

# Class 185

## Diesel Multiple Unit



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## How to Install

- 1) Browse to where you downloaded this DLC and unzip it with a program like WinRAR or 7Zip.
- 2) Go to where you extracted the files.
- 3) Now find the .exe file called 'Class 185 DMU Pack'. Double click this file.
- 4) Follow the steps in the installer. Once complete you have now installed the main part of this DLC.
- 5) If you intend to use the included scenarios, you must install the freely available extra stock pack from the product page.
- 6) To ensure cab sounds function as intended, please ensure the 'EFX' is ticked in you Train Simulator Audio settings.

## How to Use

For all features to function as intended, you **MUST** use the external plugin. Launch the announcement plugin, you can then start TS20XX as normal. The Plugin should be located on your desktop, else it can be found in Railworks/Plugins as ATSPugin.exe

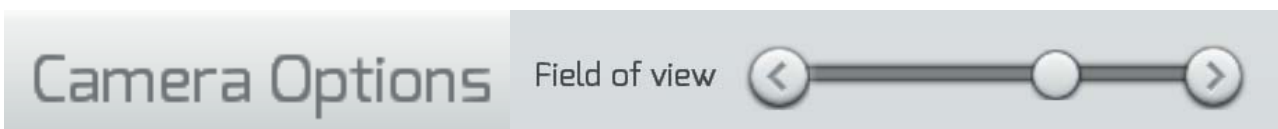
**NOTE** - We cannot support any issues that arise if you do not use the included launcher.

**ALSO NOTE** : The Announcement system is only supported in TS 64bit, 32bit is not supported and we cannot offer support for any 32 bit announcement issues.

## FOV

This pack has been developed with the default FOV settings. As such we provide 2 standard camera positions, the latter of which has a wider field of view to cater for default settings.

We recommend the below pictured setting in 'Camera Options'.



# Liveries

## Unbranded (Plain Blue)



## Barbie



## Dynamic Lines Original



## Dynamic Lines Late (GSMR)



## Transitional



## Stained Glass Original



## Stained Glass



## Special - Dynamic Lines Poppy



## Special - Dynamic Lines Christmas



Special - Manchester Bee



Special - Superhero



Special - Stained Glass Poppy



## Special - Manchester Pride



## Special - Hull City of Culture

No image as when debranded it looks the same as Stained Glass.

The Class 185s have received 2 additional special liveries. These are 185111 Victoria Cross and 185108 Liverpool 08. 185111 is steadily being worked on, though due to 185108's complexity it is unlikely to feature. If we are able to gain true source for 108, we may be able to recreate this in future.

# Cab Controls



- |                              |                           |                           |
|------------------------------|---------------------------|---------------------------|
| 1 - Signal Bell              | 11 - Saloon Lighting      | 21 - Low Speed Button     |
| 2 - Power Brake Controller   | 12 - DRA                  | 22 - AWS Reset            |
| 3 - Master Key               | 13 - Brake Pressure Gauge | 23 - HVAC Shutdown        |
| 4 - Wiper Switch             | 14 - Headlight Switch     | 24 - Braking Gauge        |
| 5 - TPWS Override            | 15 - Engine Start / Stop  | 25 - AWS Sunflower        |
| 6 - Windscreen Heater        | 16 - Tail Lights          | 26 - Door Interlock Light |
| 7 - Direction Switch         | 17 - Driver Horn          | 27 - Emergency Plunger    |
| 8 - Desk Light Dimmer        | 18 - Speedometer          | 28 - HVAC Controls        |
| 9 - Sanding                  | 19 - Hazard Lights        | 29 - Axion*               |
| 10 - Desk Light / Cab Light" | 20 - Uncouple             | 30 - NRN / GSMR*          |
|                              |                           | 31 - TMS                  |

**Note** - Features marked with a \* are dependent on the train cab config and will differ depending on variant.

**Also Note** - "10 - Desk Light / Cab Light" switch is turned to operate the desk light and pushed down to operate the cab lights. Due to a TS limitation with controls, this is not possible. As a compromise the twisting motion can be operated by clicking and dragging the knob itself, The push down function can be operated by clicking the housing of the switch to allow both functions to be clickable.



# Keyboard Controls

Shift + W -	Master Key In / Out
E -	DSD Pedal
Y -	DRA On / Off
Z -	Engine Start
Ctrl + Z -	Engine Stop
Shift + O -	Saloon Light On / Off
K -	Tail Light On / Off
L -	Cab Light On / Off
Ctrl + L -	Desk Lights
C -	Driver Guard Signal Bell
V -	Wipers Switch Increase
Shift + V -	Wipers Switch Decrease
X -	Sander
Ctrl + Shift + V -	Visual Alarms
Ctrl + Shift + N -	Advanced Speed Set Toggle
Ctrl + N -	Simple Speed Set Toggle
T + U -	Door Open Left
T + O -	Door Open Right
Backspace -	Emergency Brake Plunger
Ctrl + D -	DSD Isolation
Ctrl + Shift + D -	Vigilance Isolation
Ctrl + A -	TPWS / AWS Isolation
End -	Route Code Increase
Home -	Route Code Decrease
F8 -	Scrolling Destinations Up (Stained Glass Refurb Only)
F7 -	Scrolling Destinations Down (Stained Glass Refurb Only)

# Cabviews

The Class 185s have been subject to multiple cab and equipment refurbishments to bring the fleet up to modern standards, providing new and more efficient systems. These have been recreated in the pack.

Factory (as built) with NRN and Axion PIS



Factory with GSM-R and Axion PIS



## Refurb with GSM-R and revised PIS



Example changes throughout their life include:

- NRN replaced with GSMR
- Tablet Computer stand
- Axion PIS replaced with newer system

NRN and GSM-R detailed later in the manual.

## Passenger views

Since being built, Class 185s have seen very little change in their passenger compartments, and although the seats have been re-covered with a different moquette, the seats are still original as built (Grammer E3000).

Original Interior (as built).



Refurbished Interior



# National Radio Network (NRN)

National Radio Network was the main cab radio system used outside of the south east up until it was superseded by GSMR. A version



of this is included with the 185 for use on early as built cab variants.

To log onto the NRN :

- 1) Press the power button below the volume control. (See **1**)
- 2) When the "Set Channel or Zone" prompt is shown, enter your 3 digit area code. Then press the green button below the BR arrows. (See **2**)
- 3) The NRN will now attempt to connect. ( Note : If the scenario is set up with an NRN number in the MOSL loco number then the NRN will only connect to this channel, this is detailed later in the manual)
- 4) If you pass an NRN zone sign then you must change channels by entering the 3 digit code. Your NRN will also lose signal after passing the zone board. (Note that the NRN will only connect when you enter to the correct channel for the zone you have entered)



## NRN Board

An NRN Zone board is included for use in scenarios to more accurately simulate the NRN areas.

This sign is in the AT5/AT5Common folder in the Object Filter and is named "AT5 NRN Sign" under "Track infrastructure"

To place it, place it down then place the link on the track, then double click and in the flyout set the NRN area number. This must be 3 digit so add zeros as needed (eg 45 --> 045)

# Global System for Mobile Communications- Railway (GSM-R)

Starting in 2013, GSM-R was brought in as the new standard for cab radios, superseding the earlier NRN and CSR radio systems. A simulation of this radio system has been included.



To register on the GSM-R:

- 1) Enter the master key to power on the radio. Alternately hold down the "registration" or "Accept" buttons for 5 seconds.
- 2) When GSM-R GB is shown on the screen you can now register on the GSM-R by pressing the "Registration" button.
- 3) The GSM-R will ask for a registration code with is the headcode or your train followed by the number of the signal in front of you. For example, train 1A56 sat at signal BD19 would enter "1A56 019" as their registration code. "X" can be pressed to delete the last character
- 4) Press the "Accept" tick button once your code is entered, the GSMR will now attempt to register (If the scenario is set up with a registration code in the MOSL unit number, then this registration code will be the only valid one, others will fail to register, details on setting this up are found later in the manual)
- 5) Once registered the GSM-R will make an acknowledgement sounds and the headcode will be displayed in the top right of the GSMR screen.

# Automatic Warning System (AWS)

Introduced in the 1950s, the AWS system provides an audible and visual warning of the state of upcoming signals to drivers

This system has been simulated on the 185 and has been especially scripted to provide a few improvements over the standard train simulator implementation. Some of these feature are:

- 1 second delay after passing an AWS magnet until receiving a warning sound
- AWS acknowledges upon the release of the AWS button not the press.
- AWS can be isolated (along with the TPWS) by operating the picture isolation switch, or by using the shortcut "Ctrl + A"
- Realistic 60 second delay after AWS brake intervention.



However, with this scripting comes some limitations, the AWS warning on the HUD is functional however the AWS cannot be acknowledged by clicking the HUD element. (Note - the HUD is not supported on the 185)

## Recovering from an AWS Intervention -

- Upon an AWS intervention occurring, a TPWS event will be triggered and the "TPWS Brake Demand" lamp will begin flashing, this must be acknowledged by pressing the AWS Reset button
- The lamp will now stay lit. A 15 second timer will prevent immediate brake release.
- When the brakes can be released, the lamp will extinguish and the brake can be release by moving the PBC to Emergency, now move away from Emergency.

# Train Protection Warning System (TPWS)

TPWS has been fitted to the Class 185s from new and is simulated in this pack. The TPWS will bring the train to an emergency stop should the train SPAD or be exceeding the set speed.



The TPWS will come up when the reverser is moved from the "Off" position and will self test by lighting all the lamps on the panel, these will then extinguish and the self-test is complete.

- The TPWS can be isolated either temporarily for passing multiple signals at danger during special workings, or by isolating the TPWS and AWS systems with your master key on the back panel.

- To temporarily isolate the TPWS, navigate to the TPWS temporary isolation switch on the back wall, and move the switch to the "Isolate" position, this will break the seal and the switch will spring back to the centre. The TPWS panel will now have its "Temporary Isolation / Fault" lamp lit.

- To unisolate the TPWS after this, simply move the switch towards the "Normal" position, now the "Temporary Isolation / Fault" lamp should be extinguished and the unit should self test again.

- To fully isolate the TPWS/AWS system, turn the barrel switch labelled "TPWS/AWS NORM./ISOL" to the horizontal position, this will now isolate the TPWS and AWS.

- When a TPWS/AWS intervention occurs, the TPWS will initiate an emergency brake application, the "Brake Demand" light will flash, this must be acknowledged by pressing the "AWS Reset" button. The lamp will then illuminate and a 15 second delay will start once you acknowledge the brake demand. After this 15 seconds has elapsed, the "Brake Demand" lamp will extinguish. You will then be able to release the brakes and take power once more.



# Speed Set

The Class 185s are fitted with a speed set system that allows units to maintain their speed without manual intervention.

This pack contains a simulation of the speed set. The system itself is very complex so 2 systems are provided, a simple system, and an advanced (as per real life).

The conditions for speed set on both systems are as follows (without these you **WILL NOT** get speed set):

- You must be travelling at over 40 MPH
- The PBC must be in Notch 4

On the simple system, once you meet both of these conditions, simply press the key combo to activate it (**Ctrl + N**)

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For the advanced system, this must be activated with **Ctrl + Shift + N**. Once activated and the conditions are met, You must do the following steps:

- Ensure the PBC is in Notch 4
- Move the PBC to OFF in one movement, Leave it there for 2 seconds.
- Move the PBC back to Notch 4 in one movement

(Note : To make these movements easier, the system will not read the PBC position until it has been stationary for 2 seconds, so if you move into the wrong notch you can quickly set it to the desired notch and it should still read properly)

After both of these methods, you will get a "Speed Set, Engaging" message and the pictured ECO CAT/A lamp will flash 3 times.

To deactivate the system, just move the PBC out of the Notch 4 position, you will get a "Speed Set, Disengaging" message and the pictured ECO CAT/A lamp will flash 3 times. The train will now return to the power on whatever notch you apply it to.



# Driver Safety Device

The Class 185s are fitted with a "Driver Safety Device" that alerts the driver after 60 seconds of inactivity. If the warning is not acknowledged this will trigger an Emergency Brake intervention bringing the train to a stop and trigger a 5 second cooldown till it can be released.

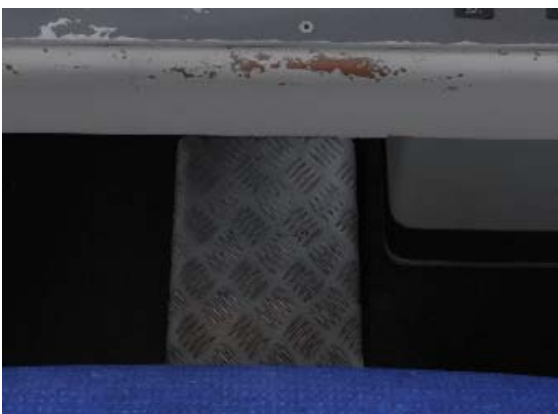
The DSD is only operational when the Direction Switch is in Forward or Reverse. Below 3mph, If an Emergency Brake intervention happens resetting the DSD alarm will allow you to release the application with no penalty time.

The whole DSD system can be isolated by either using the "DSD Norm/Isol." isolation switch (pictured below) or by using the key command (Ctrl + D). This will pop up an alert telling you whether the DSD is Isolated or Unisolated and the DSD system will be non functional.

The Vigilance part of the DSD can be isolated separately, In this mode the DSD acts more like a deadmans pedal, This can be isolated by turning the "Vigilance Norm/Isol" isolation switch, you will see a popup telling you about the state of the isolation switch.

The DSD can be reset by the DSD Pedal (Key command - E), however the system also resets the alert timer when certain events take place, these are:

- Pressing the AWS to acknowledge an AWS warning
- Using the High or Low Horn
- Moving the PBC in Power or Braking



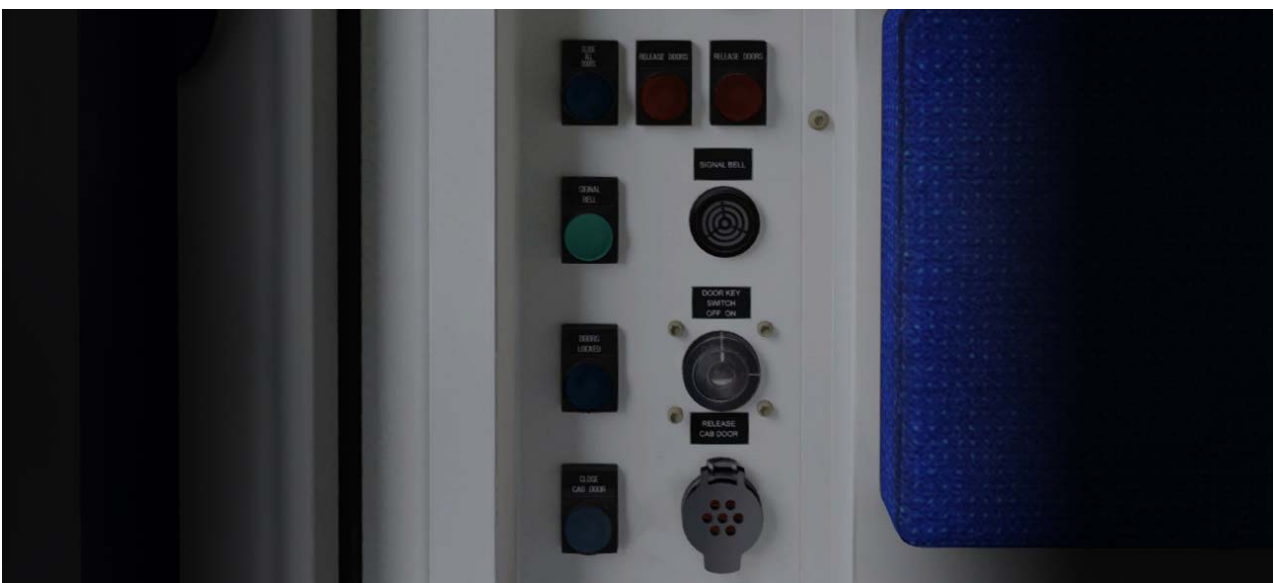
## Doors / Guard Panels

Under normal operation, the guard opens the doors from the rear cab of the set. This means that the cab is fitted with guard panels. These are implemented in this pack for your pleasure.

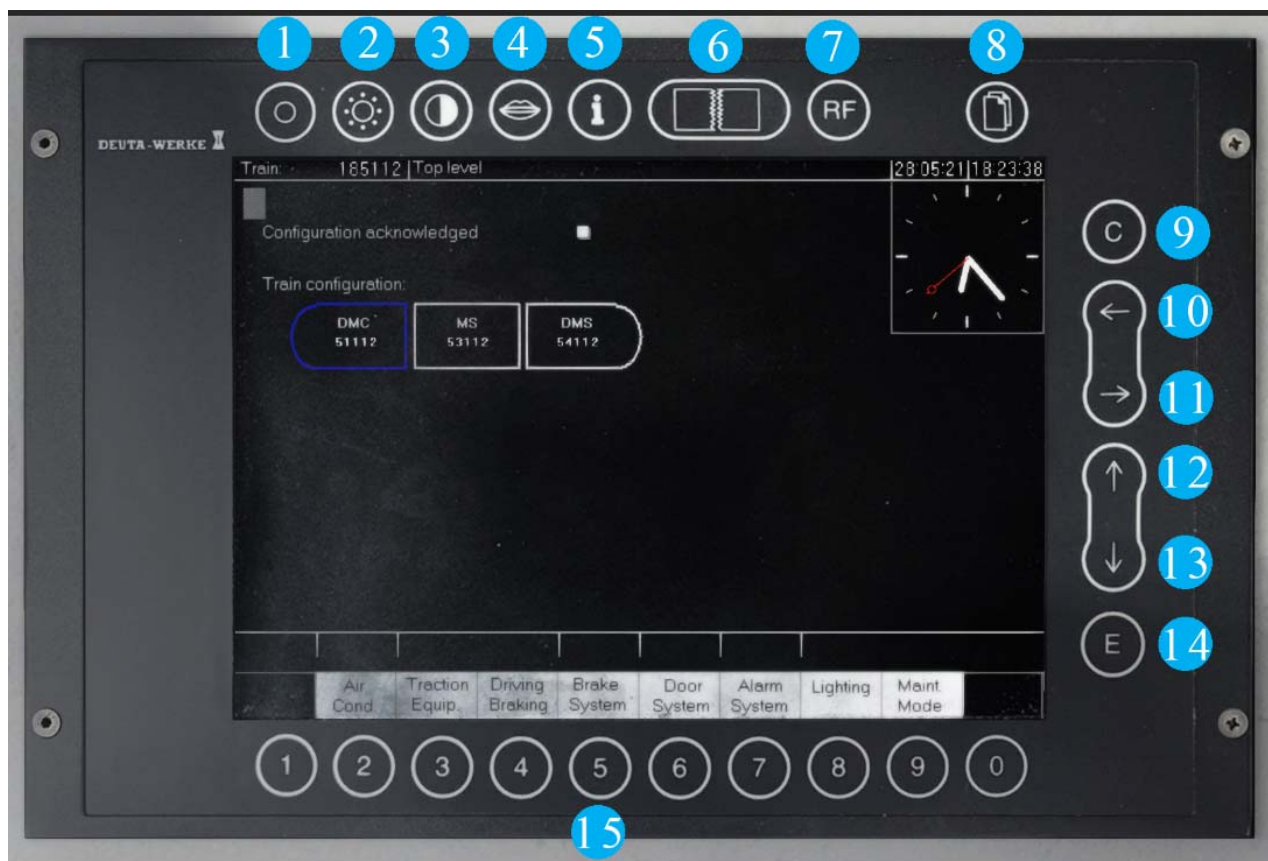
The doors can be released in "Driver mode" by simply using "T" and "U" or "O" for Left and Right. However, you may also "Key in" to the guard panel by rotating "Door Key Switch" and then use the Door Release buttons on the panel (This does not require pressing "T" on the keyboard). The guard panel buttons are not operational if you are not "Keyed in". If you are keyed in when stop ends, the doors **will not** close on their own and you must close them with the "Close All Doors" button on the guard panel or with the "R" keyboard shortcut.

When keyed in the Guards panel buttons will illuminate, however at approximately 3mph all guards panels shut down, even when keyed in.

Note - If you are keyed in on a guard panel, you **will not** get a double bell from the guard since you have completed the guard role yourself.



# Train Management System (TMS)



The picture above labels all the different buttons on the TMS by a number and their name. The functions for operative buttons are noted on the next page. Inoperative buttons are clickable however do not function, Some of these are inoperative due to TS limitations and others are inoperative on the real units.

- |                                  |                       |
|----------------------------------|-----------------------|
| 1 - TMS Screen Off (Inoperative) | 9 - TMS Cancel        |
| 2 - TMS Brightness (Inoperative) | 10 - Arrow Left       |
| 3 - TMS Contrast (Inoperative)   | 11 - Arrow Right      |
| 4 - TMS Language (Inoperative)   | 12 - Arrow Up         |
| 5 - TMS Info (Inoperative)       | 13 - Arrow Down       |
| 6 - TMS Faults (Inoperative)     | 14 - TMS Enter        |
| 7 - TMS Fault Fix (Inoperative)  | 15 - TMS Softkeys 0-9 |
| 8 - TMS Changeover (Inoperative) |                       |

# Train Management System (TMS)

Button Functions :

## 9 - TMS Cancel

This is used to cancel certain options displayed such as "Preheating" on the Air Conditioning screen

## 10 - Arrow Left

This button is used to move the cursor left on TMS screens

## 11 - Arrow Right

This button is used to move the cursor right on TMS screens

## 12 - Arrow Up

This button is used to move the cursor up on TMS screens

## 13 - Arrow Down

This button is used to move the cursor down on TMS screens

## 14 - TMS Enter

This is used to confirm selected options on certain TMS screens such as the Air Conditioning screen

## 15 - TMS Softkeys 0-9

These buttons, known as "Softkeys", are the main navigational part of the TMS allowing you to access different TMS screens and return to the top level screen from them. They are labelled above the button on the TMS with their function, these functions change depending on the current screen.

Sometimes, such as during unit setup, softkeys are used to confirm options like "Acknowledge Config"

# Train Management System (TMS)

Since the TMS has many features, some of which are not used in Train Simulator, it would be impractical to document all of them in this manual. For this reason the main few are listed:

- From the "Air Cond" screen you can active and deactivate the preheating
- The traction equipment screen shows information about the train such as fuel levels of vehicles
- The Driving/Braking screen shows the current state of the brakes or traction on all vehicles within the consist.
- From the Driving/Braking screen, the ECO mode screen can be accessed which shows key data about fuel consumption and can be used to activate or deactivate ECO mode and toggle the ECO on top display for the top level
- The Brake System screen shows current brake statuses for all units in your consist
- Door System shows the current state of all cab and passenger doors on all units within the consist
- Lighting shows the state of the lighting systems in each unit and can be used to enable or disable saloon lighting
- From the Lighting screen, the Exterior lighting screen can be accessed that shows the current state of the headlights and tail lights on the leading and trailing carriages of the consist.

## Slow Speed Button

The Class 185s are fitted with a "Low Speed Button", this restricts the unit to <2mph for shunting and coupling.

To use it you must be stationary, then depress the Low Speed button, It will flash then illuminate. Take power to notch one and the unit will proceed but limit itself to 2mph. To disengage simply lift the button back up and observe the lamp extinguishing.



## Voith T 312 bre 3 Stage Hydraulic Transmission

Class 185s are fitted with a Voith T312 bre hydraulic transmission to convert the power from the engine into traction power.

The Voith T312 bre varies from more common Voith transmission seen in trains such as sprinters by being a purely hydraulic design with no coupling. This means that the engine speed is not in exact sync to the output speed at any point.

The main feature of this transmission is it's distinctive RPM drop as the transmission moves between stages, this happens at 55 mph and 75mph and causes the engine speed to drop whilst the next transmission stage is filled and this drop then recovers once the previous transmission stage empties.

These transmissions, being hydraulic, have a slight delay after the engine revs up before power is applied due to the transmission needing to fill with oil and this has been simulated in this pack.

Another note is that due to the QSK19s being at the upper torque range of these transmissions, the power is limited to Notch 4 RPM until a speed of 20 mph is achieved, So when you set MAX on the PBC only Notch 4 will be given from a start.

The Voith T 312 bre also features a hydrodynamic brake system that uses the transmission in reverse to disperse energy. This is then blended with the regular pneumatic brakes. This brake system has been simulated in our pack, if the hydrodynamic brake is active (it is by default) when the unit brakes the engine will audibly rev up and the unit will use blended braking.

The hydrodynamic brake can be disabled by using the "HD Brake Norm / Isol" switch behind the driver seat in the cab. Switching to either Norm or Isol will set the HD Brake to "Normal" or "Isolated" and a popup message will confirm this. If isolated, the train will use purely pneumatic braking.



## What you will see in the Sim

In the sim you will see these features:

- Engine RPM is limited to Notch 4 until 20 mph, above this it will rev to full
- When accelerating you will get RPM drops at 55mph and 75mph as the transmission changes stage
- If your speed drops below the stage change speeds and you are still applying power, the transmission will change down a stage causing an RPM drop.
- When braking above 25mph, the engine will rev up for the Hydrodynamic braking and the hydrodynamic brake will produce a whining tone as the train is braked by the system.



# Axion PIS System

As built, Class 185s were fitted with a destination system called "Axion". This system controlled destination boards and on board automated PA announcements before being superseded.



To set up the Axion PIS system:

- 1) Enter the master key to power on the unit. The system will sequence the train to discover how many units are in the consist.
- 2) Once sequenced you are greeted at the main menu. To enter a route number from either the [Get Home codes](#) or full service codes, scroll to item 1 in the list or press "1" on the keypad and press "OK"
- 3) The system will now prompt you to enter a route code. Enter the correct route code for your destination and stopping pattern (Note : If you enter a route code not for your stopping pattern the PIS will not behave as expected)
- 4) Once you've entered a 4 digit route code, press "OK", the system will then attempt to activate the route code. If an invalid route code is entered, then an error will be displayed and you must press "Esc" to return back to the route code entry screen.
- 5) If you entered a valid route code, the system will display the final destination for that route.

From the main menu, the PIS can be set to "ON", "PAUSE" or "END" by navigating to item 2 and using the "F1", "F2" or "F3" keys. To clear an activate route code, enter route code "0000".

# Axion Codes

The Axion system has 2 different sets of destination codes. The main type used in normal operation contain information about the path and stopping pattern of the service, a list of these codes is detailed with the announcement system.

The other type of codes are known as "get home" codes and contain no path information, they simply make a destination display and disable any automated announcements. A list of these "get home" codes is detailed below. These codes can be typed into the unit number of AI services to configure the destination boards as detailed in the "Using the 185 in scenarios" section, later in the manual.

<b>8979</b>	Special Train	<b>9025</b>	Windermere	<b>9063</b>	Penrith
<b>8981</b>	Charter Train	<b>9027</b>	Grange-over-	<b>9065</b>	Carlisle
<b>8983</b>	Carstairs	<b>9029</b>	Barrow-in-Furness	<b>9067</b>	Lockerbie
<b>8987</b>	Wilmslow	<b>9031</b>	Man Victoria	<b>9069</b>	Motherwell
<b>8989</b>	Manchester	<b>9033</b>	Huddersfield	<b>9071</b>	Haymarket
<b>8997</b>	Preinst. aborted	<b>9035</b>	Leeds	<b>9073</b>	Glasgow Ctl
<b>8999</b>	Function:PAU	<b>9037</b>	Hull	<b>9075</b>	Edinburgh
<b>9001</b>	Man Piccadilly	<b>9039</b>	York	<b>9077</b>	Barton-on-Hum
<b>9003</b>	Man Airport	<b>9041</b>	Scarborough	<b>9079</b>	Chorley
<b>9005</b>	Liverpool Lime St	<b>9043</b>	Middlesbrough	<b>9081</b>	Malton
<b>9007</b>	Man Oxford Road	<b>9045</b>	Newcastle	<b>9083</b>	Arnside
<b>9009</b>	Sheffield	<b>9047</b>	Grimsby Town	<b>9085</b>	Liv Sth Pkwy
<b>9011</b>	Doncaster	<b>9049</b>	Scunthorpe	<b>9087</b>	Stalybridge
<b>9013</b>	Cleethorpes	<b>9051</b>	Hunts Cross	<b>9089</b>	Northallerton
<b>9015</b>	Preston	<b>9053</b>	Warrington Ctl	<b>9091</b>	Darlington
<b>9017</b>	Lancaster	<b>9055</b>	Bolton	<b>9093</b>	Thornaby
<b>9018</b>	Blackpool North	<b>9057</b>	Hazel Grove	<b>9997</b>	Empty to Depot
<b>9021</b>	Carnforth	<b>9059</b>	Selby	<b>9998</b>	Not in Service
<b>9023</b>	Oxenholme	<b>9061</b>	Bolton	<b>9999</b>	T.P.E.

# PIS System

During their most recent refurbishment, depicted in the “Stained Glass Refurb” variants, the Axion system was replaced with a newer touchscreen PIS.

Due to a train sim limitation, at the time of release this PIS system is NOT able to be simulated and as such a simple destination system that can be scrolled through with F7 and F8 is provided for this variant.

This system supports entering destinations via entering a code in the MOSL unit number (eg ;D=9071) where 9071 is the 4 digit destination code. A table of these codes is given below (Stained Glass Refurb Only)

<b>8983</b>	Greenfield	<b>9023</b>	Oxenholme	<b>9061</b>	Bolton
<b>8985</b>	Charter Train	<b>9025</b>	Windermere	<b>9063</b>	Penrith
<b>8987</b>	Wigan N Western	<b>9027</b>	Marsden	<b>9065</b>	Carlisle
<b>8989</b>	Manchester	<b>9029</b>	Barrow-in-Furness	<b>9067</b>	Lockerbie
<b>8991</b>	Saltburn	<b>9031</b>	Man Victoria	<b>9069</b>	Motherwell
<b>8993</b>	Special Train	<b>9033</b>	Huddersfield	<b>9071</b>	Haymarket
<b>8997</b>	Preinst. Aborted	<b>9035</b>	Leeds	<b>9073</b>	Glasgow
<b>8999</b>	Function:PAU	<b>9037</b>	Hull	<b>9075</b>	Edinburgh
<b>9001</b>	Man Piccadilly	<b>9039</b>	York	<b>9077</b>	Barton-on-Hum
<b>9003</b>	Man Airport	<b>9041</b>	Scarborough	<b>9079</b>	Leicester
<b>9005</b>	Liverpool	<b>9043</b>	Middlesbrough	<b>9081</b>	Malton
<b>9007</b>	Man Oxford Road	<b>9045</b>	Newcastle	<b>9083</b>	Derby
<b>9009</b>	Sheffield	<b>9047</b>	Grimsby Town	<b>9085</b>	Redcar Central
<b>9011</b>	Doncaster	<b>9049</b>	Scunthorpe	<b>9087</b>	Stalybridge
<b>9013</b>	Cleethorpes	<b>9051</b>	Northallerton	<b>9091</b>	Darlington
<b>9015</b>	Preston	<b>9053</b>	Wakefield Kirkg	<b>9093</b>	Thornaby
<b>9017</b>	Lancaster	<b>9055</b>	Bolton	<b>9997</b>	Empty to Depot
<b>9019</b>	Blackpool North	<b>9057</b>	Meadowhall	<b>9998</b>	Not In Service
<b>9021</b>	Eaglescliffe	<b>9059</b>	Selby	<b>9999</b>	TPE.

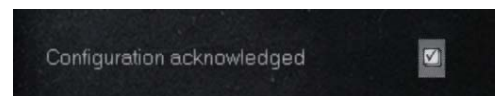
## Miscellanea

- ⇒ Stained Glass Refurb has the so called "High Intensity" headlight config where Day and Night settings light up both the main headlights and leave the marker lights off.
- ⇒ Tail lights switch off automatically when the headlights are on.
- ⇒ Hazard lights are only operational when Day or Night is selected and it uses the selected light.
- ⇒ Headlights don't cast light between Dusk and Dawn.
- ⇒ Horn increases in volume above 18mph.
- ⇒ Driver and Secondman wipers are out of sync with each other when in use as seen on the real units.
- ⇒ Driver model will automatically move to the driven cab.
- ⇒ If keyed in on a guard panel the doors will not automatically close, you will be required to close them manually.
- ⇒ If you close the doors manually from a guard panel, no guard buzzer will be issued as you have completed the guard's role yourself.
- ⇒ Acceleration will diminish at higher speeds requiring more throttle to maintain higher speeds.
- ⇒ To recover from and emergency brake application (this excludes interventions which have a cooldown like TPWS and AWS), the PBC must be moved to the Emergency position, moving away from it will then release the emergency brake.
- ⇒ Safety System Isolate lamp will illuminate when any safety system is isolated.

# Driving Instructions

How to get moving:

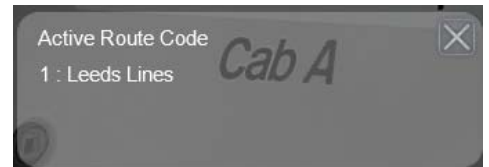
- ⇒ Turn the Master Key to on by clicking or using Shift + W
- ⇒ Move the Direction Switch to Neutral and Acknowledge the AWS Self Test
- ⇒ The TMS will boot to the pictured screen
- ⇒ First move the cursor to the right with highlighted button "A"
- ⇒ Then acknowledge the config by pressing button 1, highlighted as "B"
- ⇒ A tick will appear in the box aside "Configuration Acknowledged:"
- ⇒ Select the appropriate settings for you headlights with the headlight switch. **Note** - The tail lights will automatically turn off when you do this.
- ⇒ Move the Direction Switch to the desired direction of travel. **Note** - the DSD will now be active
- ⇒ Disable the DRA by pressing the DRA button or by using the keyboard shortcut key : "Y"
- ⇒ Now move the PBC to a power notch, the unit should take power. **Note** - Below 20mph power is limited to Notch 4, after this Full Power will be given



# Announcement Instructions

How to get announcements working :

- First of all, the **TS route number** must be set for the unit, this tells the unit what route it's currently on. This should **ALWAYS** be set in the unit number by the scenario creator and require no input (This is detailed in the "using in scenarios" section).
- If the number is not set or you're using Quick-Drive then you will need to scroll to the appropriate route using "HOME" and "END" keys. Messages will pop up on the right of the screen and keep going until you see the correct route.



Example Pop up ^

Setting a destination with correct info:

Next you will need to set the PIS system up

For Axion:

- Find the correct path (if not provided in the scenario brief or elsewhere) that suits your service in the "stopping pattern codes" document. Enter this code into the Axion as detail in the Axion section of the manual
- Once the route is activated, the announcements should work when the doors open.



In this system the "Get Home" codes are scrolled through code 1 - 59 as scrolling up, above this is the destination codes and they will show a message corresponding to whichever code they are -

60	9101	83	9146	106	9179
61	9101	84	9147	107	9180
62	9102	85	9148	108	9185
63	9103	86	9149	119	9190
64	9104	87	9150	110	9200
65	9110	88	9151	111	9201
66	9111	89	9152	112	9202
67	9112	90	9153	113	9203
68	9115	91	9154	114	9204
69	9116	92	9155	115	9210
70	9117	93	9156	116	9211
71	9118	94	9157	117	9212
72	9119	95	9158	118	9213
73	9125	96	9159	119	9214
74	9126	97	9160	120	9215
75	9127	98	9161	121	9220
76	9128	99	9162	122	9221
77	9129	100	9163	123	9222
78	9130	101	9168	124	9223
79	9133	102	9175	125	9224
80	9137	103	9176	126	9225
81	9138	104	9177	127	9230
82	9145	105	9178	128	9231

Larger pic in announcements manual ^

For Stained Glass Refurb:

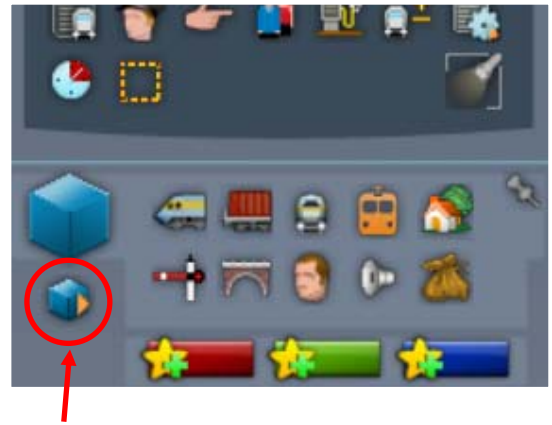
- Find the correct path (if not provided in the scenario brief or elsewhere) that suits your service. You will then need to consult the "announcement manual" to find what scrolling position this code corresponds to.
- Scroll to this using the F7/F8 keys.
- Once this is set, the system should be ready and will start once you open your doors.



# Using the 185 in scenarios

## Placing in scenarios

The 185 can be added to scenarios by first enabling it in the "Object Set Filter". This is the blue cube with the orange arrow pictured. From the flyout on the right hand side the 185 is under ATS / Class185. Ticking this will add it to your scenarios, you can then place the premade consists down.



## Unit Numbering

The 185 offers many features which can be set via the unit numbering. You will need to add these options to the correct carriage.

## MOSL Carriage Features

These features must be added to the number of the centre "MOSL" carriage and will apply to the whole train.



## TMS Date (;Date=xxxxxx)

This setting will set the date on the TMS. Without this the date is randomised. Example ;Date=210521 (date = 21st May 2021)

## Destination Set (;D=xxxx)

This setting will set the exterior destination on the unit according to the code lists provided above. Note - Stained Glass Refurb with it's new PIS system has a different set of destinations to every other variant. Example ;D=9071 (Destination code = 9071)

## Stained Glass Star Config (;S=x) (Stained Glass livery only)

This setting allows you to change the appearance of the star logo on the fronts of the unit. This is used because early Stained Glass units carried a white logo and others have often been seen without a logo at all. Example ;S=1 (Star config = 1)



Config 1



Config 2

Config 0 will give no star on the front

## Route Code (;R=xx)

This setting tells our announcement system what route you are running on and should be set for **EVERY SCENARIO** to ensure proper operation of the announcements. These should be input according to the provided table above. Example ;R=01 (Route Code = 01)

<b>00</b>	ATS Leeds Lines Merge	<b>12</b>	ATS WCML Missing Link
<b>01</b>	ATS Leeds Lines	<b>13</b>	DTG WCML Over Shap
<b>02</b>	ATS ECML Merge	<b>14</b>	DTG WCML North
<b>03</b>	CR York - Peterborough Modern	<b>15</b>	ATS WCML NW & Scotland
<b>04</b>	FullerSim South TPE	<b>16</b>	DPS Edinburgh Glasgow Extension
<b>05</b>	JT Newcastle Edinburgh	<b>17</b>	OTS Northern Lines
<b>06</b>	OTS Harrogate Loop V2		
<b>07</b>	DPS ECML North East		
<b>08</b>	DPS North East England		
<b>09</b>	PenninePacer Man to Huddersfield		
<b>10</b>	ATS Chat Moss		
<b>11</b>	DTG Liverpool Manchester		



## Driving Carriage Features (DMOCL or DMOSB)

These features must be added to the driving carriage in which you want the features to apply. These are applied to that carriage only. This is to allow functionality such as having a unique GSM-R headcode setup when changing ends.



### GSMR Number (;GSMR=xxxxxxx)

By adding this to the number you can set the desired headcode and signal number for the GSMR, setting this will cause any other configuration to fail and not connect. Example ;GSMR=1A26243 (headcode = 1A26 Signal = 243)

### NRN Number (;NRN=xxx)

Similar to the GSMR, this setting will set the area code for the NRN to connect to and by setting this, no other NRN area code will connect. Example ;NRN=243 (NRN area code = 243)

## Example Number

A config number might be for example :

In the MOSL : 185111;S=1;Date=210515;R=02

In the DMOCL : 185111;S=1;GSMR=1A26153

So breaking this number down give us :

- Train number is 185111
- Star config is config 1
- Date set to 21/01/15
- Route code is route 02
- GSMR will only connect with headcode 1A26 and signal number 153 in the DMOCL cab only.

Note : The Star Config and unit number is not strictly needed in the driving cars, it is just there because of the numbering files used, these features are sent from the MOSL outwards to the driving cars.

! Changing these (Star Config and Unit Number) on the driving carriages will not affect the train.

# Scenarios

## [ATS] 1P17: 07:54 Liverpool Lime Street - Newcastle

Route = ATS Chat Moss

Track Covered = Liverpool Lime Street - Manchester Victoria

Traction = 185116

Year = 2021

Duration = 45 Minutes

Author = Hayden Yates

Notes = See Additional documentation in Manuals/ATS/C185

## [ATS] 1E74 1412 Liverpool Lime St. - Newcastle

Route = ATS Chat Moss

Track Covered = Liverpool Lime Street - Manchester Victoria

Traction = 185131

Year = 2015

Duration = 40 Minutes

Author = Richard Fletcher

## [ATS] 1F61 0611 Newcastle - Liverpool Lime St.

Route = DTG Liverpool to Manchester

Track Covered = Manchester Piccadilly - Liverpool Lime Street

Traction = 185137

Year = 2011

Duration = 60 Minutes

Author = Richard Fletcher

## [ATS] 1M92 0840 Glasgow Ctl - Carlisle / 1M93 0821 Edinburgh - Manchester Airport

Route = DTG West Coast Mainline Over Shap

Track Covered = Gretna Junction to Carlisle/Carlisle to Preston

Traction = 185132 & 185115

Year = 2008

Duration = 90 Minutes

Author = Matt Carroll

# Credits

**Imbue Studios** - Modelling, Texturing and Animations

**Anthony Wood** - Sounds

**Alan Thomson** - Inspiration, Patience

**Mark Fox** - Scripting, Programming, External Plugin Development

**Ben Swift** - Scripting, Programming, Modelling and Animations

**Max Mortimer** - Sound Recordings

**Jake Fuller** - Sound Recordings

**Clowes** - Destinations, and Artwork for Special Liveries

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