

ESU Lok Programmer

Abbreviated user guide



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Summary

The ESU LokProgrammer (herein abbreviated to LP) is an I/O interface tool that enables communication between a personal computer (PC) and decoder.

The LP is a small box that is placed in series between the decoder and PC

A USB cable with integrated chipset connects the PC to LP

The LP has outputs to the track or ESU decoder tester

The main purpose of the LP is to write (known as flashing) firmware, CVs and sounds to the decoder.

The LP can also read out from a decoder to query the current settings on that decoder, including CVs.

The most common use of a LokProgrammer is to flash a sound project to the decoder.

Writing a sound project to a decoder can take up 30 minutes, depending on the file size of the sound project.

ESU's format for LokSound projects is "esux"

It is common for DCCSound to send projects to customers who have access to a LP, such that they can update their decoders, often already fitted to models.

DCCSound periodically releases updates to sound projects, and it is best to keep models up to date with the latest firmware and available sound.

Each ESU LokSound decoder has its own unique serial number, stored in the decoder's memory.

DCCSound administers sound projects that are password protected and written specifically to a particular decoder. This means the decoder's serial number can be read out by the customer using the LP. DCCSound can then be notified of that serial number, where the customer receives a protected sound project specific to that decoder.

Virtual drivers' cab

Drivers' cab

Decoder test

Turnout control panel

Read / Write CVs

Decoder

Information

Sound

Decoder test

STOP GO

Address: 3

Protocol: DCC28

Light

F1	F2	F3	F4
F5	F6	F7	F8
F9	F10	F11	F12
F13	F14	F15	F16
F17	F18	F19	F20
F21	F22	F23	F24
F25	F26	F27	F28
F29	F30	F31	F32

0

← →

Decoder test

Select the current address and select the green "Go" button. Power is then applied to the connected decoder, emulating a DCC cab for testing purposes

Function keys

These keys reflect that of a typical NMRA compliant DCC cab

Project name
Menu
Menu icons

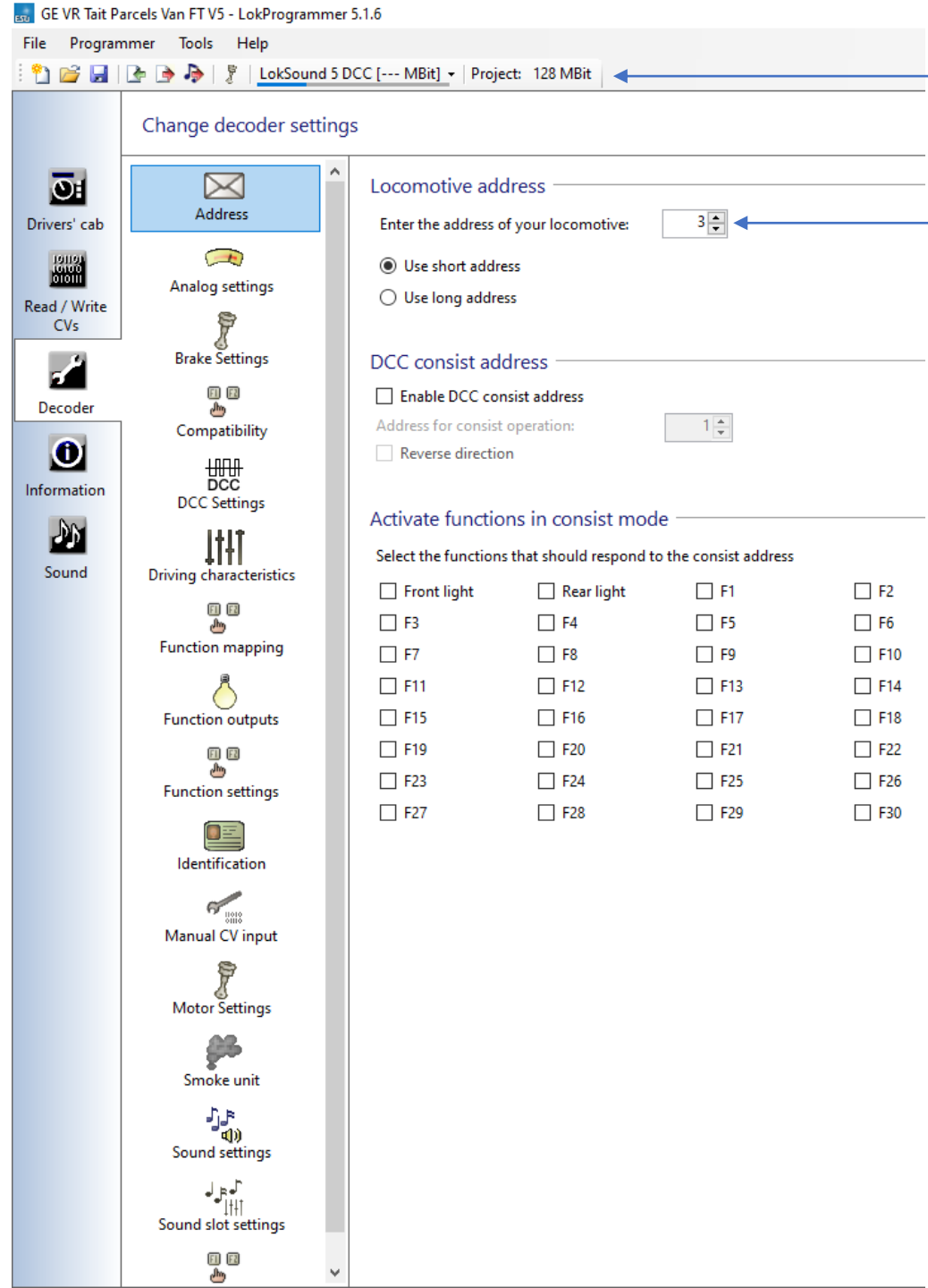
Driver's cab
Direct interface to test decoders in a model or on a decoder tester

Read / Write CVs
Direct interface read existing values of or new CV values to connected decoder

Decoder
For defining a sound project from scratch this is the most common tab to use

Information
Contains project information as well as functions for ESU ECoS interface

Sound
Contains sound slots (channels) and links to sound template libraries for adding sounds to a project



Decoder type
Returns the type of ESU decoder connected

Decoder address
Defines the short or long address of the decoder

Function mapping

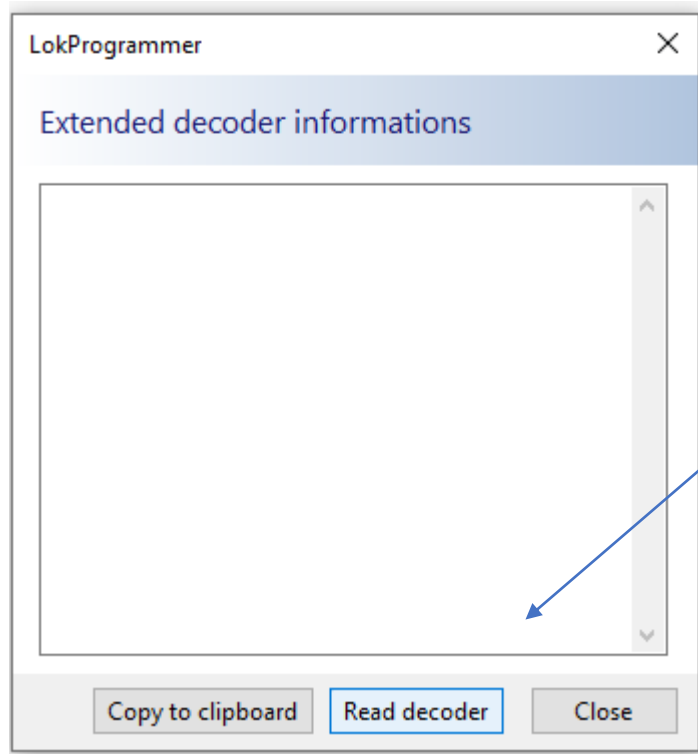
Defines what outputs, logic functions and/or sound slots are assigned to each DCC cab function button

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

Function mapping

	Conditions	Physical outputs	Logical functions	Sounds
	Forward, F0	-	-	Headlight and dimmer #1 end
	Reverse, F0	-	-	Headlight and dimmer #2 end
	F1	-	-	Tait electrics, Power limiter Tait 317M, Buffer strike accel 317M
	F2	-	-	RVB 3 Hurricane 3 chime horn playable (SV9)
	F3	-	-	Coupler Tait (knuckle coupler)
	F4	-	-	Doors - departure
	F4	-	-	Sound slot 23
	F4	-	-	Sound slot 24
	not F5	-	-	Slow speed rail clack
	F6	-	-	Independent Brake Tait
	F7	-	Switching Mode	-
	not F8	-	-	High speed rail clack 317M
	F9	-	-	RVB Hurricane 3 chime Short (SV9)
	F10	-	-	Curve squeal
	Forward, F11	AUX1 [1]: Destination board #1 end	-	-
	Reverse, F11	AUX2 [1]: Destination board #2 end	-	-
	F12	-	-	Canopy light logic
	Forward, F13	AUX12: Aux 12: Red markers #2 end	-	-
	Reverse, F13	AUX6: Aux 6: Red markers #1 end	-	-
	F14	-	-	Windscreen wiper
	F15	-	Shift Mode 1	-
	F16	-	-	Guard - on demand
	F17	-	-	Taildisc
	not F18	-	-	Compressor VR Tait 317M
	not F19	-	-	Traction fan Tait 317M
	F20	-	-	Horn Short RVB 317M
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-



**To read the serial number of a LokSound decoder:
From the top menu select Programmer > Extended decoder information**

Select "Read decoder" from the dialog box

The LokProgrammer will then attempt to read the decoder's memory, where the serial number is stored.

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

Locomotive address

Enter the address of your locomotive:

- Use short address
- Use long address

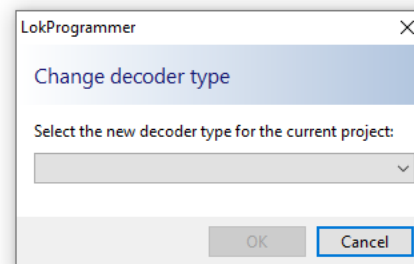
DCC consist address

 Enable DCC consist addressAddress for consist operation: Reverse direction

Activate functions in consist mode

Select the functions that should respond to the consist address

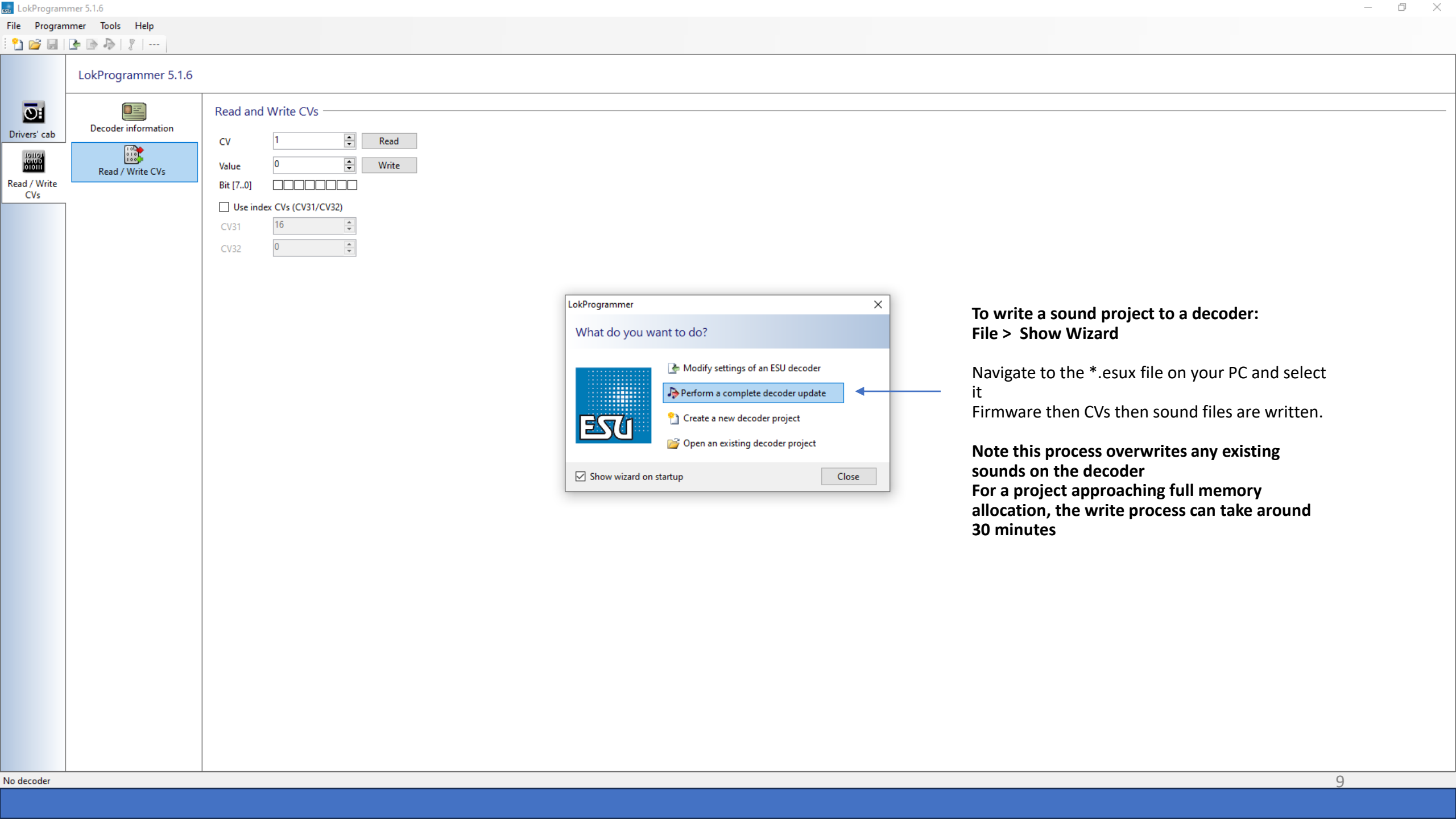
- | | | | |
|---|--|---|---|
| <input checked="" type="checkbox"/> Front light | <input checked="" type="checkbox"/> Rear light | <input checked="" type="checkbox"/> F1 | <input checked="" type="checkbox"/> F2 |
| <input checked="" type="checkbox"/> F3 | <input checked="" type="checkbox"/> F4 | <input checked="" type="checkbox"/> F5 | <input checked="" type="checkbox"/> F6 |
| <input checked="" type="checkbox"/> F7 | <input checked="" type="checkbox"/> F8 | <input checked="" type="checkbox"/> F9 | <input checked="" type="checkbox"/> F10 |
| <input checked="" type="checkbox"/> F11 | <input checked="" type="checkbox"/> F12 | <input checked="" type="checkbox"/> F13 | <input checked="" type="checkbox"/> F14 |
| <input checked="" type="checkbox"/> F15 | <input type="checkbox"/> F16 | <input type="checkbox"/> F17 | <input type="checkbox"/> F18 |
| <input type="checkbox"/> F19 | <input type="checkbox"/> F20 | <input type="checkbox"/> F21 | <input type="checkbox"/> F22 |
| <input type="checkbox"/> F23 | <input type="checkbox"/> F24 | <input type="checkbox"/> F25 | <input type="checkbox"/> F26 |
| <input type="checkbox"/> F27 | <input type="checkbox"/> F28 | <input type="checkbox"/> F29 | <input type="checkbox"/> F30 |



**To match the type of sound project to the type of decoder on hand:
From the top menu select Tools > Change decoder type**

Select the type of decoder on hand from the drop down list

The sound project will then be converted by the LokProgrammer software to the desired project type.



**To write a sound project to a decoder:
File > Show Wizard**

Navigate to the *.esux file on your PC and select it
Firmware then CVs then sound files are written.

**Note this process overwrites any existing
sounds on the decoder
For a project approaching full memory
allocation, the write process can take around
30 minutes**