

Driver

COLLABORATORS

	<i>TITLE :</i> Driver		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		August 4, 2022	

REVISION HISTORY

<i>NUMBER</i>	<i>DATE</i>	<i>DESCRIPTION</i>	<i>NAME</i>

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0-100% tunnels

0-100% curves

0-100% stations

- * Generate routes from simple text data files to simulate any line which you have collected the appropriate data for.

Many routes becoming available soon!

- * Loads in loco data and sound effects.
Class 37,40,87 and 91 available

*** New features for TDRG V1.1 ***

New data files added for:

Junction speeds
Level Crossings
Scenery
Timings

New graphics stencil loading for locos:

View

If present in the locos/xx drawer this 165x160 brush will be loaded and will be the window frame inside the window

Nose

If present in the locos/xx drawer this 165x160 brush will be loaded and will be the loco "nose" outside the window

Scenery now any colour, including rivers, seas, yards etc.

Rainfall added

like the snow but grey and wet!

Windscreen effects added

You will need those wipers now!

Wiper On/Off indicator

Default clock speed option

Choose x2 if you prefer

New loco and route data file sets

1.2 Introduction

Description

Installation

The Class 87 Locos

The West Coast Main Line

1.3 Description

This is a Train Driver Simulator, simulating Class 87 locos working on the West Coast Main Line from Euston to Glasgow.

At least read Quick Start in TrainDriver.guide or you'll get nowhere!

Features:

- 9 Difficulty levels
- Moving graphics
- Sound effects
- Unlimited choice of journeys with auto timetable creation
- Realistic train handling
- 472 miles of route of varying gradients and curvature
- Five possible weather conditions with windscreen effects
- Various startup options
- Day or night trains
- Save journeys at any time
- Log made of journey with average speeds etc.
- Random Temporary Speed Restrictions
- Time speed up (up to x6)
- Detail On/Off option for slower Amigas

and many more options to experiment with.

Requirements:

Any Amiga with at least 1 mb

Recommended:

- Hard Drive
- Accelerated A1200 or better

Note: This guide uses SYS:Utilities/MULTIVIEW to view pics on the disk.

This is Version 1.9 of a Train Driver Simulator, simulating

The Class 87 Locos

working on the West Coast Main Line from

Euston to Glasgow.

I originally wrote this program for my own use, but I have been persuaded by friends who have played it, that it was suitable for public release.

I wrote this program with the excellent Blitz2 because the other train driver simulations advertised for fifteen or twenty quid (UKP) in the railway mags, are generally text based, with limited options so I wanted to write a program that made you feel that you were actually in the cab, and one in which the train behaved realistically, with proper moving graphics, unlimited options, and was freely available.

This program is aimed at users with a little UK railway knowledge but anyone can have a go. Although the program has moving graphics I would be the first to admit these are simple and are there mainly to indicate the approach of railway-related objects, and are not particularly scenic, although in V1.9 there are curves, bridges and trees added.

I have yet to see a commercial train driver simulator with any graphics other than signals and still objects.

As well as this guide there are help pics on the disk:

- Help
- Keys
- Map
- Profile

The first two pics can be accessed from within the program with the Help key.

Changes since V1.8
^^^^^^^^^^^^^^^^^^^^^^

- o Train codes updated to latest timetable
 - 1S90 this has changed from 1S89
 - 1S94 this has changed from 1S13
 - o Birmingham - Wolverhampton route added
 - o Rainfall added and wind effects
 - o Level crossings added with warning boards (W)
 - o Loco failures caused by excessive overloads
 - o Windscreen effects and wiper on/off indicator
 - o Default clock speed x2 option
 - o Alternative keys for power: 7890 if m, ./ are awkward on your keymap
 - o Slow Line signal numbers entered
 - o Wiper failures
 - o Vigilance now works correctly
-

- o New MWB Icons (Thanx Timm Baumeister :)
- o Clock speed x6 available
- o Continual optimisation of code and graphics
- o A500 Screen open/GUI bug fixed
- o All other known bugs fixed

SPECIAL NOTE

This is expected to be the last freely available version of TrainDriver. TrainDriver 2 will combine the Route Generator and TrainDriver WCML into one program including the WCML data files and will be sold commercially through the UK rail mags. The only alternative is a great upsurge in the numbers bothering to register! Those people who have already registered will be offered cheap upgrades.

1.4 Installation

Just drag the TrainDriver disk/drawer to where you want it on your ←
Hard Drive

Open the new TrainDriver drawer and double click Start_TrainDriver which will make the necessary assigns and run the program.

Or to do it manually:

All the files needed must be in the same drawer which must be assigned TrainDriver:

e.g.

```
* C:Assign Traindriver: DH0:Traindriver/ ( <--or wherever )
```

Also

```
c:Copy Traindriver:fonts/ ALL FONTS:
```

OR

```
* C:Assign FONTS: Traindriver:fonts/ ADD
```

Add these lines(*) to your S:user-startup if you use it regularly.

Double-click on TrainDriver1.9 icon if assigns have been made permanent.

Any

Problems

?

1.5 Problems

If the simulation runs very slowly try and free as much memory as possible. Turn details off with key J or on the startup screen. It will multitask but runs quicker on its own.

Boot without startup-sequence and type

```
cd dh0:Traindriver ( <-- or wherever)
C:execute Start_TrainDriver
```

or write a short new alternative startup as above

I have done a lot of work to try and make this program work on all Amigas from A500 to A4000, and it has been successfully ran on many configurations.

Any other problems write to
me
.

Please include the following information and return postage.

WB Version
TrainDriver Version
Amiga model
Memory MB

1.6 WCML

The West Coast Main Line is 401 miles long and runs from London ↔
Euston
to Glasgow Central.

Map
Profile

The main stations on the route, where some InterCity West Coast services stop are:

Watford Junction
Milton Keynes
Rugby
Nuneaton
Tamworth
Lichfield Trent Valley
Stafford
Crewe
Warrington
Wigan North Western
Preston
Lancaster
Oxenholme

Penrith
Carlisle

and in Scotland:

Lockerbie (no ICWC trains stop)
Carstairs (only 1S26 stops)
Motherwell

There are many local stations particularly in the London and Birmingham areas which will be seen along the route.

A good driver sounds the horn to warn any passengers on the platform of his approach, and at the warning boards for the level crossings.

The highlights of the route are the climbs over Shap and Beattock summits with

Gradients
as steep as 1 in 69.

Although generally these cause no problems for electric locos, on wet rails a standing start on these gradients with a heavy train takes skill, care, and patience

Despite the title of "West Coast" the sea is only visible at Hest Bank, north of Lancaster.

The quickest scheduled journey time is under five hours on 1S57.

Also included is the Slow Line alternative route from Hanslope to Rugby via Northampton.

This line is an extension of the Slow lines from Hanslope junction to Rugby. The line speed is 75 mph and is signalled with 3 aspect colour light signals (ie no double yellows). This route is two miles longer than the main line via Weedon. The line falls at 1 in 200, through Hunsbury Hill tunnel, to Northampton and then climbs at 1 in 230 back up to Rugby through a short tunnel at Crick.

To force a train to be diverted hold Left-alt key while passing Signal no 69.

Route between Rugby and Wolverhampton added:

This line veers off to the left at Rugby through a 70 mph junction then at 100 mph to Coventry, Birmingham International to Birmingham New St, mileage 113.
Then on through the Black Country to Wolverhampton mileage 126

Between Coventry and Wolverhampton there are frequent local trains and four busy level crossings so there may be delays.

The code for trains to Wolverhampton should be 1G..

Two trains are included:

1G16 0635 and 1G39 1655 Euston - Wolverhampton

Load as usual, but if you change your mind when you get to the Options screen you will need to set the Route gadget to

Birmingham/Glasgow before loading another train.

1.7 Gradients

See also [Profile](#)

Please note that if you have just driven over a summit, that until at least half of the train has passed over the top, the gradient will be effectively still uphill, even though the gradient may read downhill.

Miles	Gradients	Location
0.0	Down 1 in	149 Euston
0.2	Down 1 in	575
0.4	Up 1 in	70
0.6	Up 1 in	112
0.8	Up 1 in	77
1.0	Down 1 in	409
1.3	Level	
2.3	Down 1 in	643
3.2	Up 1 in	587
4.5	Level	
7.0	Up 1 in	339
14.4	Level	
15.8	Down 1 in	337
16.0	Down 1 in	708
16.8	Up 1 in	586
17.2	Up 1 in	393 Watford
18.5	Up 1 in	1038
20.0	Up 1 in	508
22.2	Up 1 in	338
23.8	Down 1 in	812
24.0	Up 1 in	335
31.0	Level	
31.9	Down 1 in	333
38.0	Down 1 in	540
39.0	Up 1 in	1330
40.0	Down 1 in	927
41.2	Down 1 in	1683
44.2	Down 1 in	660
46.2	Level	
46.8	Up 1 in	892
48.3	Level	
48.7	Down 1 in	440 Milton Keynes
51.0	Level	
52.0	Down 1 in	225
52.3	Up 1 in	350
52.9	Level	
54.1	Up 1 in	475
54.6	Up 1 in	326
56.3	Up 1 in	410
58.1	Up 1 in	330

60.8	Down	1	in	320	
62.9	Down	1	in	2640	
66.0	Up	1	in	800	
67.2	Down	1	in	1200	
68.0	Down	1	in	765	
69.1	Up	1	in	330	
69.4	Up	1	in	310	
69.7	Down	1	in	933	
69.9	Up	1	in	490	
70.8	Up	1	in	350	
73.8	Up	1	in	415	
75.6	Up	1	in	640	
76.2	Level				
76.7	Down	1	in	870	
78.0	Down	1	in	370	
81.7	Down	1	in	200	
82.1	Down	1	in	365	Rugby
83.8	Level				
84.2	Up	1	in	330	
85.6	Level				
86.5	Down	1	in	510	
87.0	Up	1	in	395	
88.0	Down	1	in	600	
88.4	Up	1	in	530	
88.8	Level				
90.4	Up	1	in	330	
92.0	Down	1	in	1254	
93.7	Down	1	in	320	
97.1	Down	1	in	730	Nuneaton
99.0	Up	1	in	645	
101.8	Down	1	in	415	
102.8	Down	1	in	321	
104.7	Up	1	in	888	
105.2	Down	1	in	439	
106.9	Down	1	in	654	
108.3	Level				
110.1	Up	1	in	851	Tamworth
110.3	Down	1	in	359	
111.7	Up	1	in	1305	
112.7	Up	1	in	376	
113.4	Level				
114.0	Up	1	in	463	
115.0	Up	1	in	331	
117.7	Down	1	in	2707	
119.0	Down	1	in	766	
121.3	Down	1	in	317	
122.2	Level				
122.6	Up	1	in	577	
123.9	Down	1	in	381	
124.7	Up	1	in	408	
126.8	Down	1	in	452	
127.2	Down	1	in	815	
127.6	Up	1	in	437	
128.4	Down	1	in	330	
129.2	Up	1	in	351	
130.9	Down	1	in	346	
132.5	Up	1	in	846	

133.0 Down 1 in 1847
133.3 Up 1 in 3910 Stafford
135.9 Up 1 in 517
139.0 Up 1 in 509
141.0 Up 1 in 650
143.4 Up 1 in 590
145.0 Up 1 in 398
147.9 Level
148.4 Down 1 in 348
150.0 Down 1 in 177
153.3 Down 1 in 269
156.8 Down 1 in 330 Crewe
157.8 Level
162.4 Down 1 in 411
162.9 Down 1 in 616
163.6 Up 1 in 2485
164.4 Down 1 in 300
165.6 Down 1 in 2220
166.6 Down 1 in 419
168.6 Level
168.9 Up 1 in 360
169.9 Down 1 in 1981
170.8 Down 1 in 440
171.8 Level
172.6 Down 1 in 330
173.9 Level
174.2 Up 1 in 330
175.5 Level
175.8 Down 1 in 180
176.9 Down 1 in 112
177.2 Down 1 in 567
178.9 Level
179.4 Up 1 in 135
180.6 Down 1 in 160
180.9 Down 1 in 135
181.9 Down 1 in 460 Warrington
183.3 Up 1 in 400
183.1 Down 1 in 1010
184.2 Up 1 in 639
185.7 Up 1 in 132
186.4 Up 1 in 470
186.8 Up 1 in 255
187.1 Up 1 in 156
187.8 Up 1 in 473
189.6 Down 1 in 417
191.1 Level
192.2 Up 1 in 705
193.3 Up 1 in 260
193.7 Up 1 in 156 Wigan
193.9 Down 1 in 200
194.1 Up 1 in 360
194.4 Up 1 in 104
196.0 Up 1 in 366
197.6 Up 1 in 242
198.1 Up 1 in 119
198.4 Down 1 in 596
199.0 Down 1 in 197

199.4	Down	1	in	246	
200.0	Down	1	in	106	
200.6	Down	1	in	235	
201.0	Down	1	in	114	
202.0	Up	1	in	936	
203.3	Down	1	in	432	
204.2	Down	1	in	110	
204.9	Down	1	in	314	
206.8	Down	1	in	106	
207.2	Down	1	in	440	
208.1	Up	1	in	397	
208.8	Up	1	in	240	
209.0	Up	1	in	240	Preston
209.1	Up	1	in	101	
209.3	Level				
209.5	Up	1	in	173	
209.7	Up	1	in	503	
212.1	Down	1	in	1115	
214.3	Down	1	in	644	
216.8	Level				
217.1	Up	1	in	1042	
220.0	Level				
221.0	Up	1	in	1199	
222.2	Level				
226.1	Up	1	in	736	
228.0	Down	1	in	735	
228.8	Down	1	in	98	
229.8	Down	1	in	347	
230.0	Up	1	in	363	Lancaster
230.2	Level				
230.6	Down	1	in	305	
231.6	Down	1	in	469	
233.1	Level				
234.0	Up	1	in	460	
235.7	Down	1	in	369	
236.8	Level				
237.0	Up	1	in	134	
239.4	Down	1	in	293	
240.8	Level				
242.8	Up	1	in	173	
245.5	Up	1	in	193	
246.6	Up	1	in	392	
247.2	Up	1	in	111	
248.6	Up	1	in	178	Oxenholme
249.6	Up	1	in	104	
250.4	Up	1	in	213	
250.8	Up	1	in	124	
251.5	Up	1	in	131	
253.9	Up	1	in	106	
255.9	Up	1	in	396	
256.1	Down	1	in	204	
257.1	Up	1	in	777	
258.2	Level				
258.8	Down	1	in	425	
260.2	Level				
261.5	Up	1	in	146	
263.1	Up	1	in	75	Shap

267.2	Level		
268.0	Down	1 in	130
269.2	Level		
270.0	Down	1 in	142
271.2	Down	1 in	125
277.2	Level		
279.0	Down	1 in	193
280.1	Up	1 in	191
280.5	Down	1 in	616
282.1	Level		
283.6	Up	1 in	539
283.2	Down	1 in	186
285.1	Level		Penrith
287.0	Down	1 in	164
289.5	Down	1 in	228
292.4	Level		
292.8	Down	1 in	184
294.3	Down	1 in	131
298.1	Level		
298.7	Down	1 in	110
298.8	Level		Carlisle
299.1	Down	1 in	100
299.4	Level		
299.8	Up	1 in	318
300.0	Up	1 in	318
300.2	Up	1 in	877
300.5	Up	1 in	311
301.1	Down	1 in	330
302.1	Level		
304.0	Down	1 in	527
305.1	Down	1 in	616
305.8	Level		
306.2	Up	1 in	193
308.5	Up	1 in	200
313.7	Level		
313.8	Down	1 in	190
314.7	Level		
314.9	Up	1 in	396
315.6	Down	1 in	493
315.9	Level		
316.8	Up	1 in	203
321.0	Down	1 in	200 Lockerbie
323.8	Down	1 in	528
327.9	Level		
328.1	Up	1 in	880
329.9	Up	1 in	366
332.5	Down	1 in	330
333.5	Level		
334.6	Up	1 in	202
339.0	Up	1 in	88
341.0	Up	1 in	81
342.0	Up	1 in	79
343.1	Up	1 in	74
344.1	Up	1 in	76
345.0	Up	1 in	69
345.3	Up	1 in	75
348.7	Up	1 in	835 Beattock

349.0	Down	1	in	99	
351.1	Level				
352.5	Down	1	in	152	
354.0	Down	1	in	240	
361.6	Level				
362.2	Up	1	in	340	
362.7	Level				
363.2	Up	1	in	231	
363.4	Up	1	in	194	
364.8	Down	1	in	1020	
366.2	Down	1	in	100	
367.7	Level				
368.0	Up	1	in	196	
369.0	Down	1	in	150	
371.1	Level				
372.0	Up	1	in	165	
372.4	Up	1	in	402	
372.6	Up	1	in	207	
373.0	Up	1	in	300	Carstairs
373.5	Up	1	in	366	
373.9	Up	1	in	453	
375.1	Up	1	in	204	
376.2	Level				
376.7	Up	1	in	190	
377.2	Down	1	in	190	
378.1	Down	1	in	129	
380.0	Down	1	in	98	
381.8	Down	1	in	261	
382.5	Down	1	in	140	
383.0	Down	1	in	199	
386.2	Down	1	in	137	
387.3	Down	1	in	116	
388.1	Down	1	in	143	Motherwell
388.6	Up	1	in	146	
388.8	Level				
389.1	Down	1	in	132	
389.6	Down	1	in	178	
389.9	Down	1	in	115	
390.8	Down	1	in	135	
392.8	Down	1	in	391	
393.0	Level				
393.2	Up	1	in	280	
393.7	Up	1	in	108	
394.2	Level				
394.6	Down	1	in	724	
395.0	Level				
395.3	Up	1	in	110	
395.6	Down	1	in	236	
396.0	Down	1	in	163	
397.1	Up	1	in	440	
397.3	Down	1	in	516	
397.6	Down	1	in	224	
397.9	Up	1	in	630	
398.2	Level				
398.3	Up	1	in	274	
398.5	Level				
398.7	Up	1	in	268	

399.0 Down 1 in 217
399.4 Down 1 in 400
400.0 Down 1 in 177
400.2 Up 1 in 177
400.5 Up 1 in 220
400.6 Up 1 in 132
400.7 Down 1 in 245
401.0 Up 1 in 231
401.2 Up 1 in 172 Glasgow

1.8 Quick Start

Double Click on Start_TrainDriver to make necessary assigns and ↔
run TrainDriver

Click mouse to remove title screen

Select "1S47" on file requester

Click "OK" on
Startup Options Screen
for default options

Press: a to cancel
AWS
horn
f to select Forward
"F" should appear above the brake gauge
z to release brakes
Hold . for power

You should now start to move !

Press Help to view help pics

1.9 Startup Options Screen

If in doubt, click OK to choose the default options until you get ↔
the hang of it.

Difficulty Level

Start time

Loco no.

Train length

Initial Speed

Starting mileage
Headcode
Route
Select Stops
Dry/Wet/Fog/Icy/Fall
Confirm Quit On/Off
Auto-delete On/off
 Pal Screen/Screen req
Vigilance/Isolated
Detail On/off
View Log
View Timings
Delete
Help
Load
OK

1.10 Difficulty Level

Select a difficulty level between 0 and 9

- 0 Fewer random events, no crashes
- 1 Realistic level
- 2-9 Increasing number of random events, slippery rail, longer station stops, lower power, poorer brakes etc.
Also greater chance of being diverted over Slow Lines and via Northampton.

1.11 Start Time

Select Hours and Minutes of start time

Default is 06:19 for 1S47

It is best to set the time to one minute before departure to allow station time before "R" appears.

1.12 Locos

Select any loco 87001 to 87035, or thyristor controlled 87101.

When selected the loco's name will be displayed. Some of the locos have been renamed, but I prefer the old names.

Class 87 locos were built in 1973-75 and are 5,000 hp AC electric locos, supplied by 25 kv overhead wires. They have four traction motors which can be used for rheostatic braking above 10 mph. The power is increased through 38 notches, and then into weak field.

87101 is the most powerful though it is currently ironically demoted to freight duties. It will generally have a higher random power rating.

All locos are 110 mph.

Although powerful these locos have a very high power to weight ratio which means poor adhesion, particularly on a wet rail.

When you start a new journey the loco will be given a random loco-rating. This will be displayed at the top of the cab screen. This indicates the amount of power available compared to a 100% fit loco. Braking may also be affected.

1.13 Train length

Select number of coaches to be attached behind your loco. Most of the trains on this line have 9 or 10.

Default is 9.

Average weight is 35 tons.

1.14 Starting Mileage

Select starting mileage between 0.18 and 401 from Euston.

The loaded trains are at 0.18 which is the mileage of your loco from the buffers at Euston. Trains starting at Euston MUST start at 0.18 miles.

You must start at Euston when creating a new train.

See also

Start at -->

1.15 Headcode

The train Headcode is a four digit code

eg 1S47

1 denotes Class 1 Express Passenger train
S denotes destination region ie Scotland
47 denotes individual train number

1S57 is the quickest train on the line, "The Royal Scot"

In the Save Drawer are these trains: (110 mph)

1S47 0620
1S55 0840
1S57 1040 Royal Scot
1S75 1240
1S83 1440
1S84 1540
1S90 1725 this has changed from 1S89
1S94 1830 this has changed from 1S13
1S26 2355 Sleeper

and Birmingham route trains: (100 mph)

1G16 0635
1G39 1655

1S26 is a sleeper train departing at 2355 with 16 coaches.
This train is timed at 80 mph, and at 65 mph from Oxenholme to Penrith
and stops at Carstairs for 10 minutes to detach a portion for Edinburgh.

These trains have been given preset parameters which you may
alter from the Startup Options Screen.

Load with the

LOAD
gadget.

If these trains are used the timekeeping function (see
Timings
)

will use timings built into the program.

If you type in a different code, set all other parameters and then click OK,
the program will look in Traindriver:Trains/ and see if a file exists for that
train.

If not, it will create timings for this train based on the parameters chosen
and take the time selected as being one minute before departure from Euston.
A file will now be created for the Trains and Save drawers.

Note: when creating trains it is assumed you are at Euston,
and the Timing gadget will not work until the train is created.
To view the created timings press "t" during the sim.

1.16 Route

Toggle between Glasgow and Birmingham routes.

You will have to ensure the correct route is selected before loading a new train

1.17 Initial Speed

Set your initial speed to 0-110 mph

Default is 0.

If you start at 0 mph you are effectively just inserting the key in the loco, which will cause the

AWS
horn to sound.

You will then have to select "f" for Forward before you will obtain power.

1.18 Stops

If you select the "Calls at -->" gadget it will change to "Start at -->", and you must select the station to start your train.

In "Calls at -->" mode click on the stations to choose where your train will stop/not stop.

Loaded trains will set the stops automatically.

1.19 Auto-Delete On/Off

If selected ON this will automatically delete any files with the same name, but with lower miles, each time a game is saved.

eg

When saving 1S47.Joe.101.001.123
all files beginning 1S47.Joe.101.001.... less than 123 miles will be deleted.

1.20 Detail On/Off

Toggle Detail On/off for faster screen drawing.
Useful for slower Amigas but very basic graphics.

Also press "j" in game to toggle.

1.21 Vigilance

Click on this gadget to isolate (ie disable)
Vigilance Device

1.22 Rail & Weather conditions

Click to change initial rail conditions between Dry, Wet, Fog, Icy or Fall

- Dry: Good rail conditions
Wheelslip unlikely unless in red zone
Braking firm at any pressure
- Wet: Fair rail conditions
Wheelslip likely in yellow or red zones
Braking may cause wheel slide below about 50 psi
- Fog: Visibility about 100 yards
Poor rail adhesion
Wheelslip at top of green zone
Brakes may cause wheel slide below 55 psi
- Icy: Very poor rail adhesion
Wheelslip in upper half of green zone
Brakes may cause wheel slide below 60 psi
- Fall: Leaf-fall season. Very treacherous!
Wheelslip possible whenever taking power
Braking may cause wheelslide at any time

The rail adhesion is also affected by the difficulty level chosen.
The chosen setting may also change during your journey depending
on the difficulty level chosen.

The windscreen will now show the effects of these weather conditions and you will
need to switch on the wipers using "w". Watch out for the "W" indicator
next to the message display.

There is a remote possibility that the wipers may fail making visibility very poor ↔
indeed.

1.23 Confirm Quit On/Off

Choose either "Confirm Quit Off" for quit exits or "Confirm Quit On"
for a small requester on your WB screen checking you want to quit
after pressing "Esc", in the cab screen

New Quit requesters (WB2+) now give you the option to re-start the game
after quitting a train.

You will need "Confirm Quit On" for this option.

1.24 View log

View Log views log of loaded train.

Close window when viewed or press Return

Esc to Quit if viewed from cab screen

1.25 Timings

View scheduled timings of loaded train.

Format: Miles, Station, Time due, Stop/Timekeeping

Timings shown are departure times, apart from final destination.

Arrival times are one minute earlier.

On the right hand side of the screen:

Current time

Current mileage

Next timing point (miles from)

Due in (minutes)

Average speed required (for punctual arrival)

Click mouse when viewed or press Return

Hold "t" during simulation to see this screen.

1.26 Help

Click this gadget to view the two in-game Help pics:

Help

Keys

Pressing "Help" during the simulation shows these pictures.

1.27 Load

Click to bring up a requester to load saved train file.
Requester will be set to "TrainDriver:Save/" but if the disk gets full use any drawer/disk you like

If you want to see if you are keeping time, you must use the codes of the trains which can be loaded from the "LOAD" gadget from the "TrainDriver:Save" drawer, as can any trains you save.

1S26 is a sleeper train departing at 2355 with 16 coaches.
This train is timed at 80 mph, and at 65 mph from Oxenholme to Penrith and stops at Carstairs to detach a portion for Edinburgh.

1.28 Delete

Click "OK" on the first requester to confirm you want to delete chosen files.

Then choose files to delete from the file requester to delete saved train file.

Requester will be set to "TrainDriver:Save/" but if the disk gets full use any drawer/disk you like

Use to delete any other file if you wish.

Click "Cancel" when you have finished.

1.29 OK

Click "OK" when you are done and you should be taken into the cab.

Let's go!

1.30 Driving

When you enter the cab from the
Startup Options Screen
you
will see the drivers view through the cab window on the left,
and the data display on the right. Below these are the dashboard indicators,
and between them are the driver's indicator

Lights
and the milepost symbol.

You may also notice a small horizontal red line which indicates when the horizon is level. Watching the horizon gives warning of changing gradients.

For a description of these features see the Help pic

If you start at a stand the

AWS
horn

will be sounding and will need to be cancelled with "a". Press "f" to put the motors into Forward and when the "R" appears below the signal number, (after a few seconds and only in a station), you may depart. (If you get bored of waiting, press "5" to speed up time.)
The bottom row of

keys
control the brakes and power.

So press "z" to release the brakes and then "." or ">" to notch up the power. Watch the gradient and speed to make sure you don't roll back.

Real-time Profile Chart

To find out where you are at any time press Space bar to view the profile chart of the next ten miles ahead.

On this chart the white line shows how the gradient rises and falls, the green line shows how the line speed changes.

Also indicated are neutral sections in red, stations in brown and tunnels in grey.

When a temporary speed restriction has been indicated by a warning board this will also appear in green/blue.

The scales are labelled miles along the bottom and speeds down the sides, and the vertical grey lines indicate the mileages shown.

If you are within ten miles of the last station a vertical yellow line will move along showing you where you are.

Signals and Crossovers

Stations

Braking

Power

1.31 Signals

The distance from the next signal is shown on the display in yards ←

If you see two yellows, then the next signal may be one yellow and the next may be red, in which case you must stop within 35 yards of it to get the message from the signalman.

Some signals, in lower speed areas, have only three aspects, red, yellow

and green. Here there is no advance warning double-yellow.

He may ask you to pass the signal at danger.

Your speed passing a signal with two yellows should generally be below 90mph and at one yellow try to reduce your speed to 60mph.

If you can see a red signal and you're over 60mph you will struggle to stop. However, beware of signals closer together than usual, and reduce your speed accordingly.

A hint to assist stopping is to keep your speed well below one tenth of the number of yards from the stopping point.

Flashing yellows countdown to a high speed junction, speed 30 to 70mph.

A junction signal either has a letter above, S for Slow Line or F for Fast Line, or has five white lights diagonally displayed, indicating the direction of the crossover.

Other signals may have a number displayed indicating the platform that you will enter.

Junctions without flashing yellow signals are protected by red signals which will change as the train passes over the

AWS
magnet if the

route is set and the line is clear.

These junction speeds vary between 10 and 40 mph.

A warning board will be shown after passing the junction signal indicating the junction speed, and the speed limit board will also be seen indicating the position of the junction.

1.32 Stations

The distance from the next station you are stopping at is shown on the display in miles, and then in yards when you approach.

Again you must stop within 35 yards of the Stop board displaying the number of coaches to enable you to get the "R" indication when your guard is ready to leave. If you pass this board, select "O" to shut the motors down, then "R" to select Reverse and notch up power with "." in the usual way until you are back behind the board. Be careful not to overshoot again backwards !

The time you arrive and depart stations, and certain other points will be recorded on the log, plus the average speed since the previous point.

The "R" indicator will not appear before the booked time to depart, or at a red signal.

1.33 Braking

Keys:

z	Release
x	Reduce
c	Increase
v	Increase (continuous)
b	Emergency

Brake gauge

72	Brake released
65	Initial application
50	Full service
0	Emergency

To apply brakes hold c until the gauge reads 50 psi (pounds per square inch) and release with z when approaching the desired speed level.

Alternatively use v to brake, "catching" the brake with x as the needle comes down to 50 psi.

Normal Full Service application is 50 psi (vertical needle on dial). Normally the driver would not use a greater braking force than this, particularly in the wet.

Allow time for the brakes to release down the length of the train particularly after heavy braking, before taking power.

When braking try not to brake too hard as you come to a stand or you will spill the tea, and you will have to wait for the air brake pipe to charge up again.

Having said that, don't pass a red signal ever, and don't speed excessively or the guard will put the brake on or you may even derail the train.

In the wet don't be too heavy on the brakes or the wheels may lock up and slide greatly increasing braking distance.

Your speed passing a signal with two yellows should generally be <90 mph and at one yellow try to reduce your speed to 60 mph. If you can see a red signal and you're over 60 mph you will struggle to stop. However, beware of signals closer together than usual, and reduce your speed accordingly.

If necessary kill the power with "n". This is bad but better than passing red signals !

A hint to assist stopping is to keep your speed well below one tenth of the number of yards from the stopping point, until the speed is down to 10 mph, then release brakes completely until about 50 yards, then rub brakes lightly for smooth stop (no audible screech).

Suggested maximum speeds at 50 psi.
(dependant on rail condition, difficulty level, gradient, weather etc)

880 yards 60 mph
200 yards 30 mph
100 yards 20 mph
50 yards 10 mph

1.34 Power

Keys:

n	Power Off
m	Run down
<	Notch down
>	Notch up
/	Run up

When taking power watch that you don't let the Ammeter go into the red area or you will overload the motors and lose power.

Reset with "i", you may need more than one attempt.

Note if you overload excessively the loco may fail and your drive is over!

In poor weather you should also stay below the yellow region to avoid wheelslip.

When reducing power you should use "m" and wait for the notch indicator to run down, rather than use "n", as sudden shutting off of power could cause arcing and damage to the motors.

The speed limit is indicated by a white circular sign, with a red border.

Reductions in speed limit are indicated by a white triangle with a yellow border, with the new limit in black. Generally about 1.5 miles warning is given, unless two or more reductions follow closely.

In cases of severe speed reduction, an

AWS
horn will sound.

When passing from a lower speed to a higher speed section remember not to accelerate until the whole train has passed the higher speed limit board. A guide to this is the fact that the gantries are about eight coaches apart.

At any point along the route there could be a speed trap set up by traction inspectors. You will be advised as soon as your speed has been recorded. If you are speeding there is a possibility you will be relieved of your driving duties immediately.

The maximum permitted speed for the loco and this route is 110 mph.

1.35 Other features

Saved trains

Neutral Sections

Gradients

AWS

Vigilance Device

Temporary Restrictions

Clock speed

Sanders

1.36 Saved trains

To save a train just press Q and then select OK on the filerequester. Unless Auto-delete is switched off in the Startup screen all old savings of this journey will be deleted.

The file will be saved to TrainDriver:Save/
The file name will be set to the code of the train,
drivers name, loco no., difficulty level, mileage.
eg 1S47.Bill.033.001.133

1.37 Neutral Sections

If you see the Neutral Section Warning Board you must run down the power to zero before the Neutral Section Board, or there may be a loss of power (reset with "p").

The warning board is one mile before the neutral section.

As a guide it takes 36 seconds to run down power from full power which is a mile at 100 mph.

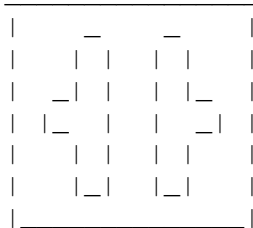
If you shut off power in time, power will be returned at the end of the

short dead section, otherwise you will have to try and reset the motors using key i after exiting the neutral section.

Note if you overload excessively the loco may fail and your drive is over!

Do NOT use the brakes in a neutral section as it is a rheostatic brake fed from the motors, so you will lose braking temporarily.

Warning board is white on black, board at neutral section is black on white.



1.38 AWS

Two hundred yards before signals you will pass over an Automatic Warning System magnet

If the signal is green this will ring a bell and no further action need be taken.

Otherwise a horn will sound and you must press "a" to cancel within five seconds or the brakes will be applied. Joystick button also cancels the AWS horn.

There are also AWS magnets at Speed Reduction Warning Boards.

1.39 Vigilance Device

If Vigilance is not isolated in the Startup Options Screen a bleeper will sound if no key is pressed for 60 seconds.

If "d" is not pressed within five seconds , the brakes will be applied.

This replaces the traditional Deadman's Pedal.

1.40 Temporary Speed Restrictions

Random TSRs will be generated depending on the Difficulty level selected. ↔

An

AWS

horn will sound and a board with flashing white lights will tell you what speed you must reduce to by the next board. After your train has passed the "T" board you may resume Line Speed. Remember to allow for the length of the train to pass. The "T" board on the display will remain there until the train is clear.

The TSRs will be recorded on the log along with the speed you entered the restriction.

TSR Boards: Green with Black figures or Blue with White figures

	Warning		Commencement		Terminating
	3 0		3 0		T
Flashing White Lights	0 0	←-Yellow Board			

The speed you enter and exit the TSR will be recorded in the log.

1.41 Clock speed

By holding keys 1 to 6 until the number appears alongside the time ↔ you may adjust the speed with which time elapses.

eg key 5 will make the clock advance 5 seconds every second

However use the faster clock speeds with care as naturally your reaction time will effectively be that much slower.

If the

AWS
horn sounds, or a Speed Reduction Board
appears, or certain other events occur, requiring your attention
your clock speed will revert to 1, or 2 if that is chosen as the default
clock speed.

Some occasions the clock speed will always revert to 1.

Key p pauses the simulation.

1.42 Sanders

If you have trouble starting up on a steep, slippery gradient press u to apply sand for better traction up to 5 mph.

This will not work on a dry rail or above 4 mph.

Press s to clear "Sand applied" message

1.43 Keys and lights

Keys

Lights

1.44 Keys

Note: hold keys until desired result is seen

f Forward
r Reverse
o Off

The letters O F or R appear below the brake guage to indicate current mode.

Note: f&r only work when the game has first started or after the train has stopped and o has been pressed to stop the motors. In reality there is a three position switch:

F O R
\ | /

so you must stop, go to O (off) then into Reverse. Putting the switch into Off while moving will cause a brake application. Pressing f or r whilst the motors are running and audible will have no effect.

Also power notches must be run down to zero before changing direction.

So when starting, hold F until you hear the motors start up, and F appears then hold O until you hear them shut down, see O, then press R until you hear the motors restart and R appears. You are now in reverse.

NOTE: Maximum speed when reversing is 10 mph.

Esc Escape without saving etc.

q Save, View log and Continue (or q again to Quit)
The file name will be set to the code of the train,
drivers name, loco no., difficulty level, mileage.
eg 1S47.Bill.033.001.133

Space View profile of next ten miles

l View Log
t

View Timings

h Horn (also joystick up/down)

```

w  Wiper On/Off
1-6
      Clock speed
      p  Pause
s  Clears Signalman's message or tunnel name from screen
i  Resets overloads (when B light comes on)
a  Cancels
      AWS
      horn (also joystick button)
d  Cancels
      Vigilance Device
      bleeper
j  Toggles Detail On / Off
u  Apply sand to rail
Help View Keys
      Help

```

```

      Braking
      Keys: z  x c v      b
Off  << < > >> On  Emergency

```

```

      Power
      Keys:      n      7 8 9 0
or:      n      m < > /
      Off  Down << < > >> Up

```

1.45 Lights

```

      L  Line light indicates 25KV power on
W  Wheelslip
B  Air Blast Breaker cuts off power at
      Neutral Sections
      and on overload

```

1.46 DISCLAIMER

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 EXPRESSED OR IMPLIED. IN NO EVENT WILL I, PAUL ROBINS , BE LIABLE FOR ANY
 DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING FROM ANY USE
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This program and all the disk's contents are MAILWARE, but must all be
 distributed together with this doc.

If you use the program please at least send me an email or postcard :)

Let me know if you want to include this disk on a CD, Coverdisk etc.
and send

me
a copy.

1.47 Author

Enjoy the program!

Any comments, bug reports, donations etc. to;

Paul Robins
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MK2 2LN
England

Email: paul@robins.powernet.co.uk

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SPECIAL NOTE

This is expected to be the last freely available version of TrainDriver. TrainDriver 2 will combine the Route Generator and TrainDriver WCML into one program including the WCML data files and will be sold commercially through the UK rail mags. The only alternative is a great upsurge in the numbers bothering to register! Those people who have kindly registered will be offered cheap upgrades.

!!

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-Thanks !