

# Class 444/450 Enhancement Pack



## Contents

How to Install.....	2
Keyboard Controls.....	3
Features .....	4
Train Management System (TMS).....	5
Train Protection and Warning System (TPWS) Mk4.....	10
Uncoupling Procedure .....	10
User Controllable Destination Display .....	11
Automatic Unit Numbering.....	12
Depot Preparation Procedure .....	12
Bits and Bobs.....	13
Setting up the Driver's Cab.....	14
Scenarios .....	14
Credits .....	15

# How to Install

- 1) Locate where you have downloaded this pack and unzip it. Information on how to do this can be found [here](#).
- 2) Go to the location where you have extracted the files from the .zip file.
- 3) Now find the .exe file called 'Class 444-450 Enhancement Pack'. Double-click this file.
- 4) Follow the steps and by the end of the process, the main part of this pack will have installed.
- 5) If you intend to use any of the included scenarios, please ensure you have all of the requirements, as listed on the product page.
- 6) To ensure the cab environment sounds as intended in this pack, please make sure that 'EFX' is ticked within your in-game Audio settings.

# Keyboard Controls

Non-standard keyboard controls are listed below:

Shift+U -	Battery off button
U -	Battery on button
I -	Cab equipment light switch CLOCKWISE
Shift+I -	Cab equipment light switch ANTI-CLOCKWISE
L -	Cab light ON/OFF
E -	Deadman's pedal (DVD reset)
F7 -	Destination display DOWN
F8 -	Destination display UP
Y -	Driver reminder appliance (DRA) ON/OFF
C -	Driver to guard signal
Ctrl+D -	Driver vigilance device (DVD) ON/OFF
H -	Headlight switch CLOCKWISE
Shift+H -	Headlight switch ANTI-CLOCKWISE
O -	HSCB switch ON
Shift+O -	HSCB switch OFF
I -	Instrument lights switch ON/OFF
Shift+W -	Master key IN/OUT
K -	Tail lights switch ON/OFF
Shift+0 -	TMS key 0
Ctrl+1 to 9 -	TMS key 1 to 9
Ctrl+Page Down -	TMS scroll DOWN
Ctrl+Page Up -	TMS scroll UP
Shift+Q -	TPWS Mk4 AWS button
V -	Wiper switch CLOCKWISE
Shift+V -	Wiper switch ANTI-CLOCKWISE

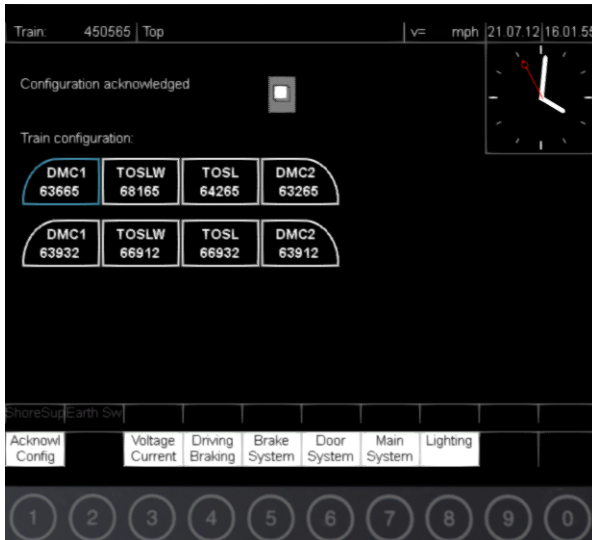
## Features

- Ex-South West Trains (SWR) livery variant
- Detailed internal & external audio
- Accurate acceleration & braking physics
- [Train Management System \(TMS\)](#)
- [Train Protection and Warning System \(TPWS\) Mk4](#)
- [Uncoupling procedure](#)
- [User controllable destination display](#)
- [Automatic unit numbering](#)
- Driver vigilance device (DVD)
- [Depot preparation procedure](#)
- [Bits and Bobs](#)

## Train Management System (TMS)

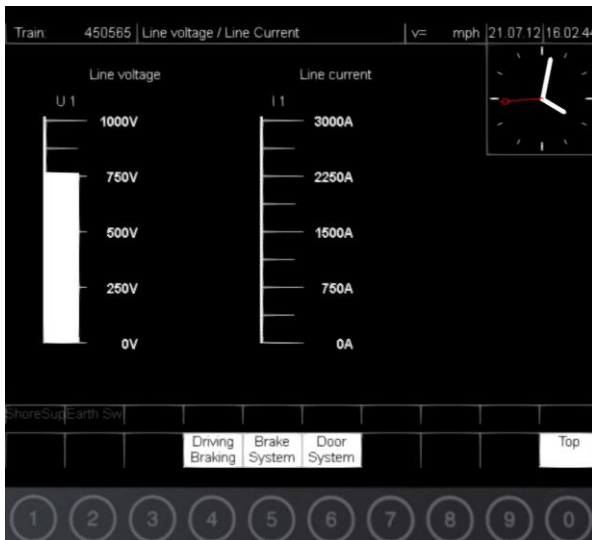
The TMS screen to the top-right of the driver provides information on many aspects of the unit. On all screens, above keys 0 to 9 are a list of screens or actions that can be accessed by pressing their corresponding key (**Shift+0** or **Ctrl+1 to 9**).

### Top



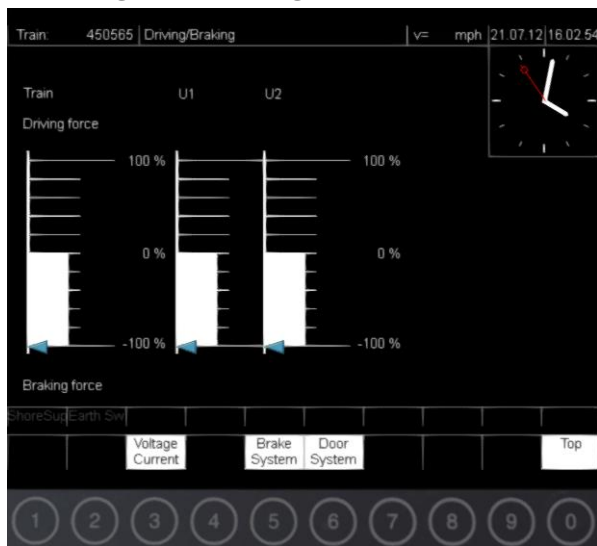
After booting, this is the first screen you see. It displays your train configuration and whether you have acknowledged it. To acknowledge the train configuration, press **Ctrl+1**.

### Line Voltage / Line Current



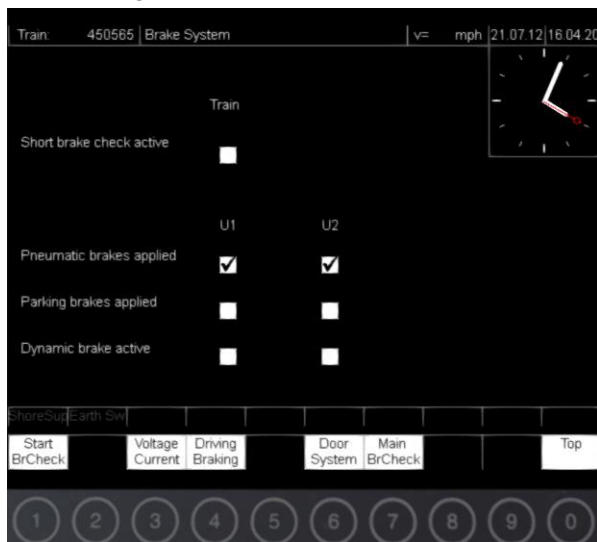
On this screen, you can see the line voltage being received and the line current produced by the train.

## Driving / Braking



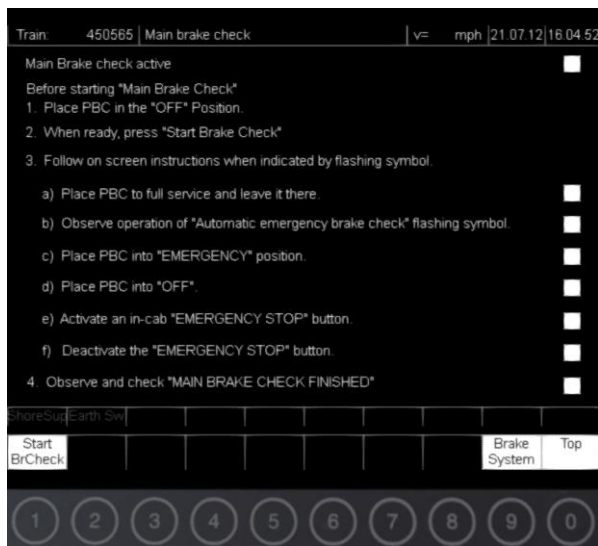
On this screen, you can view the state and level of braking or traction power currently applied. U1, U2 & U3 represent each individual unit in a formation. For example, an 8 car formation is shown above so only U1 & U2 are listed as there are only 2 units in the formation. The blue triangle indicates the position of the power brake controller.

## Brake System



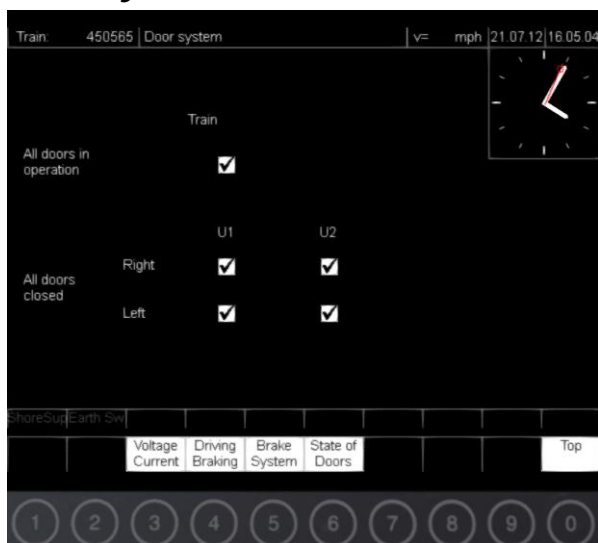
On this screen, you can carry out a short brake check and view the state of the pneumatic (air), parking & dynamic brakes. To carry out a short brake check, press **Ctrl+1**. For this to work, the doors must be closed, reverser in 'Forward' and power brake controller in 'Off'. Whilst in progress, the tick box will flash. When complete, it will return to a blank white box.

## Main Brake Check



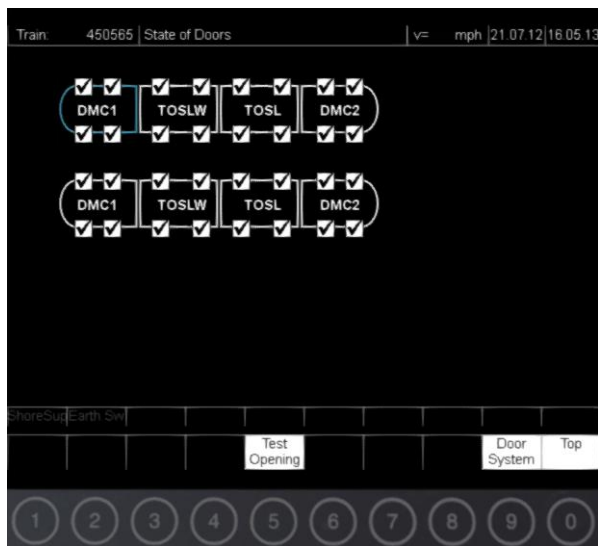
On this screen, you can carry out a main brake check. To do this, press **Ctrl+1**. For this to work, the doors must be closed, reverser in 'Forward' and power brake controller in 'Off'. As stated on the screen, you must follow the relevant instruction when indicated by the flashing tick box.

## Door System



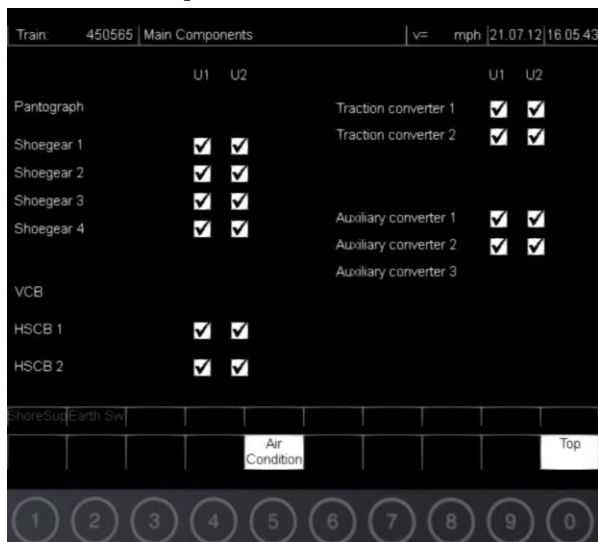
On this screen, you can see the general state of the doors.

## State of Doors



On this screen, you can see the state of each individual door in your formation.

## Main Components



On this screen, you can see the state of each shoe gear, HSCB, traction converter & auxiliary converter.



## Interior Lighting



On this screen, you can control and view the state of the interior lighting. To control the saloon or emergency lighting, ensure the grey cursor is on the desired type of lighting by pressing **Ctrl+Page Down/Ctrl+Page Up**. You can then turn it on by pressing **Ctrl+1** or off by pressing **Ctrl+2**.

## Exterior Lighting



On this screen, you can see the state of the exterior lighting.

## **Train Protection and Warning System (TPWS) Mk4**

TPWS Mk4 has been simulated to the greatest extent currently possible within the simulator.

### ***Self-test***

When moving the reverser away from off, TPWS & AWS will perform a self-test. All lights on the unit will illuminate and you must reset the AWS warning by pressing **Q**. You will then receive audible confirmation that TPWS & AWS are operational.

### **AWS**

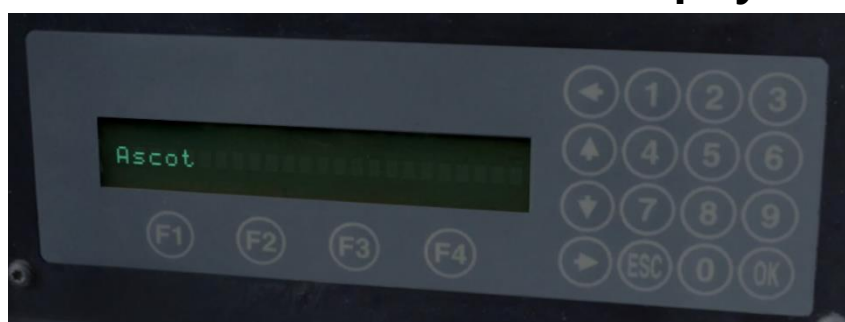
If the AWS is not reset in time (except during the self-test), the emergency brakes will apply and the AWS button on the TPWS unit will flash. Once you have come to a stop, press the AWS button to acknowledge it, then press it again to reset the system and you will be able to obtain power.

## **Uncoupling Procedure**

Please see below for how to uncouple from another class 444 or 450:

- 1) Ensure you are in the cab of the vehicle you are uncoupling from and wish to stay in after uncoupling.
- 2) Ensure the master key is 'On' and move the reverser to 'Neutral'. The cab will not be 'live' as you are still coupled to another unit.
- 3) Uncouple using the F3 or F4 HUD.
- 4) Press the 'Uncouple' button on the cab desk. This will 'liven' up the cab.

## User Controllable Destination Display



The external destination display has been made controllable by pressing **F7** or **F8**. Also, as shown above, the display in the cab now shows the current destination displayed. Finally, the destination can be set via the unit's number in the scenario editor by adding **;D=x** to the end of the DMC1's number. Please see below for a list of the available destinations and the relevant number you need to insert in place of 'x':

<b>1 - Aldershot</b>	<b>26 - Hounslow via Richmond</b>	<b>51 - Shepperton</b>
<b>2 - Alton</b>	<b>27 - London Waterloo</b>	<b>52 - Southampton Central</b>
<b>3 - Ascot</b>	<b>28 - London Waterloo Fast Service</b>	<b>53 - Southampton Central Fast Service</b>
<b>4 - Ascot via Aldershot</b>	<b>29 - London Waterloo Stopping Service</b>	<b>54 - Southampton Central Stopping Service</b>
<b>5 - Basingstoke</b>	<b>30 - London Waterloo via Basingstoke</b>	<b>55 - Staines</b>
<b>6 - Basingstoke Stopping Service</b>	<b>31 - London Waterloo via Brentford</b>	<b>56 - Staines via Hounslow</b>
<b>7 - Bournemouth</b>	<b>32 - London Waterloo via Hounslow</b>	<b>57 - Surbiton</b>
<b>8 - Bournemouth Fast Service</b>	<b>33 - London Waterloo via Richmond</b>	<b>58 - Virginia Water</b>
<b>9 - Bournemouth Stopping Service</b>	<b>34 - London Waterloo via Surbiton</b>	<b>59 - Wareham</b>
<b>10 - Branksome</b>	<b>35 - London Waterloo via Winchester</b>	<b>60 - Weybridge</b>
<b>11 - Brighton</b>	<b>36 - Lymington Pier</b>	<b>61 - Weybridge via Hounslow</b>
<b>12 - Brockenhurst</b>	<b>37 - Poole</b>	<b>62 - Weymouth</b>
<b>13 - Clapham Junction</b>	<b>38 - Poole Fast Service</b>	<b>63 - Weymouth Fast Service</b>
<b>14 - Dorking</b>	<b>39 - Poole Stopping Service</b>	<b>64 - Weymouth Stopping Service</b>
<b>15 - Eastleigh</b>	<b>40 - Portsmouth Harbour</b>	<b>65 - Winchester</b>
<b>16 - Fareham</b>	<b>41 - Portsmouth Harbour Fast Service</b>	<b>66 - Windsor &amp; Eton Riverside</b>
<b>17 - Farnborough</b>	<b>42 - Portsmouth Harbour Stopping Service</b>	<b>67 - Woking</b>
<b>18 - Farnham</b>	<b>43 - Portsmouth Harbour via Basingstoke</b>	<b>68 - South West Trains</b>
<b>19 - Fratton</b>	<b>44 - Portsmouth &amp; Southsea</b>	<b>69 - Sorry, Not in Service</b>
<b>20 - Fratton Stopping Service</b>	<b>45 - Portsmouth &amp; Southsea Fast Service</b>	<b>70 - Empty to Depot</b>
<b>21 - Guildford</b>	<b>46 - Portsmouth &amp; Southsea Stopping Service</b>	<b>71 - Special</b>
<b>22 - Guildford via Aldershot</b>	<b>47 - Portsmouth &amp; Southsea via Basingstoke</b>	<b>72 - Chessington South</b>
<b>23 - Haslemere</b>	<b>48 - Reading</b>	<b>73 - Brockenhurst Stopping Service</b>
<b>24 - Havant</b>	<b>49 - Richmond</b>	<b>74 - Epsom</b>
<b>25 - Hounslow via Brentford</b>	<b>50 - Richmond via Hounslow</b>	

## Automatic Unit Numbering

When placing a unit in the scenario editor or using one in Quick Drive, all vehicles will automatically be given correct unit and coach numbers, instead of you having to select each vehicle and changing their number manually so they match. The unit number is controlled via the DMC1 coach if you wish to change it.

## Depot Preparation Procedure

Class 444s/450s are rarely 'cut out' so a 'cold start' is not offered in this pack. When a unit is prepared for service though, there is a certain procedure that must be followed and we have simulated that.

To carry out this procedure, please follow the instructions below:

- 1) Insert the master key by pressing **Shift+W**.
- 2) Move the reverser to 'Neutral' by pressing **S**.
- 3) Reset the AWS self-test by pressing **Q**.
- 4) Turn the High Speed Circuit Breaker (HSCB) off by pressing **Shift+O**.
- 5) Turn the battery off by pressing **Shift+U**.
- 6) Wait 30 seconds and turn the battery on by pressing **U**.
- 7) Turn the HSCB on by pressing **O**.
- 8) Carry out a 'Main Brake Check' via the TMS.
- 9) If required, turn on the saloon lighting via the TMS.
- 10) Acknowledge your configuration via the TMS.

After carrying out this procedure, your unit will be successfully prepared,

## Bits and Bobs

This section is dedicated to aspects of this pack that don't warrant a dedicated section but are still of note:

- The acceleration and braking physics differ between the Class 444 & 450 as per reality.
- Correct push button functionality for cab light switch.
- Power reduction button reduces power output by 50%.
- Visual alarms outside of cab when AWS or DVD are active.
- Amended cab camera angle.
- In-cab unit and vehicle numbers added.
- The visible driver automatically moves to whichever cab you are in.
- Doors locked button changed to be blue as per reality.
- 1 second delay between train passing over AWS magnet and AWS warning sound occurring. The F3/F4 HUD will show the warning immediately so you must wait 1 second before trying to cancel it.
- The headlights only provide illumination before sunrise and after sunset. This is to avoid the unrealistic appearance of projected light in broad daylight.
- Main headlight texture amended to be more orange
- Colours amended on default South West Trains livery
- Texture sizes reduced to improve performance

# Setting up the Driver's Cab

Please follow these steps to set up the cab so you are ready to move:

- 1) Turn the master key in by pressing **Shift+W**.
- 2) Move the reverser to the 'Neutral' position by pressing **W**.
- 3) Cancel the AWS self-test alarm by pressing **Q**.
- 4) Turn the headlights on by pressing **H**.
- 5) Acknowledge your configuration via the TMS by pressing **Ctrl+1**.
- 6) Set your destination by pressing **F7** or **F8**.
- 7) Turn the Driver Reminder Appliance (DRA) off by pressing **Y**.

You should now be ready to move off.

## Scenarios

### **APC450EP: 2L30 09:54 Basingstoke - Waterloo**

Route = Portsmouth Direct Line - London to Portsmouth

Track covered = Woking - Waterloo

Traction = Ex-South West Trains (SWR) 444021

Year = 2017

Duration = 40 minutes



### **APC450EP: 1P55 17:30 Waterloo - Portsmouth Harbour (Part 1)**

Route = Portsmouth Direct Line - London to Portsmouth

Track covered = Waterloo - Haslemere

Traction = South West Trains 450103, 450552 & 450039

Year = 2017

Duration = 1 hour



### **APC450EP: 1P55 17:30 Waterloo - Portsmouth Harbour (Part 2)**

Route = Portsmouth Direct Line - London to Portsmouth

Track covered = Haslemere - Portsmouth Harbour

Traction = South West Trains 450103, 450552 & 450039

Year = 2017

Duration = 45 minutes



### **APC450EP: 5F01 05:49 Wimbledon Park Depot - Woking**

Route = Portsmouth Direct Line - London to Portsmouth

Track covered = Wimbledon Park Depot - Woking

Traction = South West Trains 450030, 450119 & 450025

Year = 2017

Duration = 30 minutes



## Credits

**Nicolas Schichan** - Advanced scripting

**Alan Hingston** - Assistance in recording sounds and providing invaluable knowledge on the operation of these units