

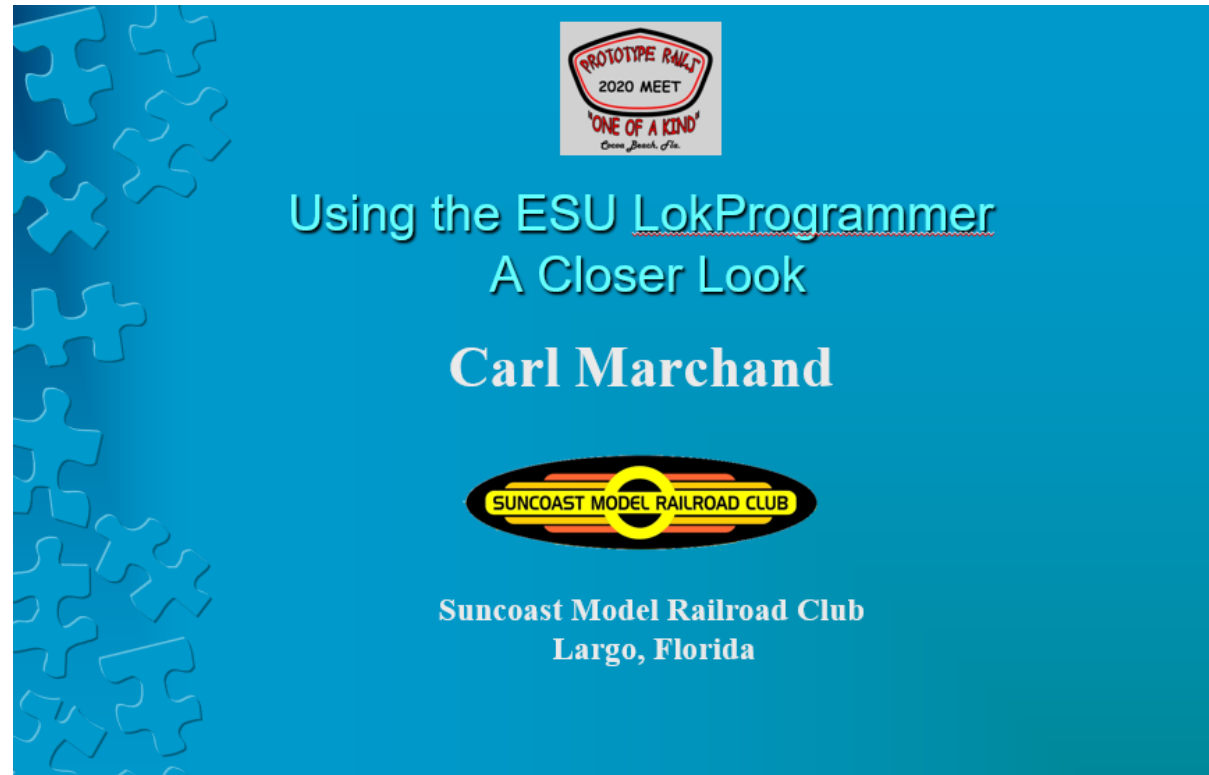


New Features Using ESU Decoders

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For additional information...



http://dccgeek.com/InternetFiles/ESU_Loksound_Deep_Dive.pdf

ESU Decoder LokProgrammer Updates and Deep Dive Part 3

- ESU Loksound V5 decoders using firmware 5.9.159 have additional features not available in previous releases.
 - Existing Loksound V5 decoders can be updated to 5.9.159 using the LokProgrammer and the 5.25 version of the software.
 - We will explore these new features as well as cover additional advanced use of the LokProgrammer.
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Functions available in a consist

The screenshot shows the 'DCC Settings' window with a sidebar on the left containing icons for 'Driving characteristics', 'Function outputs', 'Function settings', 'Function mapping', 'Identification', and 'Compatibility'. The main area is titled 'Activate functions in consist mode' and includes a dropdown menu for 'Consist size' and a checkbox for 'Reverse direction [CV19.7]'. Below this, a list of functions is shown with checkboxes, grouped into four columns. The functions are: Front light, Rear light, F1-F30. The following functions are checked: F7, F15, F4, F12, F9, and F10.

DCC Settings

Driving characteristics

Function outputs

Function settings

Function mapping

Identification

Compatibility

Consist size for consist operation

☐ Reverse direction [CV19.7]

Activate functions in consist mode

Select the functions that should respond to the consist address [CV21, 22, 109, 110]

<input type="checkbox"/> Front light	<input type="checkbox"/> Rear light	<input type="checkbox"/> F1	<input type="checkbox"/> F2
<input type="checkbox"/> F3	<input checked="" type="checkbox"/> F4	<input type="checkbox"/> F5	<input type="checkbox"/> F6
<input checked="" type="checkbox"/> F7	<input type="checkbox"/> F8	<input checked="" type="checkbox"/> F9	<input checked="" type="checkbox"/> F10
<input type="checkbox"/> F11	<input checked="" type="checkbox"/> F12	<input type="checkbox"/> F13	<input 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

Loksound decoders can now support up to F30 in consist (depending on your DCC system)

Class Light Logic – Function Outputs Section



Front light [1]: Front Headlight

Name:
Front Headlight

Power on delay: [CV260.3:0 (CV32=0)]
0 0s

Power off delay: [CV260.7:4 (CV32=0)]
0 0s

☐ Enable function timeout [CV261 (CV32=0)]
Time until automatic power off: [CV261 (CV32=0)]
1 0.41s

Output mode (effect):
Dimmable headlight (fade in/out)

Brightness [CV262.4:0 (CV32=0)]
25

☐ Use ~~Class light logic~~ [CV258.7:6 (CV32=0)]
Sequence position: [CV258.7:6 (CV32=0)]
1

Enable following special functions:
☐ Rule 17 forward ☐ Rule 17 reverse ☒ Dimmer
☒ LED mode

This alternate version allows you to setup class lights easily, without having to use the Logic module

Class Light Logic – Function Settings

Analog settings

Brake Settings

DCC Settings

Driving characteristics

Function outputs

Function settings

Function mapping

Identification

Compatibility

Grade crossing holding time [CV132] 39 1.95s

Fade-In time of light effects [CV114] 79 5.18s

Fade-Out time of light effects [CV115] 92 0.75s

Logical function dimmer will reduce brightness to: [CV131] 64 50%

Class light logic sequence length [CV199]

☐ 2 (Two different color class lights)

☒ 3 (Three different color class lights)

☐ Enforce slave communication on AUX3 and AUX4 [CV122.4]

Sensor settings

☐ Use digital wheel sensor [CV124.4]

☒ Use output AUX10 [CV124.4]

Sensor configuration

Sensor 1

Choose 2 color or 3 color class light options

Additional Sensor Settings

The screenshot shows a software interface for configuring a sensor. On the left is a sidebar with a menu containing the following items from top to bottom: 'Brake Settings' (with a DCC icon), 'DCC Settings' (with a DCC icon), 'Driving characteristics' (with a lightbulb icon), 'Function outputs' (with a lightbulb icon), 'Function settings' (highlighted with a blue background and a hand icon), and 'Function mapping' (with a hand icon). The main content area is titled 'Additional Sensor Settings' and is divided into two sections. The 'Sensor settings' section has two radio buttons: 'Use digital wheel sensor [CV124.4]' (unselected) and 'Use output AUX10 [CV124.4]' (selected). The 'Sensor configuration' section features a dropdown menu labeled 'Sensor 1'. Below this, there are two radio buttons: 'Digital sensor input' (selected) and 'Analog sensor input' (unselected). Under the 'Digital sensor input' option, there is a 'Threshold [CV145]' label followed by a horizontal slider bar. The slider is positioned at the far left, and next to it is a numeric input field showing '1' and a percentage '0.39%'.

Brake Settings

DCC

DCC Settings

Driving characteristics

Function outputs

Function settings

Function mapping

Sensor settings

☐ Use digital wheel sensor [CV124.4]

☒ Use output AUX10 [CV124.4]

Sensor configuration

Sensor 1

☒ Digital sensor input

☐ Analog sensor input

Threshold [CV145]

1 0.39%

Choose between digital and analog sensors.
Use the sensor as a function in Function Mapping

Support for Broadway Limited Steam Engine Control (Smoke Generator)



Broadway Limited Steam Engine Control

☐ Enable Support for Broadway Limited Steam Engine Control (instead of SUSI) [CV122.7]

Serial user standard interface

☐ Enable serial user standard interface (SUSI Master) [CV124.3]

☐ Enable serial user standard interface (SUSI Slave) [CV124.1]

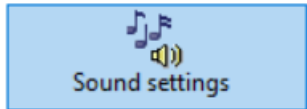
SUSI Mapping

Map decoder functions (F0 - F15) to SUSI functions (SF0 - SF15).

	SF0	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
► F0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This new feature allows you to operate The BLI smoke generator unit with ESU decoders connected to the upcoming BLI motherboard replacement from ESU.

Bass and Treble Controls



Volume

Master volume [CV63]

192 150%

Fade sound will reduce volume to: [CV133]

64 50%

Soundfader fade-out fade-in time [CV135]

6 6s

Tone control

Bass: [CV196]

16 0dB

Treble: [CV197]

16 0dB

ESU Loksound decoders now have tone controls for a better sound experience across different speaker types.

Adding sounds from ESU decoder files to your Sound Library

Sound project overview

The screenshot displays the 'Sound project overview' interface, which is divided into two main panels. The left panel, titled 'Sound type:', shows a dropdown menu set to 'Standard (diesel, electric etc)'. Below this, a list of 'Available sound slots' is shown, with 'Sound slot 3: 1st Generation Horn Pack 1 (AutoBell Trigger)' highlighted in blue. The right panel, titled 'Sound library (LokSound Template Pack 1.9):', shows a hierarchical tree structure of sound files. A red arrow points from the highlighted sound slot in the left panel to the 'MISC Airhorns' folder in the right panel. A red circle highlights a blue arrow button located between the two panels, indicating the action to copy or move the sound file.

Sound type:

Standard (diesel, electric etc)

Available sound slots:

- Sound slot 1: ALCO 12-251B Single Exhaust Ed3
- Sound slot 2: Leslie A200 #2
- Sound slot 3: 1st Generation Horn Pack 1 (AutoBell Trigger)
- Sound slot 4: ALCO Auto Bell On/Off Trigger Template Pack 2
- Sound slot 5: Coupler 1
- Sound slot 6: M-636 Dynamic Brake 1
- Sound slot 7: RS-11 Air Compressor 1
- Sound slot 8: Class Light Cycle Logic Directional
- Sound slot 9: RS-11 26L Automatic Brake Emergency 1
- Sound slot 10: RS-11 26L Automatic Brake 1
- Sound slot 11: RS-11 26L Independent Brake 1
- Sound slot 12: RS-11 26L Independent Brake Bail Off 1
- Sound slot 13: RS-11 Sanding Valve 1
- Sound slot 14: RS-11 Hand Brake Wheel 1
- Sound slot 15: RS-11 Cab Door 1
- Sound slot 16: RS-11 Engine Compartment Doors 1
- Sound slot 17: ALCO Air Dryer Template Pack 2
- Sound slot 18: ALCO Air Dryer On Shutdown Template Pack 2

Sound library (LokSound Template Pack 1.9):

- USA
 - Leslie
 - MISC Airhorns
 - Car Horn
 - Galloping Goose Horn
 - Hancock Air Whistle short
 - Ooga Horn #1
 - Ooga Horn #2
 - Ooga Horn #3
 - Ooga Horn #4
 - Prime 990 MNNR 71
 - US airhorns pack #1 - short airhorns (16 airhorns selectable with CV48)
 - US airhorns pack #1 (16 airhorns selectable with CV48)
 - Nathan
 - Wabco
 - Ambient Sounds

Copying horns, bells, etc. from existing Loksound file to your Sound Library is easy

Alternate Class Light Logic Method

This method uses the Sound logic module and stores the logic in a sound slot

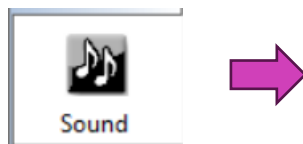
Sound project overview

Sound type:
Standard (diesel, electric etc) ▼

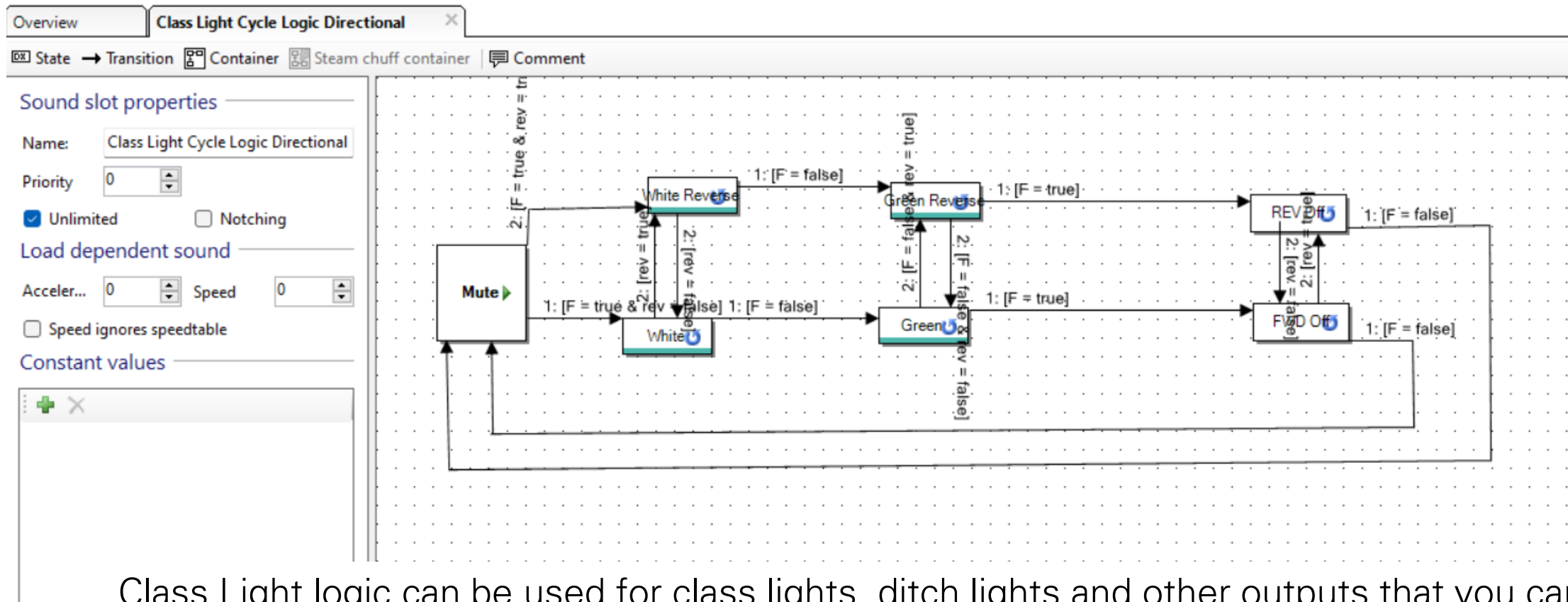
Available sound slots:

Sound slot 1: ALCO 12-251B Single Exhaust Ed3	⚙️ ⬆️ 🌐 ⚡
Sound slot 2: Leslie A200 #2	
Sound slot 3: 1st Generation Horn Pack 1 (AutoBell Trigger)	⚙️ 🌐
Sound slot 4: ALCO Auto Bell On/Off Trigger Template Pack 2	⚙️ 🌐
Sound slot 5: Coupler 1	
Sound slot 6: M-636 Dynamic Brake 1	⬆️ 🌐
Sound slot 7: RS-11 Air Compressor 1	🌐
Sound slot 8: Class Light Cycle Logic Directional	💡 ⚡
Sound slot 9: RS-11 26L Automatic Brake Emergency 1	🌐 ⚡
Sound slot 10: RS-11 26L Automatic Brake 1	🌐
Sound slot 11: RS-11 26L Independent Brake 1	
Sound slot 12: RS-11 26L Independent Brake Bail Off 1	
Sound slot 13: RS-11 Sanding Valve 1	
Sound slot 14: RS-11 Hand Brake Wheel 1	

Sound



Alternate Class Light Logic Method



Class Light logic can be used for class lights, ditch lights and other outputs that you can "cycle" using only one function for control.

Horn Option Example

How to setup bidirectional horns in Function Mapping

Conditions		Sounds
Forward, F2, not F6	➔	1st Generation Horn Pack 1 (AutoBell Trigger)
Reverse, F2, not F6	➔	Leslie A200 #2
F2, F6	➔	Leslie A200 #2

Not pressing F6 a multi-chime horn is used in forward direction; the Leslie A200 #2 (copied in to a Sound Slot from the Sound Library) is used in reverse direction. Pressing F6 sets the horn to the Leslie A200 in either direction.

Additional Info / Useful Links

- http://dccgeek.com/InternetFiles/ESU_Info_Websites.pdf
 - <https://www.esu.eu/en/start> OR <https://www.loksound.com>
 - <https://dccwiki.com>
 - <https://www.nmra.org/index-nmra-standards-and-recommended-practices>
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