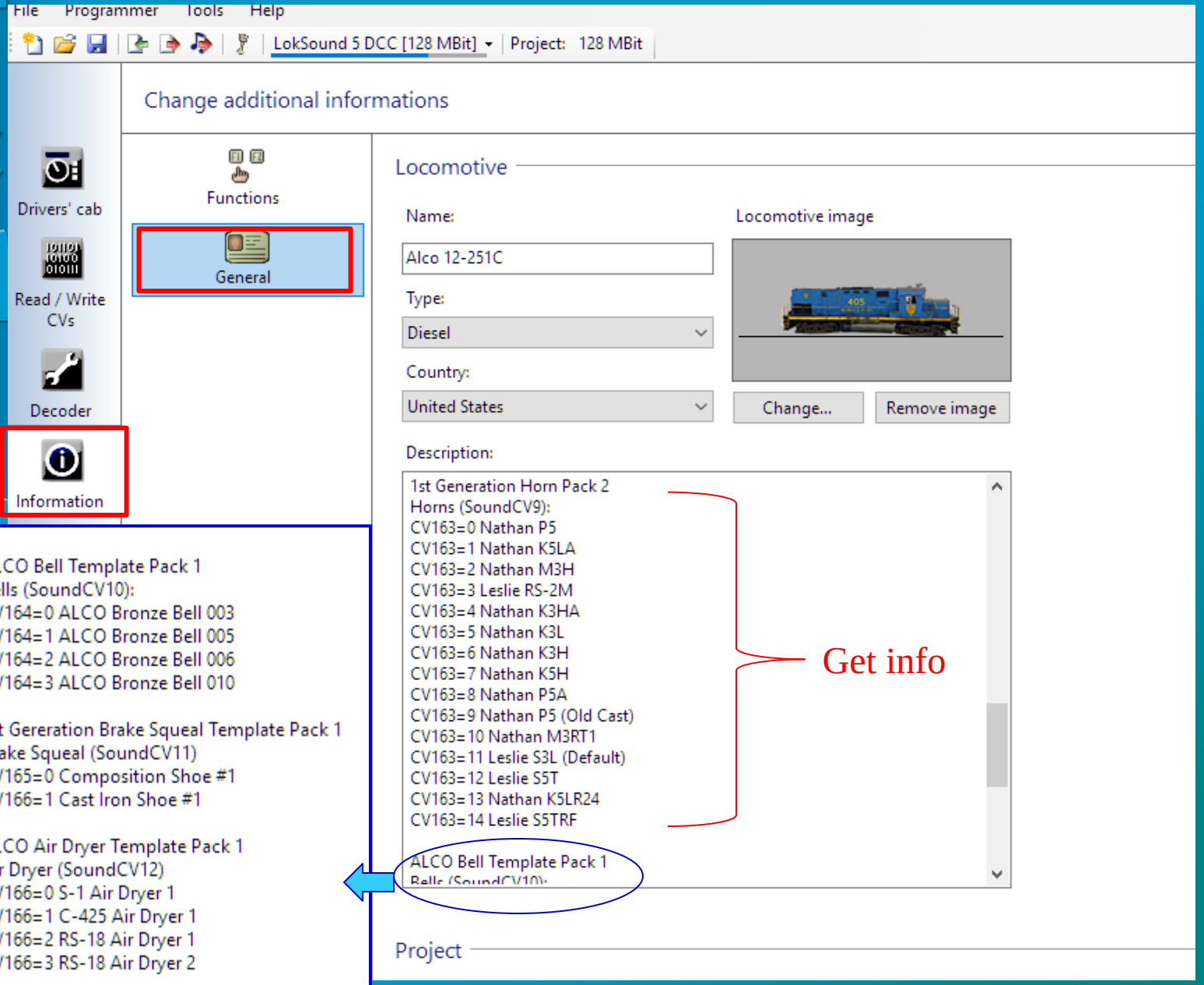


Upload Sound Changes to the Decoder
Upload new, changed, or modified sounds to the Decoder (takes 20 -30 minutes) AND Optionally allowing you to save the CV settings in the process!

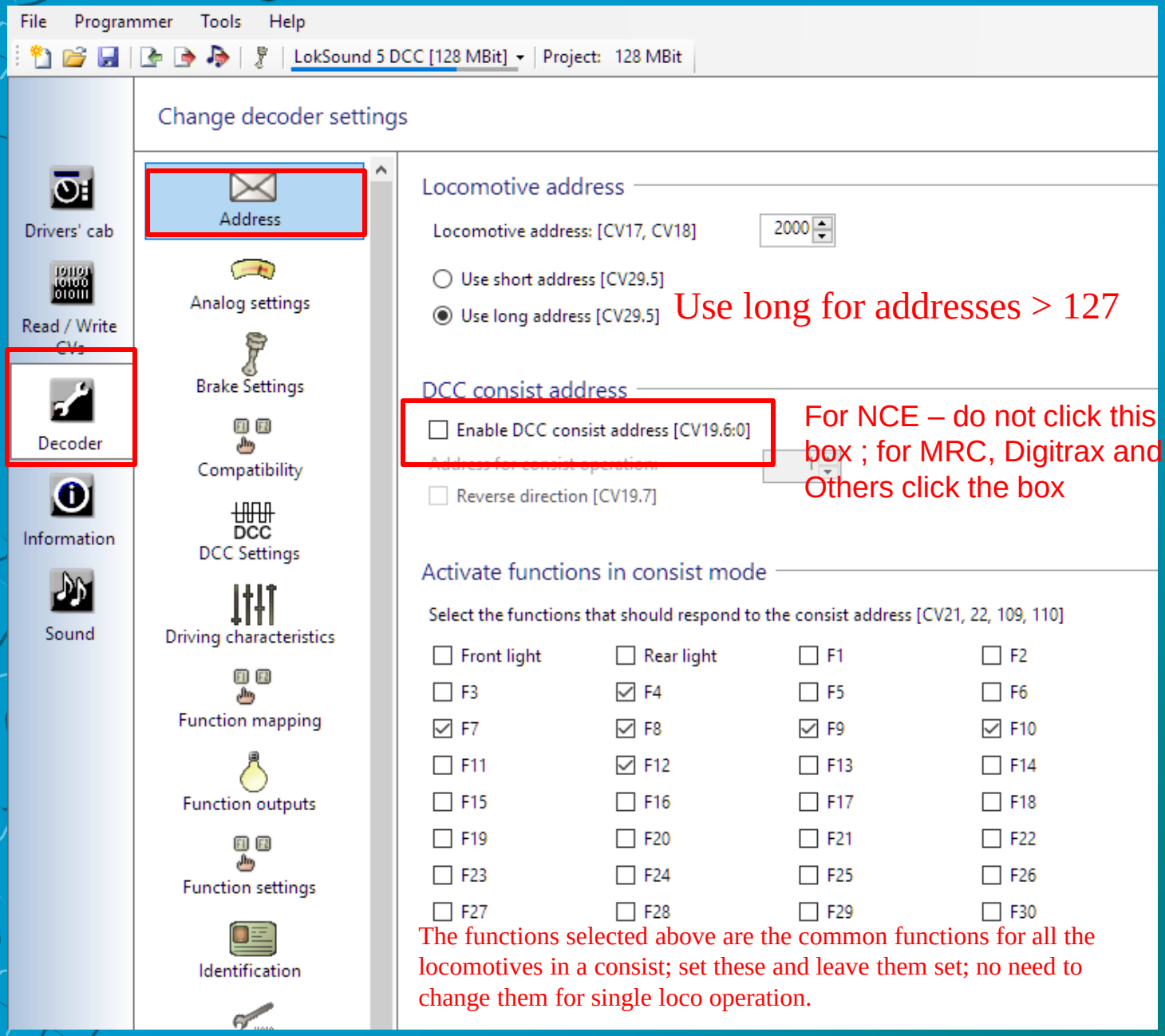
Ready?

Let’s program a decoder!

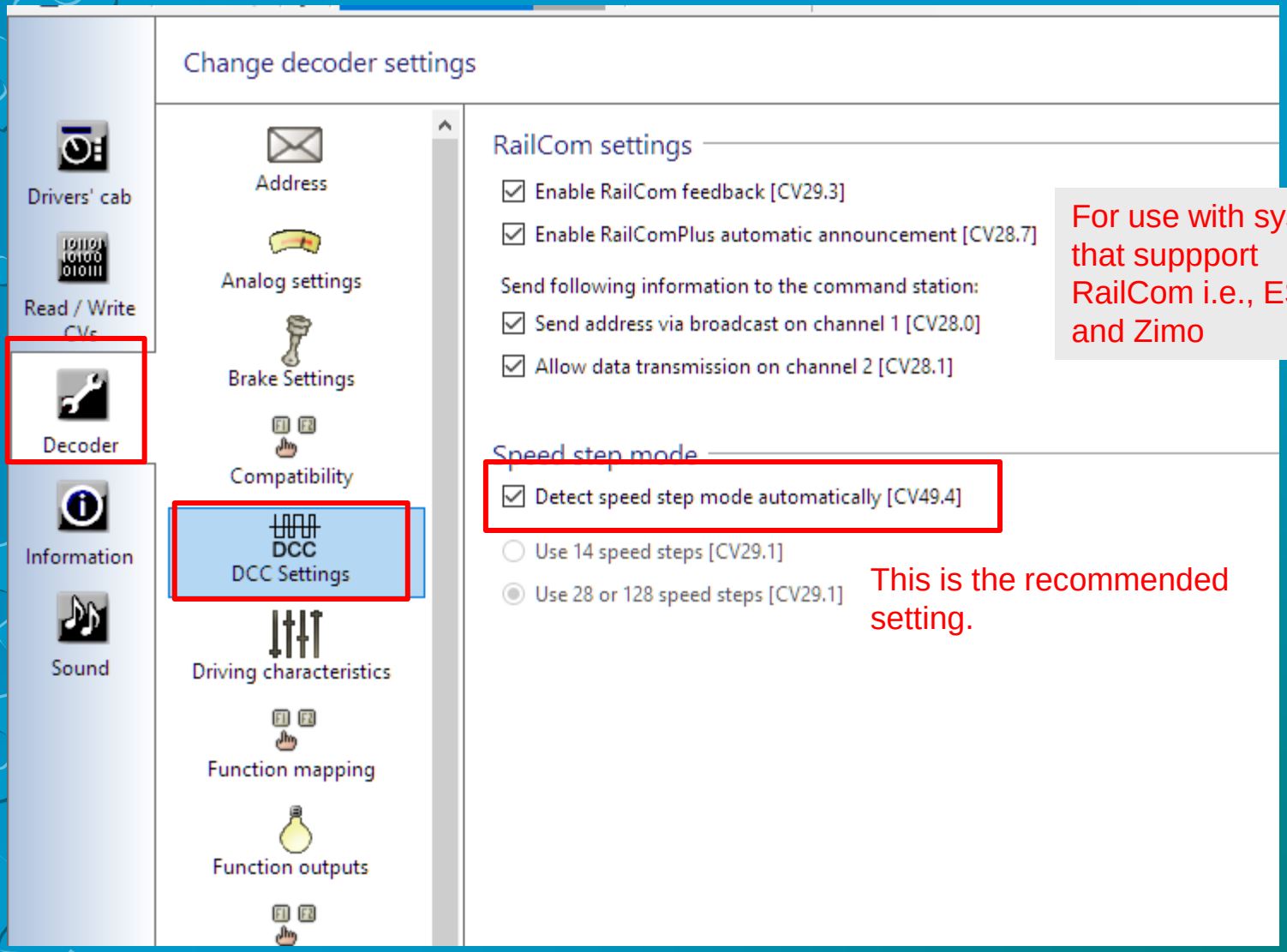
Get Information For Horn and Bell



Setting the Address and Consist Functions



Speed Step Mode and RailCom

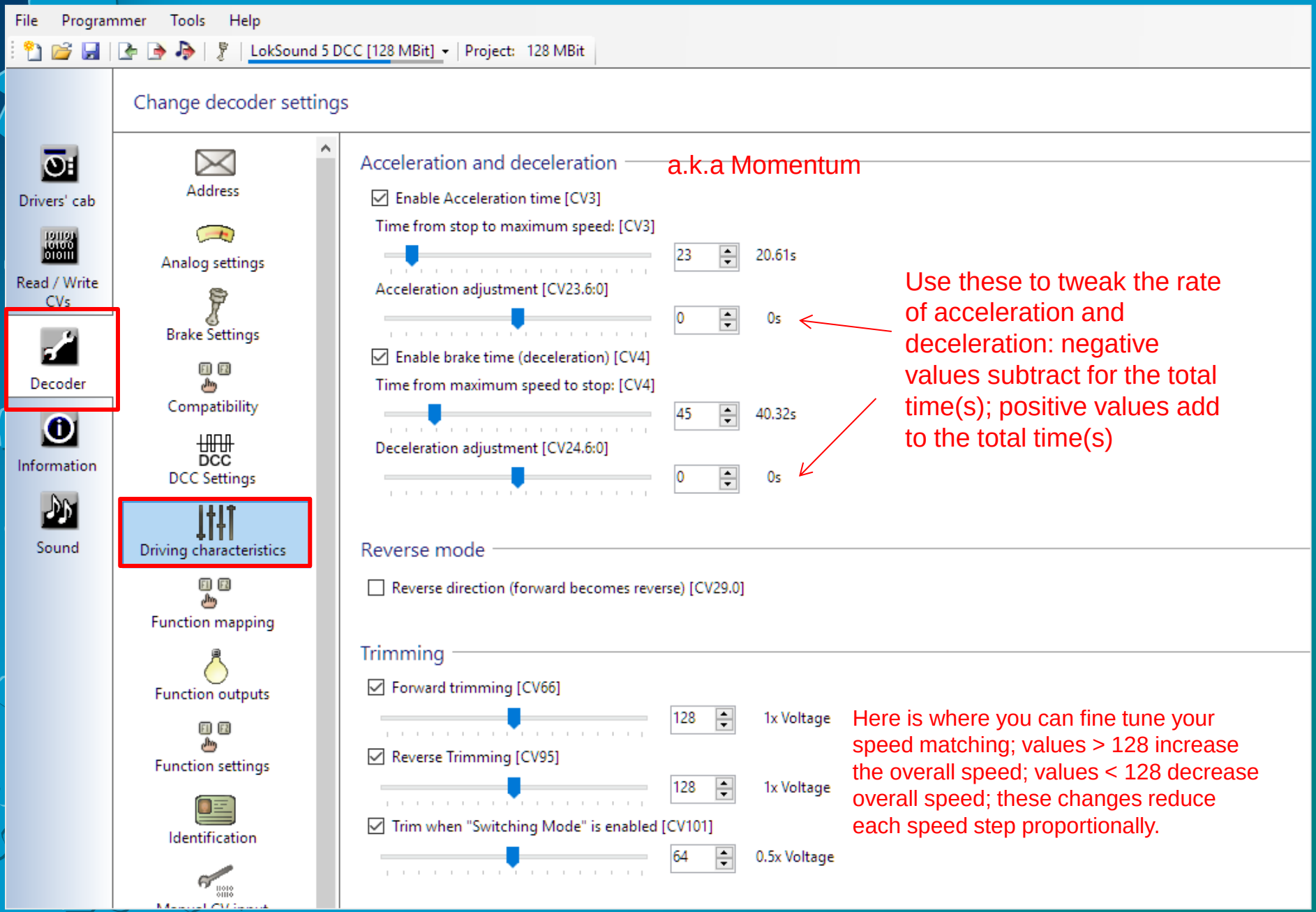


For use with systems that suppport RailCom i.e., ESU and Zimo

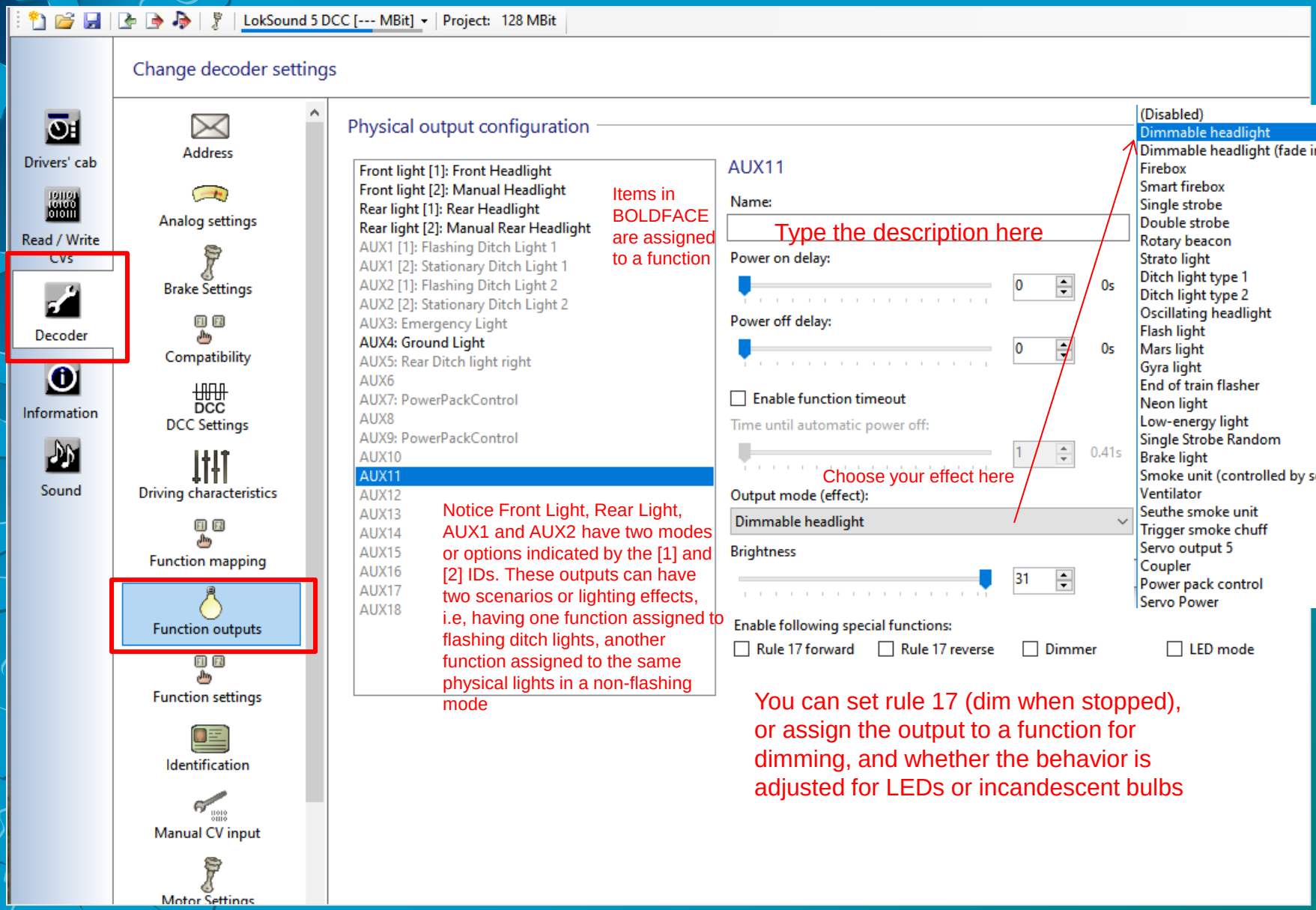
This is the recommended setting.

The functions selected above are the common functions for all the locomotives in a consist; set these and leave them set; no need to change them for single loco operation.

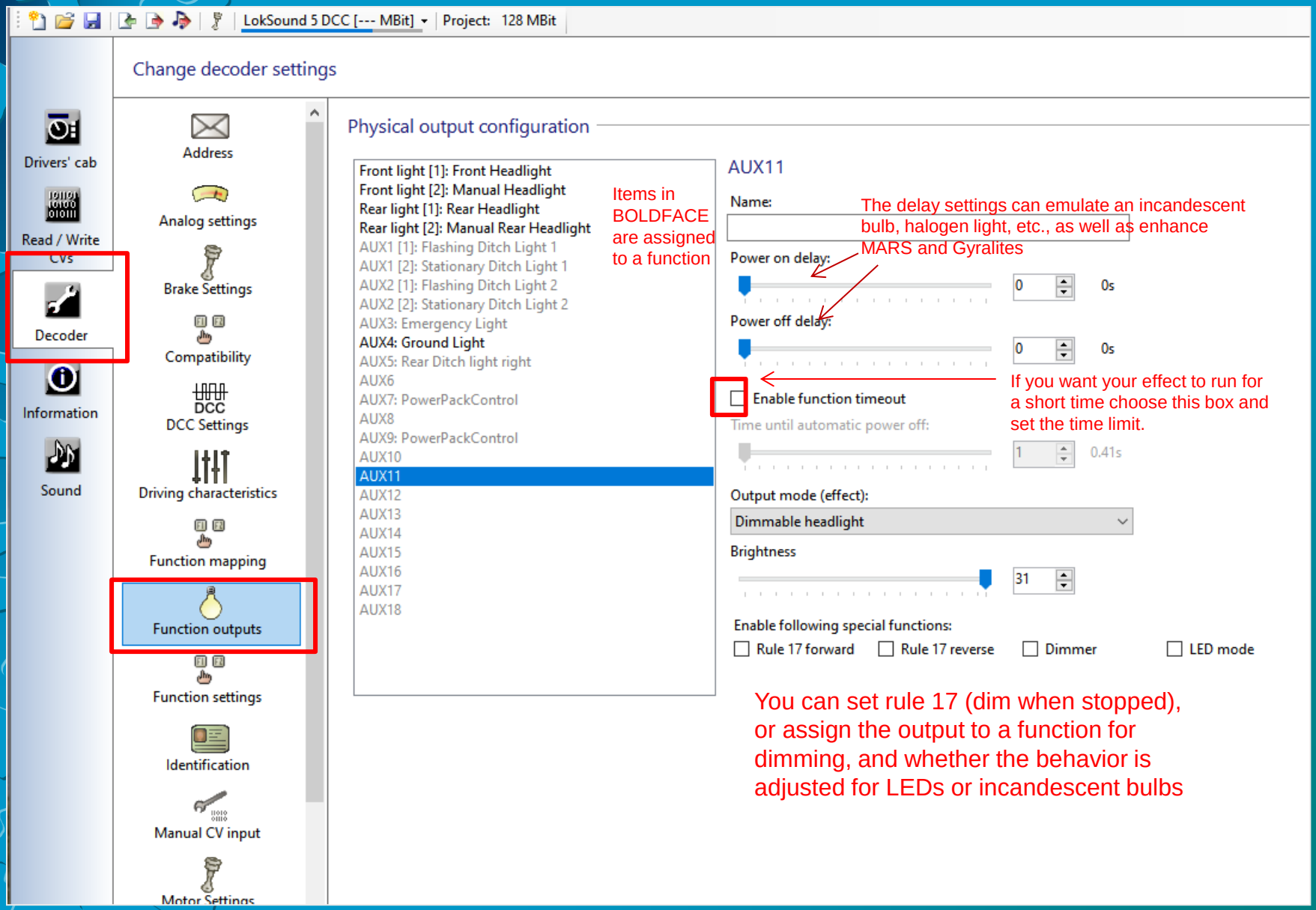
Momentum and Speed Trimming



Function Output Configuration



Function Output Configuration – (continued)

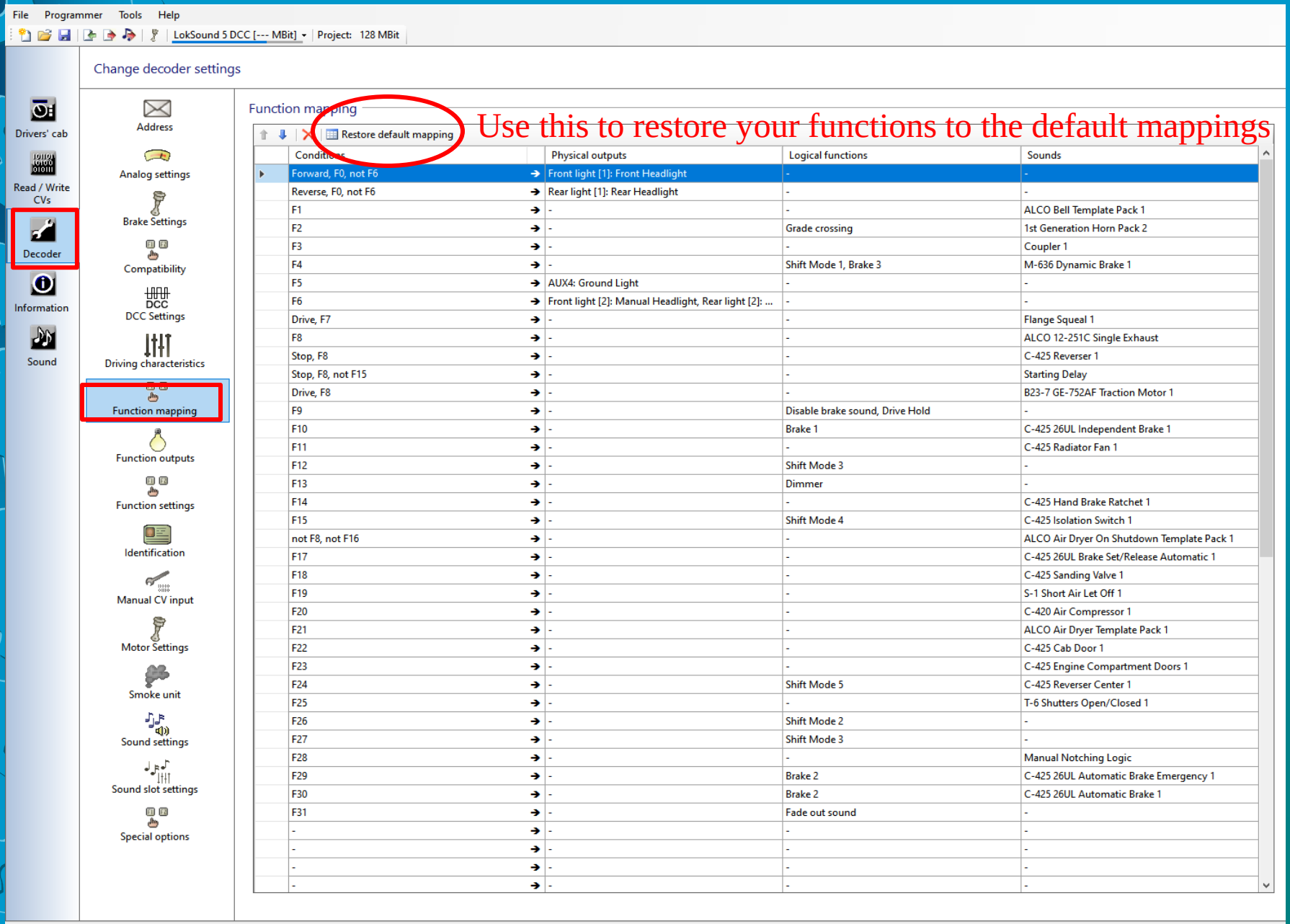


Function Mapping

You can assign to any FUNCTION (F0, F1, F2, etc.) one or more of the following:

- CONDITIONS
  - Logical (i.e., If F8 is ON and F6 is OFF, enable the output or effect)
  - Directional (choose FWD, REV, or standing still)
- PHYSICAL OUTPUTS – Lighting outputs, smoke generators, mini relays, etc.
- LOGIC FUNCTIONS – Grade Crossing (ditch light flashing), brake sounds, dynamic brakes, idle, light dimmer, etc.
- SOUNDS – horn, bell, engine exhaust, loco startup, fans, traction motors, etc.
- You can combine any of the above to create the condition or effect you want.

Function Mapping (Continued)



Function Mapping (Continued)

Function mapping

Restore default mapping

Conditions		Physical outputs	Logical functions	Sounds
Forward, F0, not F6	→	Front light [1]: Front Headlight	-	-
Reverse, F0, not F6	→	Rear light [1]: Rear Headlight	-	-
F1	→	-	-	ALCO Bell Template Pack 1
F2	→	-	Grade crossing	1st Generation Horn Pack 2
F3	→	-	-	Coupler 1
F4	→	-	Shift Mode 1, Brake 3	M-636 Dynamic Brake 1
F5	→	-	-	-
F6	→	Rear light [2]: ...	-	-
Drive, F7	→	-	-	Flange Squeal 1
F8	→	-	-	ALCO 12-251C Single Exhaust
Stop, F8	→	-	-	C-425 Reverser 1
Stop, F8, not F15	→	-	-	Starting Delay
Drive, F8	→	-	-	B23-7 GE-752AF Traction Motor 1
F9	→	-	Disable brake sound, Drive Hold	-
F10	→	-	Brake 1	C-425 26UL Independent Brake 1
F11	→	-	-	C-425 Radiator Fan 1
F12	→	-	Shift Mode 3	-
F13	→	-	Dimmer	-
F14	→	-	-	C-425 Hand Brake Ratchet 1
F15	→	-	Shift Mode 4	C-425 Isolation Switch 1
not F8, not F16	→	-	-	ALCO Air Dryer On Shutdown Template Pack 1

Each column has a drop down list

Forward, F0, not F6

Driving	Ignore
Direction	Forward
F0	On
F1	Ignore
F2	Ignore
F3	Ignore
F4	Ignore
F5	Ignore
F6	Off

Function Mapping – (continued)

Function mapping

Restore default mapping

Conditions	Physical outputs	Logical functions	Sounds
Forward, F0, not F6	Front light [1]: Front Headlight	-	-
Reverse, F0, not F6	Rear light [1]: Rear Headlight	-	-
F1	-	-	ALCO Bell Template Pack 1
F2	-	Grade crossing	1st Generation Horn Pack 2
F3	-	-	Coupler 1
F4	-	Shift Mode 1, Brake 3	M-636 Dynamic Brake 1
F5	AUX4: Ground Light	-	-
F6	Front light [2]: Manual Headlight, Rear light [2]: ...	-	-
Drive, F7	-	-	Flange Squeal 1
F8	-	-	ALCO 12-251C Single Exhaust
Stop, F8	-	-	C-425 Reverser 1
Stop, F8, not F15	-	-	Starting Delay
Drive, F8	-	-	B23-7 GE-752AF Traction Motor 1
F9	-	Disable brake sound, Drive Hold	-
F10	-	Brake 1	C-425 26UL Independent Brake 1
F11	-	-	C-425 Radiator Fan 1
F12	-	Shift Mode 3	-
F13	-	Dimmer	-
F14	-	-	C-425 Hand Brake Ratchet 1
F15	-	Shift Mode 4	C-425 Isolation Switch 1
not F8, not F16	-	-	ALCO Air Dryer On Shutdown Template Pack 1

SHIFT MODE 1 – Dynamic Brake

SHIFT MODE 3– Coast Mode

SHIFT MODE 4– Isolation Mode

SHIFT MODE – Prepackaged logical events created for the sound file. They change the behavior of the locomotive when that specific function is enabled.

Function Mapping – (continued)

F19	-	-		S-1 Short Air Let Off 1
F20	-	-		C-420 Air Compressor 1
F21	-	-		ALCO Air Dryer Template Pack 1
F22	-	-		C-425 Cab Door 1
F23	-	-		C-425 Engine Compartment Doors 1
F24	-	Shift Mode 5	SHIFT MODE 5– Neutral	C-425 Reverser Center 1
F25	-	-		T-6 Shutters Open/Closed 1
F26	-	Shift Mode 2		-
F27		Shift Mode 3		-
F28		-		Manual Notching Logic
F29		Brake 2		C-425 26UL Automatic Brake Emergency 1
F30	-	Brake 2		C-425 26UL Automatic Brake 1
F31	-	Fade out sound		-
-	-	-		-
-	-	-		-
-	-	-		-
-	-	-		-

You can add additional SCENARIOS using the empty areas below; for example DRIVING = NO, F0 set to turn on AUX4 (Cab Light)

SHIFT MODE – Prepackaged logical events created for the sound file. They change the behavior of the locomotive when that specific function is enabled.

Motor Settings – Speed and Back EMF

Change decoder settings

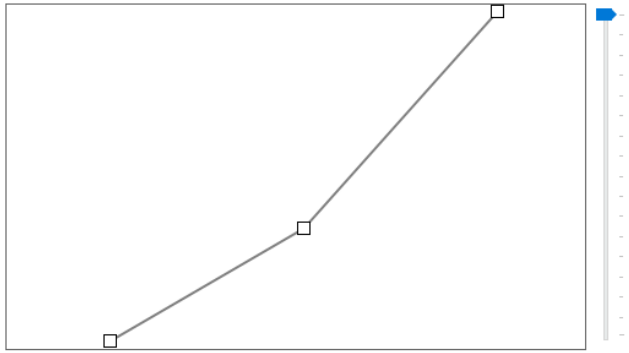
Drivers' cab
Read / Write CVs
Decoder
Information
Sound

Address
Analog settings
Brake Settings
Compatibility
DCC Settings
Driving characteristics
Function mapping
Function outputs
Function settings
Identification
Manual CV input
Motor Settings
Smoke unit
Sound settings
Sound slot settings
Special options

You can either use the three point speed adjustments or use the speed table (see Figure 1)

Speed table

Use three values (VStart, VMid, VHigh) [CV2, CV6, CV5]
Use speed curve [CV67 - CV94]



Index: 0 Value: 1 Preset: Max. speed: 255

OR

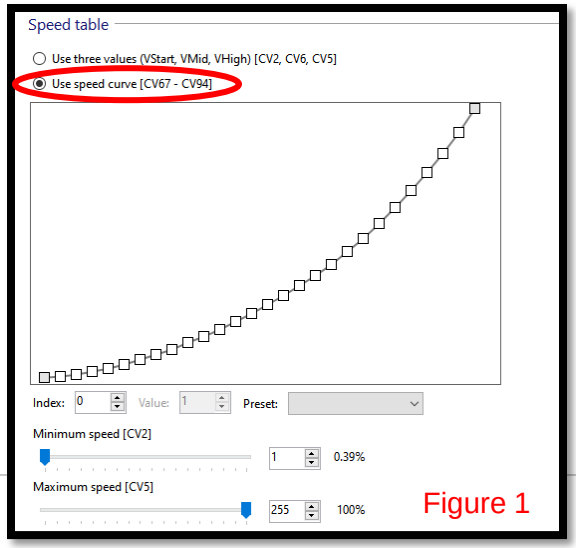


Figure 1

Load control / back EMF

Enable load control / back EMF [CV49.0]

Basic settings

Regulation reference [CV53] 140 14V
Regulation parameter "K" [CV54] 50
Regulation parameter "I" [CV55] 100 200ms

CV53 sets the maximum voltage reference for your speed range. **TIP:** you can use this as part of your speed matching or to restore your maximum speed after performing a Back EMF auto set procedure (SET CV 54 =0, then press F1)

Slow Speed settings

Regulation parameter "K slow" [CV52] 0
Largest internal speed step that uses „K slow" [CV51] 0
Regulation influence during slow speed [CV56] 255 100%

TIP: find an OEM ESU File that closely matches your locomotives motor and start with the values for the CVs on this page, then tweak/adjust from there. Alternately, you can choose from a list of preset motors (Figure 2)

Back EMF settings

Slow Speed Back EMF sampling period [CV116] 100 10ms
Full Speed Back EMF sampling period [CV117] 150 15ms

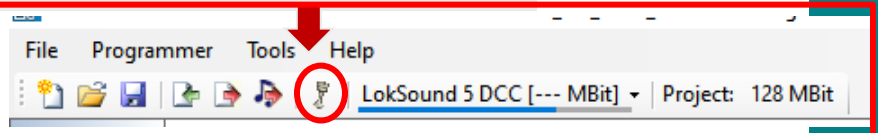


Figure 2

Motor Settings – Speed and Back EMF

Change decoder settings

Drivers' cab
Read / Write CVs
Decoder
Information
Sound

Address
Analog settings
Brake Settings
Compatibility
DCC Settings
Driving characteristics
Function mapping
Function outputs
Function settings
Identification
Manual CV input
Motor Settings
Smoke unit
Sound settings
Sound slot settings
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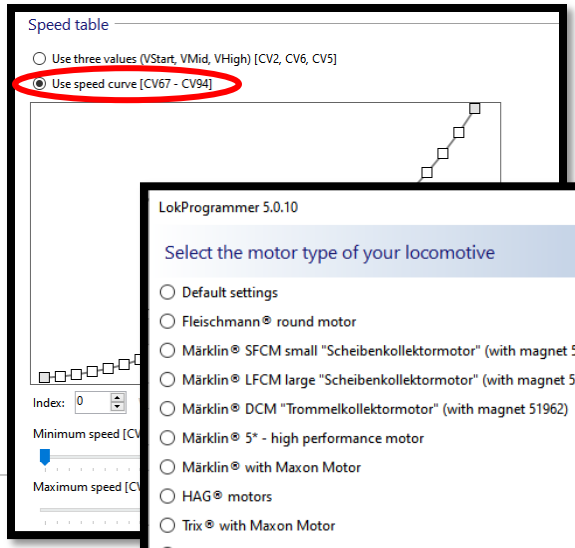
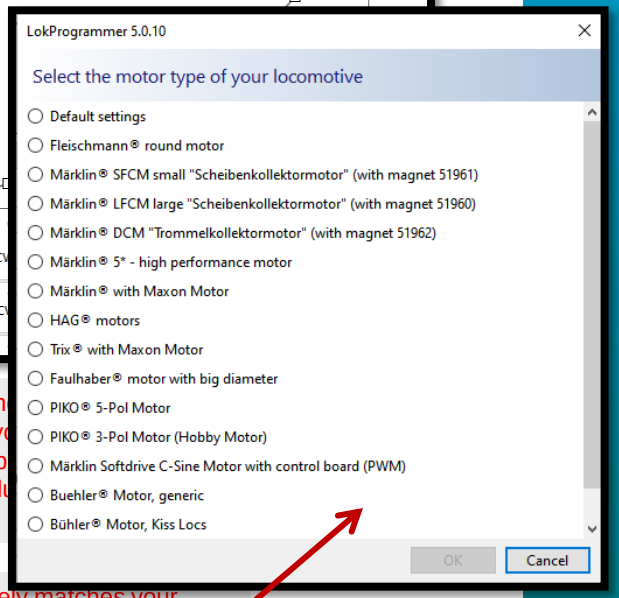
Use speed curve [CV67 - CV94]

Index: 0 Value: 1 Preset: Max. speed: 255

OR





Load control / back EMF

Enable load control / back EMF [CV49.0]

Basic settings

Regulation reference [CV53] 140 14V
Regulation parameter "K" [CV54] 50
Regulation parameter "I" [CV55] 100 200ms

Slow Speed settings

Regulation parameter "K slow" [CV52] 0
Largest internal speed step that uses „K slow" [CV51] 0
Regulation influence during slow speed [CV56] 255 100%

Back EMF settings

Slow Speed Back EMF sampling period [CV116] 100 10ms
Full Speed Back EMF sampling period [CV117] 150 15ms

CV53 sets the maximum voltage referen
range. **TIP:** you can use this as part of y
matching or to restore your maximum sp
performing a Back EMF auto set procedu
=0, then press F1)

TIP: find an OEM ESU File that closely matches your locomotives motor and start with the values for the CVs on this page, then tweak/adjust from there. Alternately, you can choose from a list of preset motors (Figure 2)

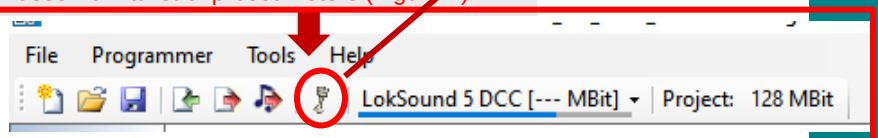


Figure 2

Motor Settings – Speed and Back EMF (cont)

ESU's Autotune

ESU has an *autotune* feature on some of their decoders. BEMF should be enabled before running the autotune function.
The Autotune is enabled by setting a CV (CV54 =0), and then activating the feature on a test track(Press F1).

The locomotive will take off, but stop in a few seconds. It will attempt to optimize the BEMF parameters for that particular locomotive's motor and drivetrain.

ESU uses the letters *KPI* for various BEMF parameters, where several CVs are used to set each of these values. I is Inertia. K is power/load control. P is the reference voltage. The K and I parameters are referenced in their manuals. (from https://dccwiki.com/Back_EMF)

Motor Settings – Speed and Back EMF (cont)

Back EMF settings

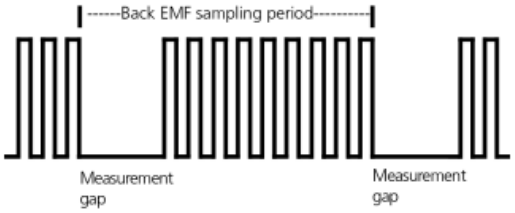
Slow Speed Back EMF sampling period [CV116] 100 10ms

Full Speed Back EMF sampling period [CV117] 150 15ms

Slow Speed Length of Measurement Gap [CV118] 20 2ms

Full Speed Length of Measurement Gap [CV119] 25 2.5ms

Use load control values from preset motor types



These settings affect the overall performance of the BEMF control and can have unwarranted side effects on the motor. It is recommended to change these CAREFULLY. Best practice is to *Use load control from preset motor types* option

PWM Frequency

Motor pulse frequency [CV9] 40 40000Hz

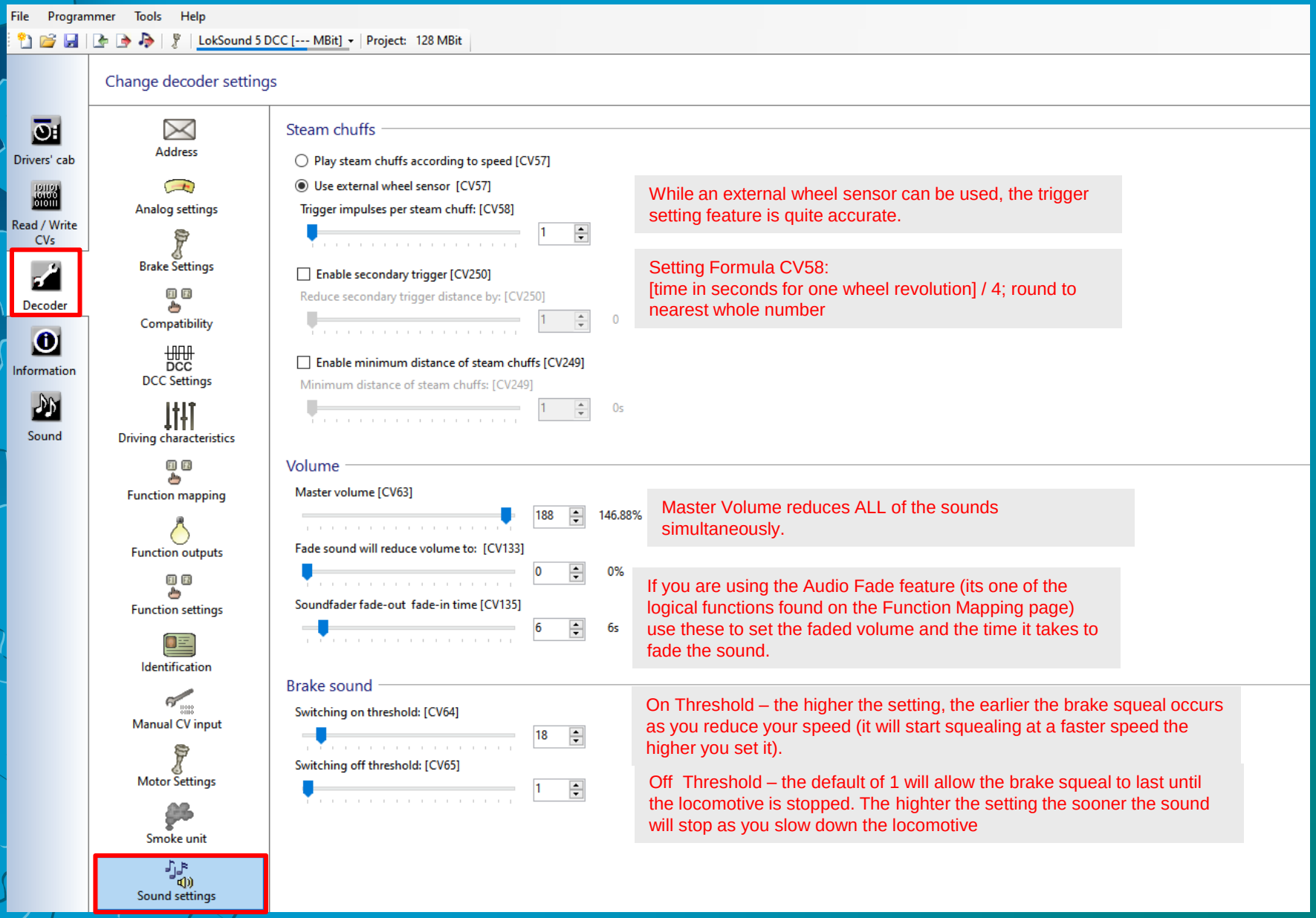
Motor overload protection

☑ Enable motor overload protection [CV124.5]

Automatic parking brake

☐ Enable automatic parking brake [CV124.6]

Sound Settings



While an external wheel sensor can be used, the trigger setting feature is quite accurate.

Setting Formula CV58:
[time in seconds for one wheel revolution] / 4; round to nearest whole number

Master Volume reduces ALL of the sounds simultaneously.

If you are using the Audio Fade feature (its one of the logical functions found on the Function Mapping page) use these to set the faded volume and the time it takes to fade the sound.

On Threshold – the higher the setting, the earlier the brake squeal occurs as you reduce your speed (it will start squealing at a faster speed the higher you set it).

Off Threshold – the default of 1 will allow the brake squeal to last until the locomotive is stopped. The highter the setting the sooner the sound will stop as you slow down the locomotive

Sound Slot Settings

The Loksound V.5 technology introduces the Sound CV; these are not NMRA CVs, rather, they represent controls for sounds assigned to a subcategory to adjust as a group or sound effect set. Please refer to the Information tab for your specific project to see how they are used.

All single sounds are subdivided in ***sound slots***. Each sound slot controls a certain sound and its volume can be individually adjusted. The following charts show how the CVs are allocated to each sound slot. Please note that all the single sound projects are likely to have a different sound allocation. Thus you will find notes about the corresponding functions keys and soundslots to all sound projects available in the download area of the ESU website. This information will help you to find the appropriate CV volume very easily.

Sound Slot Settings (cont)

Sound Slot Example - ALCO 12-251C file

Change decoder settings

Drivers' cab
Read / Write CVs
Decoder
Information
Sound

Address
Analog settings
Brake Settings
Compatibility
DCC Settings
Driving characteristics
Function mapping
Function outputs
Function settings
Identification
Manual CV input
Motor Settings
Smoke unit
Sound settings
Sound slot settings
Special options

SoundCV configuration

SoundCV1: Notch 1
SoundCV2: Notch 2
SoundCV3: Notch 3
SoundCV4: Notch 4
SoundCV5: Notch 5
SoundCV6: Notch 6
SoundCV7: Notch 7
SoundCV8: Notch 8
SoundCV9: Horn
SoundCV10: Bell
SoundCV11: Brake Squeal
SoundCV12: Air Dryer
SoundCV13: Starting Delay Timer
SoundCV14
SoundCV15
SoundCV16

SoundCV9: Horn

Name: Horn

Value: [CV163] 11

Use the table on the right (from **Information** window) to adjust the settings for CV163

1st Generation Horn Pack 2 Horns (SoundCV9):
CV163=0 Nathan P5
CV163=1 Nathan K5LA
CV163=2 Nathan M3H
CV163=3 Leslie RS-2M
CV163=4 Nathan K3HA
CV163=5 Nathan K3L
CV163=6 Nathan K3H
CV163=7 Nathan K5H
CV163=8 Nathan P5A
CV163=9 Nathan P5 (Old Cast)
CV163=10 Nathan M3RT1
CV163=11 Leslie S3L (Default)
CV163=12 Leslie S5T
CV163=13 Nathan K5LR24
CV163=14 Leslie S5TRF

Sound slot configuration

Sound slot 1: ALCO 12-251C Single Exhaust
Sound slot 2
Sound slot 3: 1st Generation Horn Pack 2
Sound slot 4: ALCO Bell Template Pack 1
Sound slot 5: Coupler 1
Sound slot 6: M-636 Dynamic Brake 1
Sound slot 7: C-420 Air Compressor 1
Sound slot 8: C-425 Radiator Fan 1
Sound slot 9: C-425 26UL Automatic Brake Emergenc...
Sound slot 10: C-425 26UL Automatic Brake 1
Sound slot 11: C-425 26UL Independent Brake 1
Sound slot 12: C-425 26UL Independent Brake Bail Of...
Sound slot 13: C-425 Sanding Valve 1
Sound slot 14: C-425 Hand Brake Ratchet 1
Sound slot 15: C-425 Cab Door 1
Sound slot 16: C-425 Engine Compartment Doors 1
Sound slot 17: ALCO Air Dryer Template Pack 1
Sound slot 18: ALCO Air Dryer On Shutdown Templat...
Sound slot 19: C-425 Reverser 1
Sound slot 20: C-425 Reverser Center 1
Sound slot 21: C-425 Isolation Switch 1
Sound slot 22: C-425 Alarm Bell 1
Sound slot 23: Flange Squeal 1
Sound slot 24: S-1 Short Air Let Off 1
Sound slot 25: B23-7 GE-752AF Traction Motor 1
Sound slot 26: Starting Delay
Sound slot 27: Manual Notching Logic
Sound slot 28
Sound slot 29: C-425 26UL Brake Set/Release Automa...
Sound slot 30
Sound slot 31
Sound slot 32: T-6 Shutters Open/Closed 1
Brake sound: 1st Gereration Brake Squeal Template P...
Gear shift sound

Sound slot 3: 1st Generation Horn Pack 2

Preview | Stop

Adjust the individual sound volume of the Sound Slot

Volume [CV275 (CV32=1)] 128 100%

Minimum sound speed [CV277 (CV32=1)] 128 100%

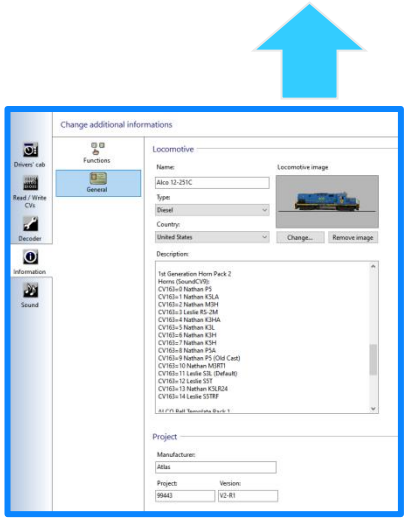
Maximum sound speed [CV278 (CV32=1)] 128 100%

Play only if drive sound is enabled [CV276.0 (CV32=1)]

Sound selection

Sound configuration: [CV279 (CV32=1)] 0

TIP: if you have multiple locomotives of the same engine type, you can adjust the sound speed (think pitch control) of each loco's engine (Sound Slot 1) to a unique value so the locomotives do not sound identical



Special Horn Demonstration

The following video shows how to use two sound slots to create a realistic horn quill effect

https://youtu.be/sGYA9nUa-CE

How to wire an ESU PowerPack
TO A Nixtrainz DECODER BUDD Y Mainboard

The following shows how to connect an ESU PowerPack to a Decoder Buddy
for use with **ESU LOKSOUND** decoders (only). Do not use an ESU PowerPack with a decoder that is not an ESU decoder!

V4 and Select Notes:

1. The **WHITE** wire is connected to PIN 3 on the Decoder Buddy 21 pin connector for older ESU Loksound V4 or Select decoders;

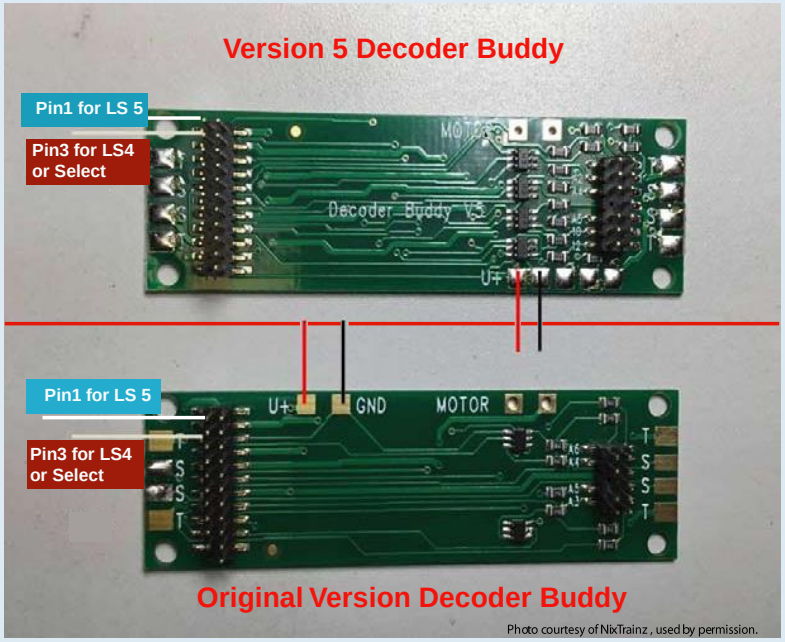
2. When programming V4 or Select decoders with the LokProgrammer, be sure to **DISABLE AUX 6** while programmming. **Re-enable AUX 6 to activate the PowerPack** after making programming changes.

V5 Notes:

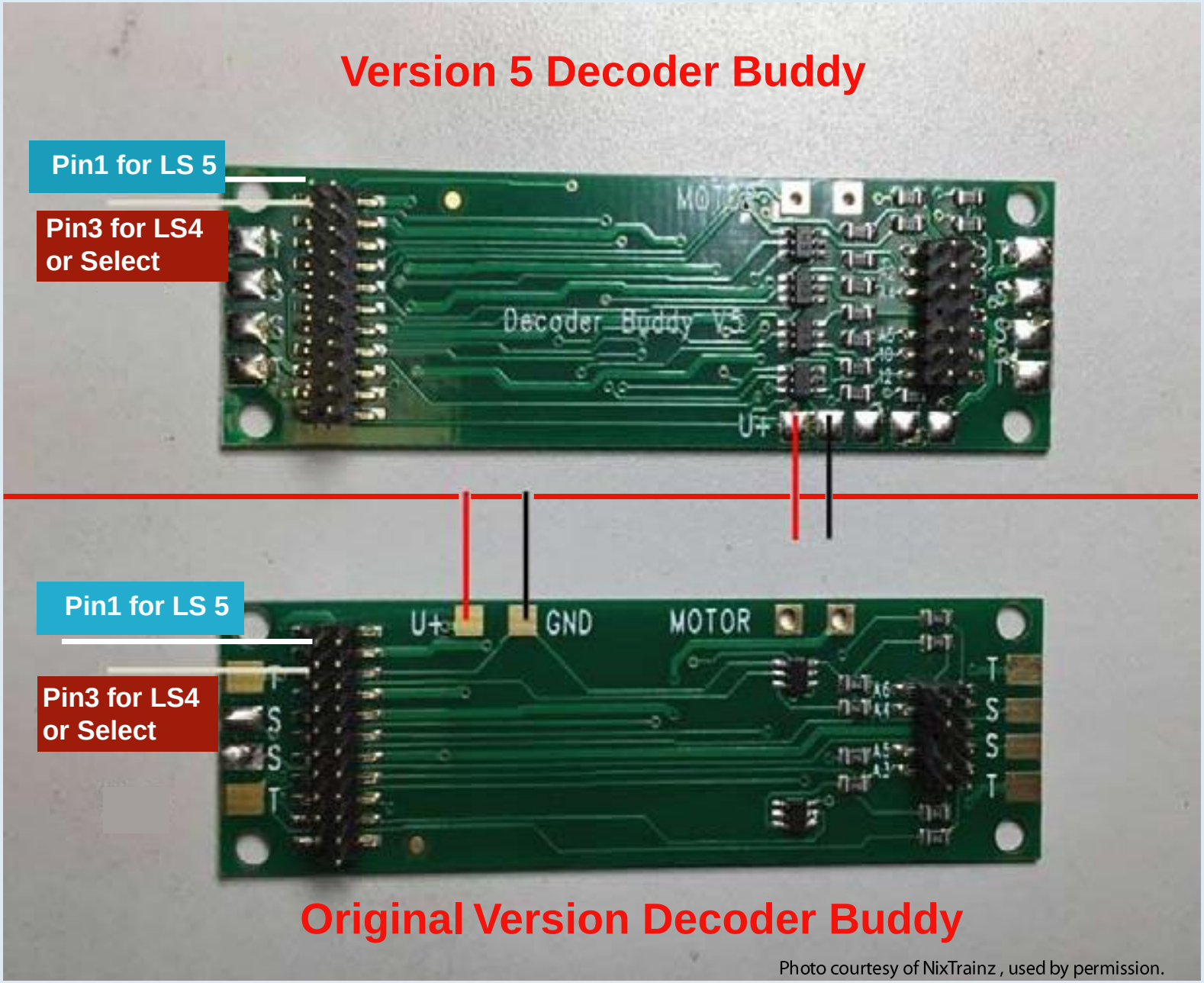
1. The **WHITE** wire connects to PIN 1 on the Decoder Buddy 21 pin connector with Loksound V5 decoders.

2. **NOTE:** you **MUST** **SELECT Power Pack Control** on **AUX 10** for V5 decoders to activate the PowerPack

Loksound V4 & Select MTC 21			Loksound V5 MTC 21	
WHITE WIRE GOES TO	USE FUNCTION		WHITE WIRE GOES TO	USE FUNCTION
PIN 3	Aux 6		PIN 1	Aux 10
Note: set Aux 6 output to DISABLED			Note: Select Power Pack Control	
when programming w/ LokProgrammer				



Version 5 Decoder Buddy



Original Version Decoder Buddy

Photo courtesy of NixTrainz , used by permission.

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Note: set Aux 6 output to DISABLED	
when programming w/ LokProgrammer	

Loksound V5 MTC 21	
WHITE WIRE GOES TO	USE FUNCTION
PIN 1	Aux 10
Note: Select Power Pack Control	

Common Shift Modes

SHIFT MODE 1 – assigned to F4 : Dynamic Brake

SHIFT MODE 2 – assigned to F26: Manual Notching UP (F28 ON) or Notch 8 (F28 OFF)

SHIFT MODE 3 – assigned to F27: Manual Notching DOWN (F28 ON) or Coast Mode (F28 OFF)

SHIFT MODE 4 – assigned to F15: Isolation Switch when standing still. Pressing F15 while not moving will lower the prime mover and lock the motor. F15 must be turned off to begin moving.

SHIFT MODE 5 - assigned to F24: "Reverser In Center Position". When pressing F24 while stopped, the motor will lock so you can throttle through the notches like the prototype in neutral. F24 must be turned off to begin moving.

Questions?

Thank YOU for attending!