
# Wickness Models Class 128 DPU – Soundscape with RealDrive

***Putting you, the user, in the driving seat...***

**Manufacturer:** Wickness Models & Mark's Trains
**Project number:** WM128-SSv1-RD
**Project version:** V4-Airport

**Diesel multiple unit:** Class 128 DPU (DMMU)
**Power type:** Diesel-Mechanical
**Builder:** Gloucester Railway Carriage & Wagon Company
**Build date:** 1959 – 1960
**Total produced:** 10 cars

**Decoder type:** ESU LokSound V4, V4 M4, V4 Micro, V4 L & V4 XL **DCC Address:** 3
**Speed steps:** 128 speed steps
**CV63 main volume:** 128 (max 192)
**Speakers supported:** 4 - 8 Ohms impedance, 1 Watt power
**Volume CV's column:** Relevant CV's to adjust individual sound volumes
**Volume values column:** Default volume setting for relevant sound CV's
*Before changing volume settings CV32 must be set to 1, and returned to 0 when finished. Failing to do so will inadvertently alter function settings.*

**Diesel multiple unit (diesel-mechanical)**
A diesel multiple unit or DMU is a multiple unit train powered by on-board diesel engines. A DMU requires no separate locomotive, as the engines are incorporated into one or more of the carriages. They may also be referred to as a railcar or railmotor, depending on country. Diesel-powered units may be further classified by their transmission type: diesel-electric (DEMU), diesel-mechanical (DMMU) or diesel-hydraulic (DHMU).

| Fn Key | Function | Volume CV's | Volume Values | | Fn Key | Function | Volume CV's | Volume Values |
|---|---|---|---|---|---|---|---|---|
| F0 | Directional Headlights | | | | F15 | Talking Passengers | 419 | 128 |
| F1 | Startup / Shutdown (Multi Start) | 259, 427 | 128, 128 | | F16 | [Not Assigned] | | |
| F2 | Horn (Random & Playable) | 275 | 128 | | F17 | Sanding Valve | 339 | 128 |
| F3 | No1 Cab Lights [AUX 1] | | | | F18 | Soundscape | 411 | 128 |
| F4 | No2 Cab Lights [AUX 2] | | | | F19 | Bi-directional Stabling (Both Tail Lights) (Not Used) | | |
| F5 | Directional Tail Lights [AUX 3 & 4] (Not Used) | | | | F20 | Shunting Mode | | |
| F6 | Curve Squeal | 371 | 128 | | F21 | Coast Mode | | |
| F7 | Switch Flange | 315 | 128 | | F22 | Heavy Load | | |
| F8 | Rail Clank | 387 | 128 | | F23 | Diesel Manual Notch Up | | |
| F9 | Automatic Train Brakes (On / Off) | 355 | 128 | | F24 | Diesel Manual Notch Down | | |
| F10 | Cab Communication Buzzer (Random Buzz Sound & Codes) | 403 | 128 | | F25 | Smoke Generator [AUX 5] (LokSound L & XL) | | |
| F11 | Conductor's Whistle (Random) | 311 | 128 | | F26 | Volume Control | | |
| F12 | Station Announcements (Random) | 363 | 128 | | F27 | Disable Brake Squeal Sound | | |
| F13 | Doors Open / Close | 347 | 128 | | F28 | Fade Out Sounds | | |
| F14 | Automatic Coupler | 307 | 128 | | | | | |

Wickness Soundscape with RealDrive raises the bar to a much higher level than previously available in LokSound technology. These sound projects have been developed by Wickness Models and Mark's Trains in great detail to be more throttle and volume responsive through the range of 128 speed steps than other currently available sound projects, and with RealDrive features to give the user a much more prototypical user experience; putting the user in the driving seat.

The Wickness Soundscape system has been developed to be used on any DCC system although we do not recommend Hornby Select or Bachmann EZ Command due to limited function options.

So what is Soundscape then? Soundscape is set of ambient sounds on a given theme additional to the standard running sounds (engine, horns, compressor etc.). The soundscape runs on an available function within the project just like any other function such as a horn. This is exclusive to Wickness Models sound projects on LokSound V4 decoders. The soundscape is selectable, you can activate it during running or while motionless to provide additional background noises based on the theme of your layout. For example, you might choose Londonscape or Airportscape for a city centre layout, or Farmscape or Hedgerow for a rural one. You can listen to samples of the soundscapes available and view some of the project function sheets by visiting the following link -
https://wicknessmodels.co.uk/wickness-information/wickness-soundscape-decoders/downloads

What does RealDrive do? RealDrive fully utilises the advanced functions and logical programming available to the LokSound V4 decoder family, giving the user a prototypical and immersive experience. It's like driving a real train – to an extent!

One of the many new features of RealDrive is **active braking**; where you can back off the throttle to speed step 1 and let the locomotive gradually coast to a crawl, with a full brake application available at speed step 0. You can also bring the train to a rapid stop from any speed by backing off to speed step 0, this bypasses any momentum effect and stops the train in a set distance. To remove this feature simply change **CV27 to 24** and reduce deceleration **CV4 to 68**, this will give you traditional throttle control. The other exciting features included in RealDrive are described below.

**Multi start** is now available on some projects with the use of F1 instead of using another function key; a warm start works as normal by selecting F1. Switching F1 on, then off again (within 1 sec) and finally back on again (within 1 sec) will activate the cold start engine sound.

**Prototypical lights;** Directional headlights (F0) and tail lights (F5) can be wired directly to their own function outputs, so that tail lights can be extinguished when a loco is in a train or consist. Bi-directional stabling (tail) lights can be activated (F19) so that tail lights at both ends illuminate. With this feature, lights can be operated just like the prototype. The complex function mapping has already been done for you, all you need to do is connect the lights to the appropriate function output. Instructions for this are on the next page. If traditional directional lighting is required simply connect to F0f and F0r as normal.

**Cab lights;** A directional cab light installed in both cabs can be activated to illuminate when stationary and automatically extinguish when moving off. Cab lights change ends when direction is changed.

**Intelligent sounds;** Curve squeal, switch flange, rail clank & spirax valve (where available) have powerful logic driving them, intelligently changing frequency with speed like the prototype and in the case of the spirax valve randomly sputtering and clicking away to sound much more realistic than a looped sound file ever did!

**Random sound functions;** A selection of horns and station announcements are now randomly played from a single function key, instead of having a mass of different horns and announcements spread around the various function keys, often difficult to reach. Some horns are also playable. So now there's a different horn every time you press F2!

**Automatic train brakes;** Brake releases and applications can be activated or disabled with F9, these sounds are separate to the engine sounds which means you don't have to listen to brake sounds during shunting or light engine moves for example. When activated they release and set automatically when you stop and set off.

**Auto couple / uncouple;** Along with the coupling / uncoupling sounds, this function now automatically pushes the train back towards a ramp / magnet at a predefined distance and speed and then drives the loco forward a set distance to clear the train that has been uncoupled.

**Shunting mode;** Shunting mode halves speed - useful in yard operations, and also disables momentum effects. Selecting this function also illuminates both sets of headlights and tail lights to simulate markers commonly used whilst in a yard or undertaking shunting movements.

**Function key assignments;** New function key assignments on RealDrive projects are organised to be more consistent throughout the range of sound projects; Diesels and Electrics will have the same mapping to be consistent with each other, and Steam will have their own consistent function mapping in place. This will make it easier to operate sound decoders across the *Wickness Soundscape with RealDrive* range.

Other traditional features include **Fade out sound;** when enabled fades the sound to the volume setting for “Fade sound” (CV133) in the “sound settings” section; this allows the simulation of going into tunnels, buildings, etc.

**Diesel notch up;** Allows notching up of one notch per key press (~ 1 sec cycle), or engage for multiple notch points. Notches up regardless of speed.

**Diesel notch down;** Notch down as above. Note: once engaged manual notching remains in effect until locomotive is stopped and notch point is at idle.

**Disable brake squeal sound;** When engaged turns off automatic brake squeal sound ((CV32=1) CV459).

**Volume control;** when set, allows setting the volume in 6 steps by toggling the function key on and off, once per step. Changes the master volume in 6 steps (CV 62).

All LokSound decoders can be fitted with a stay alive capacitor system, to see how please view the diagram at the bottom of the page.

## Prototypical lighting installation instructions

To be able to control the No1 end & No2 end headlights and tail lights as the prototype, the following connections need to be made.

No1 end headlights to the F0f (White) wire.
No2 end headlights to the F0r (Yellow) wire.
No2 end tail lights to AUX 3 solder pad/outlet (see diagram below for function output locations).
No1 end tail lights to AUX 4 solder pad/outlet (see diagram below for function output locations).
No1 end cab light to AUX 1 (Green) wire.
No2 end cab light to AUX 2 (Purple) wire.

Please note that LED's/bulbs should have a resistor on the negative side of the circuit (function output wires) to prevent over-current and blowing LED's. We would recommend a minimum of 470 Ohms, but usually this produces a very bright and intense light. 1.2K to 1.5K Ohms is typical in this application so the lights would be at the correct brightness. The common positive should be connected to the anode of the LED's (positive side) and the function negative drain (white/yellow, etc.) to the cathode. 6 resistors would be required for all the lights in this project.

If prototypical lighting is not required simply install the lights as usual, with No1 end headlights and No2 end tail lights connected to F0f (White), No2 headlights and No1 tail lights connected to F0r (Yellow).

Smoke generators on diesel locomotives have been assigned to AUX 5, which is only available on the larger scale LokSound V4 L and XL decoders. Unfortunately there are not enough function outputs to accommodate a smoke generator on the smaller decoders.

The table below associates the wire colours with the various functions of the decoder, this is for your information which you may find handy.

| | | | | | |
|---|---|---|---|---|---|
| Red | | Track Right | White | | Front Lights |
| Black | | Track Left | Yellow | | Rear Lights |
| Orange | | Motor Right (+) | Green | | AUX 1 |
| Grey | | Motor Left (-) | Purple | | AUX 2 |
| Blue | | Common Positive (+) | Brown | | Speaker Wires (two wires) |