Class 50 Diesel Electric Locomotive N Gauge Model

# **Owner's Guide**



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### **DCC Fitted guide**

### Section A: All versions and quick start.

Including factory fitted DCC and DCC sound.

**Quick start:** We know you would like to have your model running as quickly as possible, but please spare a moment to read this section first.

We also recommend reading sections 1 – 6 as a minimum

- Please check that you have an accessory pack in the box containing:
  - 4 yellow air reservoir pipes
  - 4 red air brake pipes
  - 4 outer and 2 inner snowplough blades

#### Icons used in this booklet



Informational: Hints and tips.

Caution: Take care when performing this step.

Warning: A risk of damage may exist.

To install a DCC decoder refer to section A-6.

- The DCC ready version is shipped ready to run using DC or (optional) 2 function DCC decoder. Directional head/ tail lamps and leading cab light are 'ON'. Other modes are set by switches (Table 1, Page 6)
- Factory fitted DCC: (Ref. section B, page 9)
- Factory fitted DCC sound: (Ref. section C, page 12)
- Full operation and selection of lighting functions in DC mode is described on page 6.
- DCC decoder fitting instructions and description of DCC lighting is in Section 6, page 6.
- Running in: No special running in or initial lubrication is required. We suggest before first operating your model, it is run in both directions at a low speed whilst checking correct operation. These operations can be performed with DC or DCC.

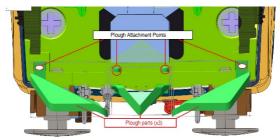


The models slow running will become increasingly smooth during the first 1-2 hours of use.

 Fitting accessories: 'Shortened' detail parts have been factory fitted to your locomotive. If you do not intend to use couplings, full-length pipes are supplied in the accessory pack.

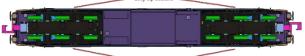
#### The long pipes cannot be used with couplings

 The snow ploughs press-fit into the body, gently pull to remove. To re-fit, push into position. Use a drop of glue for permanent fitting.



b. The NEM coupling can be pulled from its pocket and an alternative fitted (i.e. Dapol Easi-Fit).

#### 3. Removing the body:



-Body clip locations -

The body is held to the chassis by 4 clips shown above.

Do **not** loosen or remove visible screws

Two methods of body release can be used:

- Gently ease the body outwards whilst pulling down on the chassis.
- b. Slide four strips of thin plastic between body and chassis over the clip.

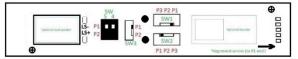
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The body will lift clear of the chassis once all clips are released. There is no need to be concerned about wires as all electrical connections are mounted within the chassis.

- 4. Replacement of the body: The body simply clips back in place. The bodyshell is fitted with the speaker end of the chassis furthest away from the roof fan.
- Internal switch function: 5 switches are located on the internal control board (P1 = factory settings):



The lighting operation has been designed to offer a choice of cab lighting options (leading on, trailing on, both on or both off) as well as control of lamps for push/pull & light loco operation.

Switches 1 and 2 (Cab light control) can be accessed easily by removing the engine room access cover on the roof.

Do not force the cover if it resists an easy removal.



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Position 1 Position 2 Position 3						
Switch	Description	(P1)	Position 2 (P2)	(P3)		
SW1	No. 1 end Cab	On when	Control by	On when		
3001	light control	leading	DCC Aux 3	Trailing		
SW2	No. 2 end Cab	On when	Control by	On when		
	light control	leading	DCC Aux 4	Trailing		
<b>C1112</b>	Refer to note	DC or 2 fnc.	4 or 6 fnc.	N1/A		
SW3	below	DCC	DCC	N/A		
SW4	No. 2 End lighting	#1 end Lamps	#1 end	N/A		
	control	on	lamps off			
SW5	No. 1 End lighting	#2 end Lamps	#2 end	N/A		
	control	on	lamps off			

Table 1: Switch functions (Grey is factory 'DCC ready' default)

SW3 selects DC [& 2 fnc DCC] <u>or</u> [4/6 fnc DCC] Position 1 (DC or DCC 2 fnc.) Lamps at each end are controlled by SW 4&5 (Ref. table 1 above) Position 2 (DCC 4 or 6 fnc.) independent control of front/rear lamps with AUX 2 & AUX3 of decoder.

Factory switch settings: DCC ready models (No decoder) are set for 'traditional' directional front/rear lights,
Leading cab light 'On'. DCC fitted and DCC sound versions are pre-set for operation described in Section B (DCC fitted) or Section C (DCC sound).

#### 6. Fitting a DCC decoder:

The model requires a NEXT-18 type decoder with 2 or 4 functions; to use all features, a SIX function decoder is required (E.G. Dapol Imperium N18).

When fitting a 5 or 6 function decoder it must be programmed to operate the lighting correctly. Also SW1 & SW2 should both be set to the CENTRE (P2) position and SW3 into the DOWN (P2) position.

	Reference: these de	ecoder outputs are used:
	Front White	FLf (Front light forward)
_	Front Red	FLr (Front light reverse)
i)	Rear White	Aux 1
-	Rear Red	Aux 2
	No. 1 end cab lights	Aux 4
	No. 2 end cab lights	Aux 5

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NEXT

# DCC Fitted guide

- a. Remove body (section A-3, page 4)
- b. Remove DC blanking plate

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Me suggest lifting the plate gently and evenly on alternate sides. Warning: It may come loose suddenly!

c. Insert decoder, aligning the decoder plug with the socket.

The decoder will fit one way only, do not force it into place. If in doubt, stop and re-check alignment

- d. Optionally install loudspeaker (DCC Supplies part #112965) into the 'clip-in' sound chamber supplied by removing the adhesive foam insert (apply to the top of the speaker after fitting), solder wires to the marked areas of the PCB (SPR+ and SPR-) (diagram in section A-5, page 5).
- Ensure switch settings are set appropriately for the number of function outputs your decoder has. (Table 1, page 6)
- 7. Maintenance Our new generation locomotives have been designed with care to offer many years of service with minimal maintenance and do not require regular lubrication, however we suggest that after every 100 hours of running a lubrication service is performed using a light synthetic lubricating oil such as Dapoil or Locolube™.

Mineral oil types or thicker oils may damage your locomotive and invalidate your warranty.

Unlike older models, this model's bogies DO NOT PULL OUT from the chassis. Removal for lubrication is not required.



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When applying lubrication only 1 or 2 drops of oil are required, as this will migrate through the gear train during use

**Caution:** Do not over oil. Over oiling may damage paint finishes and/or cause build-up of dust.

- Remove any surplus oil using a lint free cloth.
- Even the cleanest layout harbours fluff! Regularly check your model for build-up of lint or loose scenic materials around wheels and moving parts.

If desired use 1 drop of synthetic oil on each bogie gearset after 100 hours of operation.

Check for and remove fluff and debris from the mechanism regularly

- Spare parts: Are available from the Dapol service centre (DCC Supplies 01905 621999 <u>http://dapolspares.dccsupplies.com</u> Refer to Section D, pages 18 -20 for exploded views and parts list.
- 9. Warranty: Full details are in Section E. Page 21.



# DCC Fitted guide

### Section B: Dapol factory fitted DCC models.

Four different lighting modes can be selected. Select whichever one is appropriate to the train you are operating:

The models lighting operation is designed to emulate 'Push-Pull' operation, please read this guide in full as some features may not operate in the manner you are used to.

Factory Reset. The DCC decoder in this model has been set-up to operate as described below. If a factory reset
 (CV8 = 8) is performed, functions will no longer operate as programmed and the decoder will respond to address 3. To restore settings for the class 50, refer to section '*Restore class 50 settings* on page 10.

▲ Different programming applies to sound decoders

#### 1. DCC Address: Factory setting is address 3

#### 2. Function key summary:

- F0 Light engine (Front/Rear lights directional)
- F1 Push-pull, #1 end to train (#2 end lamps on White/Red, directional dependent)
- F2 Push-pull, #2 end to train (#1 end lamps on White/Red, directional dependent)
- F3 #1 end cab light
- F4 #2 end cab light

Some DCC control systems set F2 as a momentary function. To change this behaviour, refer to your controller manual. Alternatively, you may prefer to change the decoder settings to use an alternative function key; refer to '*Remapping class 50 functions'*.



#### 3. DCC Lighting modes: Two lighting modes are available:

Light engine mode (Using F0) DCC 'standard lighting mode. i.e. white headlights are shown in the direction of travel with red tail lights to the rear. Lamps automatically 'changing ends' when the loco reverses.

**Push-pull / Train mode (using F1/F2)** 'Top & tail' as well as 'light engine' operations are selectable using a single press of F1 or F2\* to configure all lighting functions appropriately. The lighting function will change automatically as appropriate with no further intervention.

- F1 operates the lamps at No. 1 end
- F2 operates the lamps at No. 2 end \*See note on F2 operation on page 9

### 4. Restore class 50 factory functions

The decoder in your model has been factory programmed to operate in a prototypical fashion. A decoder reset will delete these settings and you will need to reset the CVs to reproduce the original lighting operation.

Refer to the programming/CV change section in your control system manual to learn how to change CVs.

To restore factory operation the following CVs should be set to the values provided:

CV 33 = 5	CV 40 = 16	CV 53 = 32
CV 34 = 6	CV 49 = 8	CV 54 = 32
CV 35 = 10	CV 50 = 24	CV 123 = 64
CV 36 = 9	CV 52 = 0	
CV 39 = 32	CV 51 = 24	

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5. Changes for systems using F2 as 'Momentary' Some control systems pre-set the operation of the F2 key as a 'momentary' action, the default settings of your DCC fitted class 50 model operate best with F2 set as 'Latching'. Your control system manual will describe how to change this behaviour.

Press and hold		
<ul> <li>ress and hold the HORN/2 key.</li> <li>Press and hold the EXIT key.</li> <li>Release the HORN/2 key</li> <li>Release the EXIT key.</li> </ul>	<ol> <li>Hold the Horn (#2) key down,</li> <li>press the PWR key</li> <li>Release both keys simultaneously</li> <li>To revert F2 (make it non- latching) repeat the above.</li> </ol>	F2 cannot be changed on this handset.

#### 6. Remapping class 50 functions

To assign lighting functions to different keys on your control system, please follow the instructions below.

Referencing table 3 (page 11), set the values of the two CVs of the lamps you wish to change to those under the function key which you wish to assign to that lamp. *These instructions are for Dapol Imperium decoders, please consult your decoder manual for other types.* 

Please note that if moving functions within the range of F1-F3 additional changes are required.



Function mapping: To be controlled by F(1-6)							
Lamps	cv	F1	F2	F3	F4	F5	F6
#1 end lit	33	5	9	17	33	65	129
	34	6	10	18	34	66	130
#2 end lit	35	6	10	18	34	66	130
	36	5	9	17	33	65	129
Cab lamps	39	4	8	16	32	64	128
	40	4	8	16	32	64	128

Table 3: Function mapping, CV values = Control Function key.

The decoder fitted is a Dapol Imperium decoder, full programming information can be found on our website at: Imperium.dapol.co.uk



# **DCC Sound Fitted guide**

### Section C: Dapol factory fitted DCC sound.

As the model's lighting operation is designed to emulate 'Push-Pull' or 'light loco' operation; please read this guide in full, as some features may not operate in the manner you are used to.

#### 1. DCC Address: The model is set to address 3

#### Some notes about sound functions:

- Some sounds are disabled when the loco is stationary (e.g. flange squeal). Others are disabled whilst the loco is moving (e.g. despatch whistle).
- Some sounds operate automatically and are *enabled* by pressing the appropriate function key (e.g. dynamic braking fans, brake application sounds etc.). These sounds will only be heard when certain prototypical conditions are met (i.e. when braking heavily).
- Some sounds such as horns, air release & door slam are playable with the engine switched off, as per the prototype.
- 4. Some sounds vary according to the *currently* selected direction. (e.g. horns, passenger door slams). It is recommended that these are turned OFF before changing direction, otherwise the sounds will play when change of direction is made"

#### 2. Function key summary

- F0 Light engine mode (directional Front/Rear lamps)
- F1 Start-up / Shut-down
- F2 High-low short horns
- F3 High-low short horns
- F4 Buffering up (sound only)
- F5 Guard's whistle
- F6 Cab door closing
- F7 Brake application/release



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- F8 Speed lock
- F9 Flange squeal
- F10 Guards whistle
- F11 Coupling/Uncoupling sound
- F12 Sound fade in/out
- F13 Cab light No. 1 end
- F14 Cab light No. 2 end
- F15 High Horn
- F16 Low Horn
- F17 Compressor
- F18 Cooling fans
- F19 Train mode (train at #1 end)
- F20 Train mode (train at #2 end)
- F21 Parking lights (Red at both ends)
- F22 Coach door slams
- F23 Spirax valves
- F24 Air dump
- F25 Passenger doors closing

#### 3. Sound decoder adjustment and CV settings

The factory fitted decoder is a Zimo device. Further information can be found at:

http://www.zimo.at/web2010/documents/handbuch.htm

#### Commonly used CV settings:

- Master Volume CV 266 (range 0-192)
- Decoder reset CV8 = 8

### 4. Sound and lighting modes

Three different modes exist. Select whichever is appropriate for the train you are operating:

• Light engine mode (F0) DCC 'standard lighting mode, i.e. white headlights in the direction of travel, red tail lights to the rear, with automatic reversal of the lights when 'changing ends'. In addition, whilst selected



# **DCC Sound Fitted guide**

reduced inertia is applied, this simulates a locomotive with no load

• Push-pull / train mode (F19 & F20) For use when hauling a train, double heading or 'top & tail' usage. A single press of F19 or F20 can be used to configure all the lighting functions appropriately for any of these scenarios. The sound and lighting functions change ends automatically as appropriate without further intervention.

Use F19 if the train is at the #1 end of the loco and F20 if the train is at #2 end (#1 end is the roof fan end).

In either of these modes the head & tail lights next to the train are always off regardless of direction. The lights at the other end of the loco are white going forward and red in reverse.

**Parking mode (F21)** F21 causes red lights to be shown at both ends of the loco simultaneously and all headlights are extinguished.

### 5. Full description of functions:

Engine priming & starting (F1)

- The engine will prime for around 20 seconds, crank and then start. Once the loco is idling, pressing F1 will cause the engine to stop in the normal manner.
- The start-up and shutdown sequences can be bypassed by turning F1 on or off *whilst the loco is moving*. The engine sound will come on at a notch appropriate to the current speed.

Horns (F2 & F3) F2 is the high horn tone and F2 the low. Turn either function on to play the horn and off again to stop it.



'Auto-buffering' (F4) Plays the sound of 'Buffer crash'

Passenger coach door slams (F5) Plays the sound of passenger doors closing, will be heard continuously whilst the function is 'ON'. This can be turned off at any time to reduce the number of door slams heard.

Driver's door slam (F6) Plays the sound of the driver's door shutting.

Brake application/Release (F7) Plays the sound of the brakes being applied.

When F7 is pressed again (F7 turned off), the sound of the brakes being released will be played.

If 'Real Drive' is enabled, the working brake will be applied (F7 ON) and released (F7 OFF). Note that if the working brake is left ON, the loco will not accelerate.

Speed lock (F8) The speed lock feature enables the selection of any engine notch at any speed. It is useful to simulate the effect of a very heavy train. Pressing F8 at any speed (including stationary) causes the loco speed to be locked to its current setting. The throttle may then be used to 'drive' (adjust) the engine sound without changing the speed of the loco. When F8 is released, the loco speed will slowly come back into line with the throttle setting. F8 may be turned on and off to prolong that process.

If F8 is left on when stationary, the loco will respond to function key presses but *will not move in response to the throttle* and this may cause some confusion!

Automatic variable-speed flange squeal (F9) plays the sound of a flange squeal

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### **DCC Sound Fitted guide**

**Guards whistle (F10)** Plays the sound of despatch whistle from the platform staff.

**Coupling and uncoupling (F11)** Turning F11 on produces the sound of the coupling being placed on the hook.

Pressing F11 again (F11 OFF), the sound of the coupling being removed from the hook will be heard.

Fade in/Fade Out (F12) This is useful to fade the sound when the locomotive is going "off-scene" or into a tunnel, simulating the effect of going into the distance. Conversely, on entering the scenic section, or when exiting a tunnel, this can be used to fade the sound back in.

Cab Light #1 end (F13) Turns on/off cab light if not overridden by switch settings.

Cab Light #2 end (F14) Turns on/off cab light if not overridden by switch settings.

High horn (F15) Plays the high-pitched horn.

Low horn (F16) Plays the low-pitched horn.

**Compressor (F17)** Plays the sound of a compressor. The sound will continue until switched off.

**Cooling fan (F18)** Plays the sound of the cooling fans. The sound will continue until switched off.

Push mode (F19) See Sound and Lighting Modes (page 13)Pull mode (F20) See Sound and Lighting Modes (page 14)Parking mode (F21) See Sound and Lighting Modes (page 14)



Cab door Slam (F22) Plays the sound of the cab door slamming.

**Spirax valves (F23)** Plays the sound the spirax valves popping.

Air Dump (F24) Plays the sound of the air being released from the system.



### Section D: Spare Parts

A range of spares are available from DCC Supplies Ltd. Please note that although a full set of parts are initially stocked, over the lifetime of the model certain items may become unavailable due to demand.

The following pages contain exploded views of available parts. Certain parts are shown grouped within a box, indicating a set.

Telephone: 01905 621999 Web address: dapolspares.dccsupplies.com

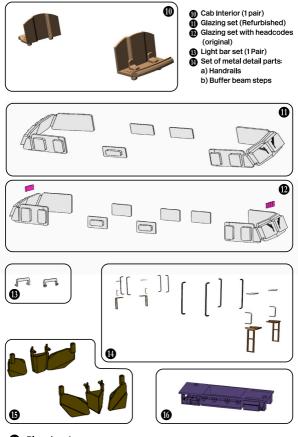
Please state the part number as well as the models reference number (i.e 2D-002-xxx) when ordering by telephone or post.







### Warranty Information



- B Plough set
- **O** Underframe



### Section E: Manufacturer's Warranty

#### We want you to be completely satisfied with your purchase and obtain many years of pleasure from its operation. If you

experience any problems with your model, we suggest that your first point of contact is your retailer; they will be able to advise on any teething problems and will use their experience to quickly solve many of your questions or concerns. Your dealer is also the fastest way to exchange a model which is found to be missing components, accessories, or is otherwise defective after purchase.

**But, we recognise that you may require more:** If a replacement model is not available you may find a refund disappointing, or you may simply prefer to deal directly with Dapol. For these reasons, we offer a 12-month manufacturer's repair warranty on this product *in addition to your statutory rights.* 

*Our Manufactures warranty in simple terms*: If your model experiences a mechanical or electrical fault within one year of purchase, you have the option of a free repair at our service agents which is (within the UK) also post free.

**2nd year service.** An option exists to have your locomotive serviced by our authorised agent (a service fee is payable). Simply contact our agent and you will be advised of the current cost and given a freepost address. The model will be serviced and returned with a validated warranty certificate for a second year of no-quibble warranty for your model.

*Please note*: Year 2 warranties cannot be issued more than 13 months after the original date of purchase.

VERY IMPORTANT: Please ensure that your dealer has supplied a proper printed receipt with your purchase. Without this, our service agents are not obliged to offer warranty service and repairs will be charged at the prevailing rate. Your statutory rights with the place of purchase are unaffected.

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### **Warranty Information**

#### How to claim:

- Locate the proof of purchase (copies acceptable)
- Year 2 claims: Return with validated 2<sup>nd</sup> year certificate (or service fee if within 13 months of purchase).
- Contact our service agent for a Job ID.
- Write the Job ID number on the outside of the package, and enclose your name, contact information, proof of purchase and if applicable your year 2 certificate.
- When posting, ensure that you obtain proof of posting and the model is adequately packed. If you require proof of delivery or insurance, you will need to purchase the additional service (at your cost) from your post office.

What happens next? If you have supplied an email address, receipt will be acknowledged, you will be advised when work commences and is completed. They will contact you in case of unforeseen difficulties during repair. Using your email address, you can use the online enquiry system to check the status of your model at any time via the internet.

If you have not supplied an email address, your model will be repaired and returned, you will only be contacted in case of a problem. You may of course contact our agent (quoting the job ID) at any time.

What happens when the warranty expires? Our service agent offers a comprehensive repair service at reasonable cost. Alternatively, a comprehensive range of spare parts is available for purchase.

The small print! (Terms and conditions) We intend this 'No Quibble' warranty to be a simple and fair addition to your statutory rights, however, some situations simply cannot be covered as they are outside of our control. We've listed these below.

We're reasonable folks, so if in doubt, please contact either our customer service or service agents for advice on your situation and we'll suggest the best course of action.



#### Terms and conditions:

- This manufacturer's warranty is in addition to your existing statutory rights and offers a *repair service* for your model. Requests for outright refund or replacement should be directed to the place of purchase.
- In the event the model cannot be repaired, at Dapol's sole option, you may be offered: a new replacement model (subject to availability), a refund voucher (for exchange at the place of purchase) or the return of the locomotive in an unrepaired condition.
- On issuance of a replacement model or refund voucher the original model and all associated accessories shall become the property of Dapol Ltd.
- The replacement or repair of a model shall not extend the original warranty period under any circumstance.
- This warranty covers the model's electronics, chassis and mechanisms for manufacturing defect or premature failure. The following situations shall invalidate this warranty:
  - a. Accidental damage
  - Missing accessories (i.e. accessory packs) Please return to your dealer.
  - Over or under oiling, incorrect oil type (use a thin synthetic oil i.e. Dapoil, LocoLube™ or similar)
  - Fair wear and tear (unless deemed to be premature by Dapol or our service agent)
  - e. Routine maintenance and faults due to foreign bodies i.e. Drive tyres, Dirty wheels, Pickups etc.
  - f. Mishandling: Inclusive of broken wires, dislocated driveshaft's, damaged valve gear.
  - g. Mechanical or electrical modification; inclusive of fitting of DCC to a non DCC ready model. (Reasonable modifications inclusive of: Weathering, super detailing etc. are permitted, however any adverse effects of such modification shall invalidate the warranty.)
  - h. Unauthorised attempts to repair or modify the model.
- This warranty is not transferable and is valid only for purchases made from authorised Dapol dealers when accompanied by a proof of purchase.



### **Warranty Information**

- This warranty does not cover: Used models, models purchased from private individuals or auction sites (unless a 'Buy It Now' purchase of a new model from an authorised dealer supplied with supporting proof of purchase).
- Dapol and its agents shall be the sole arbiters as to the warranty status of the model and their decision is final.
- Whilst every effort will be made to protect such, Dapol and its agents shall not be liable for damage or alteration to any 'super detailing' or other aftermarket cosmetic, mechanical or electrical enhancements.
- Dapol and its agents shall not be held liable for damage caused to inadequately packaged models.
- 11. Dapol and its agents shall not be held liable for models lost in the post unless a proof of posting can be supplied.
- 12. All repairs will be repaired on a first in-first out basis, within a reasonable period after receipt by our agent. Unless agreed in writing by Dapol or its agent prior to receipt of the model time shall not be of the essence in any contract.
- 13. All repairs and/or replacements are subject to availability.

### **Contact information:**

#### **Dapol Customer Service**

Telephone: 01691 774455 Email: <u>sales@dapol.co.uk</u> Website: <u>www.dapol.co.uk</u>

Service and Spares Centre DCC Supplies Ltd. Telephone: 01905 621999 Email: dapol@dccsupplies.com Website: www.dccsupplies.com Spares online: dapolspares.dccsupplies.com







Dapol Limited. Unit 7 Gledrid Industrial Park, Chirk, Wrexham LL14 5DG Telephone: 01691 774455 Website: <u>www.dapol.co.uk</u> Email: sales@dapol.co.uk