TRAIN SIM WORLD: DB BR 182
DRIVER'S MANUAL

dovetail
GAMES

The full credit list can be accessed from the TSW "Options" menu.

Contents

Quick Start Guide: DB BR 182

1. Enter the required Cab.
2. Engage the Battery by holding it in the On position for 5 seconds.
3. Move the reverser to the Neutral position to activate the desk.
4. Wait for approximately 30 seconds for the Auxiliary Reservoir to charge (there is no gauge to indicate this).
5. Raise the pantograph.
6. Close the MCB.
7. Set the Air Compressor to On.
8. Wait for the main reservoir to reach a minimum of 4.8 bar.
9. Wait for the Brake Pipe pressure to rise.

Quick Start Guide: DB BR 767.2 DABpbzfa Control Car

The DABpbzfa control car is an unusual driving position in that the driver is in the end of a passenger coach that as no actual capability to move on its own. Instead, this control car will remotely control the locomotive situated at the other end of the consist.

Before beginning setup procedure for the control car, you should ensure that you have set up the locomotive ready to run and then deactivated its cab (which usually requires simply setting the reverser to Off).

Once the other loco is operational, return to the control car cab:

- Turn on the battery.
- Set tail lights/headlights (switch above the battery).
- Set 'Headlights and Instruments Light' switch to On.
- Set reverser to anything but 'Neutral'.
- Set 'Pantograph' lever to 'Raise'.
- Set 'Circuit Breaker' lever to 'Close'.
- Set 'TrainLinePower' lever to 'Start'.
- Set 'Coach Lights' to On/Off.
- Set 'Brake Key' to On.

As you now operate the throttle control, remember that the signals are being sent to the locomotive at the other end and it is responding to them so the way you will feel the reaction to your inputs will be slightly different and a little delayed.

When you set off from stationary, begin with a small amount of power applied and let it get you moving – once the control car is moving you can then start applying some more power. As you gain more confidence with the control car you will be more confident in when to apply power.

Brakes are applied from the control car itself, so they will react as you would expect if you were driving a locomotive.

Setting a Destination in the DB BR 182 & DB BR 767.2 DABpbzfa Control Car

Partial functionality of the FT95 unit has been implemented to permit destinations to be displayed on the external destination displays throughout the consist.

To set a destination, follow the steps below:

1. Locate the FT95 in the cabs of the DB BR 182 and DB BR 767.2 DABpbzfa vehicles (see below).
2. Press the up or down arrows to set the destination – the currently displayed destination will display in the LCD display of the FT95 unit.
3. To turn the display off, press the H button in the lower left of the unit.

Auto-Setting a Destination

The FT95 unit is capable of auto-setting a destination, which is based on the terminating station of the service in operation. Simply press the Service Destination button (see below).
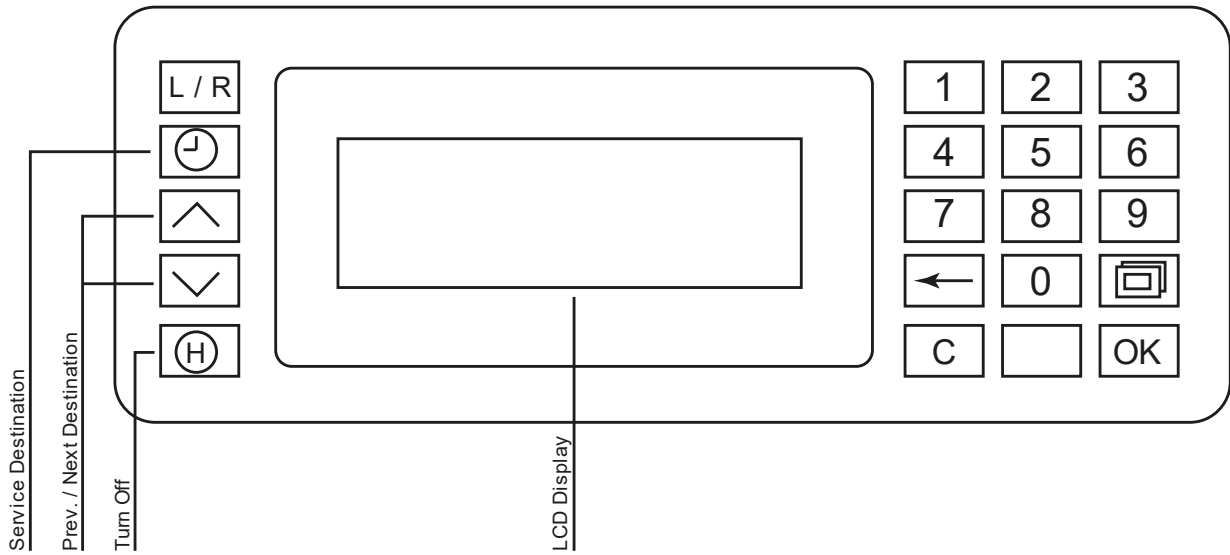
Passenger Door Controls

In Train Sim World, you can control the passenger entry and exit doors on each side independently i.e. either left side or right side. A simple method of control has been implemented for the included trains. Simply press the TAB key to call up the menu and select on which side of the train you wish to lock/unlock the doors.

You can also operate the doors from within the various cab desks. You should first operate the door side selector to ensure the correct side is selected (Left, Right or Both) and then use the white switch to Open or Close the doors on that side as required. There is a white switch on either side of the cab however that is for convenience, they will open the doors on the side indicated on the selector switch.

AFB (DB BR 182 Only)

AFB (Automatische Fahr-und Bremssteuerung) or "Automatic Driving and Braking Control" is a similar system to Cruise Control on a car. You set the speed you want the locomotive to maintain and it will use power or braking as required. Note: The driver always remains fully responsible for the locomotive even when AFB is enabled!

To turn AFB on there are two procedures depending on whether you are moving or not.

Enabling AFB While Stationary

1. Set the throttle control to zero.
2. Set the AFB Speed Selector control to zero.
3. Turn AFB on (CTRL-R, or operate the control under the desk to the left of your seat)

Enabling AFB While Moving

1. Set the throttle control to zero.
2. Set the AFB Speed Selector to its MAXIMUM setting.
3. Turn AFB on (CTRL-R, or operate the control under the desk to the left of your seat)

You can now select a speed and apply power as required. The locomotive will accelerate using the maximum power you select on the throttle until it reaches the speed selected on the AFB control.

Disabling AFB

1. Set the throttle control to zero.
2. Turn AFB off (CTRL-R, or operate the control under the desk to the left of your seat)
3. Set the AFB Speed Selector to zero.

Shunting Controls

There is a small panel next to the side windows in the cabs of both the BR 182 and the 767.2, these are used to drive the locomotive from that vantage point. This is useful whilst spotting or shunting moves that require visibility outside the window.

You can either operate the controls directly with the mouse, or if you open the nearby window and press E to look through it, keyboard and controller actions will start using the shunting controls directly.

Before you attempt to use the shunting controls, you must set up for shunting on the main desk:

1. Ensure the locomotive is set up with the pantograph up and MCB closed.
2. The master controller must be set in the direction you intend to travel.

Using the Shunting Controls:

1. Release the brakes.
2. Set the throttle to MIN.
3. On the shunting control panel, move the shunting control to the NEUTRAL position.
4. Press PZB Release.

You can now use the shunting control to increase or reduce traction and move the locomotive.

Having completed the setup for shunting control you can also now look through the window and use the keyboard or controller while you observe from a "head out" position.

Reference Section

Safety Systems: SIFA

SIFA is a straightforward Driver Vigilance Device and its purpose is simply to ensure that the driver is constantly aware of the train and is able to react and respond to the train in a timely manner.

Toggling SIFA on the DB BR 182

In the engine room, there is a SIFA control switch that can be operated to enable or disable SIFA. You can also use Shift + Enter on your keyboard to toggle SIFA on and off.

Toggling SIFA on the DB BR 767.2 Control Car

On the back wall of the cab there is a SIFA toggle switch that can be operated to the "I" position to enable SIFA and the "O" position to disable it. You can also use Shift + Enter on your keyboard to toggle SIFA on and off.

How to Use SIFA

Once activated, and the train is in motion, SIFA will trigger every 30 seconds. When it first triggers it will light the white "SIFA" indicator on the desk / display. If you do not respond to it by pressing the Q key on the keyboard, the B button on the Xbox Controller or the circle button on the PS4 controller, then after 2.5 seconds it will sound an alarm. Once this alarm sounds you have a further 2.5 seconds to acknowledge before the train will apply a full-service application of the brakes.

If you acknowledge after the brakes have applied, it will begin to release the brakes but be aware that it may take some time for them to fully release.

Safety Systems: PZB Quick Reference

Starting	System starts in restrictive monitoring. Limit to 45 km/h. Can Release when if there are no active 1000 Hz or 500 Hz magnets in the next 550 m.
When to Acknowledge	On passing Expect Reduced Speed, Expect Stop or any speed reduction warning below 100 km/h. How: Once you have passed the signal, press and release PZB Acknowledge.
When to Release	If 1000 Hz not lit, and no 1000 Hz or 500 Hz active magnets in next 550 meters
When to Override	On permission to proceed through a RED / STOP signal, must be below 40 km/h.
After an Emergency Stop	Stop, Press PZB Release, Reset Brakes and Throttle, then proceed as normal.

If 70/85 lights alternatively flashing, PZB Restricted mode applies, otherwise Normal Mode.

PZB Modes

Use appropriate speed chart from the following page based on the PZB Mode in operation (O, M, U). Use the following table to review which mode is in operation.
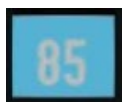
PZB Mode **O** (Obere)

Used for Passenger services
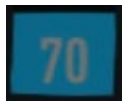
PZB Mode **M** (Mittlere)

Used for Freight Services with good braking
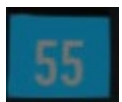
PZB Mode **U** (Untere)

Used for Heavy Freight Services

PZB Mode O - Normal

Max	1000 Hz	500 Hz Start	500 Hz Max
165 km/h	85 km/h within 23 sec	65 km/h	45 km/h within 153 m

PZB Mode O - Restricted

1000 Hz	500 Hz Start	500 Hz Max
45 km/h	45 km/h	25 km/h within 153 m

PZB Mode M - Normal

Max	1000 Hz	500 Hz Start	500 Hz Max
125 km/h	70 km/h within 29 sec	50 km/h	35 km/h within 153 m

PZB Mode M - Restricted

1000 Hz	500 Hz Start	500 Hz Max
45 km/h	25 km/h	25 km/h

PZB Mode U - Normal

Max	1000 Hz	500 Hz Start	500 Hz Max
105 km/h	55 km/h within 38 sec	40 km/h	25 km/h within 153 m

PZB Mode U - Restricted

1000 Hz	500 Hz Start	500 Hz Max
45 km/h	25 km/h	25 km/h

Safety Systems – PZB Overview

The PZB system is an advanced on-board cab signalling system used to enforce reductions of speed on approach to various situations on the track, whether that is adverse signals, speed reductions or something else. It works via three buttons on the cab desk (Acknowledge, Free and Override) and some visual displays on the desk or the display panels, depending on the locomotive / unit.

Toggling PZB on the DB BR 182

1. Select the correct PZB mode via the mode selector switch under the right-hand side of the desk (1).
2. Operate the PZB switch on the panel on the back wall of the cab (2). You can also use Ctrl + Enter on your keyboard to toggle PZB on and off.

Toggling PZB on the DB BR 767.2 Control Car

1. Select the correct PZB mode via the mode selector switch on the back panel near the window.
2. Operate the PZB breaker switch on the back panel (or press Ctrl + Enter on your Keyboard).

How to Use PZB

PZB can be daunting when you first get started but it is extremely rewarding and fun once you get the hang of it. Included in this manual is a PZB Quick Reference which will be handy to have by your side (perhaps printed, or on a mobile device while you drive) until the system begins to become second nature. Start by learning the signals and then turn PZB on. It is recommended that you do not try to learn PZB and SIFA at the same time.

Setting Up

Before you start, you should check to make sure you are in the correct PZB mode. PZB has three different modes designed for essentially passenger, freight and heavy freight trains (it's normally determined by the braking ability of the train). Use the PZB Mode table in the quick reference to determine the correct mode. For our examples, we'll be using PZB Mode O for a passenger train. Ensure that PZB is disabled when you change this and then enabled once you have finished choosing the correct mode.

Starting Off

Once PZB is activated, the system will switch to its Start Program once your loco is in motion. The system is displayed on the centre Multi-Function Display (MFD) with alternating flashing 70/85 (if in PZB Mode O) indicators (which is also replicated on the HUD). Additionally, a yellow text announcement "v-Überwachung 45 km/h" is also displayed on the centre MFD. While these are alternating you should adhere to a speed limit of max 45 km/h (though most drivers will stick to 40 km/h to allow a 5 km/h margin for error in the calibration of speed measuring equipment). You can either let this expire naturally OR if you are sure you have green signals, no speed restrictions and or no signals at all in the next 550 meters then you can press the Keyboard END / PZB Free button to release from the start programme early. To do this with a controller simply look at the PZB Free button on the desk and activate it.

Once released from the Start Programme you will be able to drive according to the max permissible speed under the given PZB mode and the line speed, whichever is lower.

Reacting to the Route

As you drive you will be faced with signals and speed restrictions, and it is important that you understand how you must react to these. As you get to (or near) these, devices next to the rails will send a pulse to the train and it's your job to predict this and react accordingly.

It is good practice not to run right up to your speed restrictions when PZB is monitoring, drivers will generally run around 5 km/h under the PZB monitored limit to allow for any calibration or calculation errors in any of the equipment.

In our first example we'll be driving along, and we are faced with the signal on the left.

From a PZB perspective the most essential information here is that the distant is showing an Expect Slow aspect with an indicated 50 km/h speed at the next main signal. This signal requires PZB reaction to proceed.

After we have passed this signal, press and release the PZB Acknowledge button (Page Down on the keyboard, B on the Xbox Controller, Circle on the PS4 controller) and the on-board PZB system should now show 1000 Hz indicator in the cab and on the HUD.

If you now refer to the PZB Mode Tables from the Quick Reference, you can see that we must now reduce speed to 85 km/h within 23 seconds.

This is the only intervention PZB will have, it is now your responsibility to further reduce speed to meet the 50 km/h permitted speed by the next main signal.

In this example we are approaching a signal which has an Expect Stop distant aspect. This tells us crucially that the next main signal is a Stop aspect and we must not proceed past it.

After we have passed this signal, press and release the PZB Acknowledge button (Page Down on the keyboard, B on the Xbox Controller, Circle on the PS4 controller) and the on-board PZB system should now show 1000 Hz indicator in the cab and on the HUD.

If you now refer to the PZB Mode Tables from the Quick Reference, you can see that we must now reduce speed to 85 km/h within 23 seconds.

Assuming the next signal remains at a Stop aspect you must now prepare to meet the 500 Hz magnet on the track. Again, referring to the table this requires that you are going no faster than 65 km/h at the exact moment you hit the 500 Hz magnet and then once you do, you have 153 meters in which to further reduce your speed to 45 km/h.

Once you go over the 500 Hz magnet you will see the 500 Hz indicator appear on the desk and HUD – you do not need to acknowledge this, but you must obey the speed restrictions.

Once you have met the 500 Hz restrictions, your only task is to ensure that you now successfully stop before the red signal.

These aren't the only two times that you will need to use PZB, but they do form the most frequent situations that require PZB intervention.

Speed restrictions often also require a PZB acknowledgement, however the rules for this can be trickier to understand and remember for the new driver. The simplest rule and indeed one that is used by many drivers on a day to day basis is simply to acknowledge any speed restriction showing less than 100 km/h limit and then if the 1000 Hz activates make sure that you can respond with the appropriate speed reductions according to the table in the quick reference section.

Restricted Monitoring

While under 1000 Hz or 500 Hz, if you travel below 10 km/h for 15 seconds or more or come to a complete stop then the PZB system will switch in to Restrictive Monitoring. At this point the speed limits enforced change and you should use the Restrictive Monitoring speed tables from the quick reference sheet.

It is possible to release from Restricted Monitoring if neither of the 1000 Hz or 500 Hz indicators are lit and you are confident that there are no active 1000 Hz or 500 Hz active magnets ahead within 550 m, you can do this with the PZB Free or END key on the keyboard. On the controller you will need to access the button on the desk directly.

Overspeed

If in the normal course of driving you exceed the main PZB speed limit for the mode you are operating under (i.e. when not under any restrictions), the PZB system will apply a full-service application to bring you back within the speed limit.

This brake application will begin releasing as soon as the train is below the correct speed limit however as it is full service, it's likely the train will slow considerably before the brakes are fully released.

For example, if you are in PZB Mode O and exceed 165 km/h you will get a warning indicator showing a "G" indicating you are exceeding the maximum allowed speed, after a few seconds the brakes will apply and slow the train. Once the train is below 165 km/h the brakes will begin releasing but you may be as low as 60 or 70km/h before they have fully released.

Handling an Emergency Brake Application

Should you make an error while interacting with PZB it may result in the train sounding alarms and applying emergency brakes. If this happens:

- Wait for the train to come to a complete stop
- Press END on the keyboard or activate the PZB Free button to cancel the alarms
- Apply the brake handle and move the throttle handle to zero if it isn't already
- Release the brakes and continue as normal.

Note that you will likely now be in Restricted Monitoring with an appropriate speed restriction and will need to observe that and decide whether you are able to release safely, if not, continue under the restriction until it releases naturally.

Also, be aware of the cause of the braking, for example, if you are approaching a red light or a speed reduction you should act accordingly.

Default English Keyboard & Other Controls

Name	Keyboard		Controller	
	Increase / Press	Decrease	Increase / Press	Decrease
Throttle in BR 182 & BR 767.2	A	D	Right Trigger	Right Bumper
Reverser	W	S	Left Stick Up	Left Stick Down
Auto Brake	Apostrophe	Semi-Colon	Left Trigger	Left Bumper
Headlights	H	Shift + H	Hold D-Pad Right Also: Tap D-Pad Right to cycle headlight settings	Hold D-Pad Right
High Horn	Space		Left Stick Click	
Low Horn	N			
Master Switch	CTRL + W			
SIFA Reset	Q		B Button	
Sander	X			
Cab Light	L	Shift + L		
Handbrake	\	Shift + \		
Emergency Brake	Backspace			
Wipers	V	Shift + V	D-Pad Up	
Toggle SIFA	Shift + Enter			
Toggle PZB	Ctrl + Enter			
PZB Acknowledge	Page Down		B Button	
PZB Release	End			
PZB Override	Del			
Activate AFB in BR 182 & BR 767.2	Ctrl + R			
AFB Speed Set	R	F		
Torch (When Walking)	L			

Note: the above keys can be redefined in the in-game settings menu.

Controlling the Camera & Camera Modes

Train Sim World includes several cameras for you to control, here's an outline of those cameras and some examples of use:

1 Key -   First Person Camera or Cab Camera

Use this camera to operate your locomotive, flip switches and handle all your cab controls.

2 Key -   Boom Camera

Just like the camera from Train Simulator, your camera extends outward on an invisible pole, you can rotate it around your focussed vehicle. Use Ctrl and the left & right cursor keys to switch between vehicles or press the 2 key again to switch between the front and rear of your consist.

3 Key -   Floating Camera

A new camera that allows you to freely look in all directions, useful for coupling and changing switches. Press it once to view the front of your consist and again to view the rear. Freely move your view using the cursor keys.

8 Key -   Free Camera

Freely move around without limits using this camera. Use this camera to navigate your way around a busy yard, change switches or position it to get the perfect screenshot.

Customising the HUD

Train Sim World includes many options for you to customise the Head Up Display (HUD):

CTRL+1   Toggles the in-world objective marker.

CTRL+2   Toggles the in-world next speed limit marker.

CTRL+3   Toggles the in-world next signal marker.

CTRL+4   Cycles the next speed limit / signal information panel in top right.

CTRL+5   Toggles the speedometer panel (or clock/compass while walking).

CTRL+6   Toggles the score display.

CTRL+7   Toggles the passenger stop marker on the track.

CTRL+8   Cycles the centre dot transparency (off, 50/50, white).

Dovetail Live Account

The Dovetail Forums are your one-stop destination for everything Train Simulator and Train Sim World related. We have an ever-growing and vibrant community of train enthusiasts from all over the world, ranging from experienced railroad veterans to new players getting into the world of train simulation. So, if you haven't already, why not sign up for an account today and join our community – we'd love to have you on board!

See more at: **https://forums.dovetailgames.com**

Dovetail Live is an online destination which enables players to interact with Dovetail's products and each other in an environment tailored specifically to fans of simulation entertainment. Dovetail Live will evolve to become central to Train Sim World®, enriching the player experience in every way from offering rewards, building a community of like-minded players and helping every player find the right content to create their own perfect personal experience.

Signing up for Dovetail Live is completely voluntary. However, users that do sign up for it will receive exclusive benefits in the future.

See more at: **https://live.dovetailgames.com**

Troubleshooting Guide & How to Get Support

I have a problem downloading the Steam client, how do I contact them?

You can contact Steam Support by opening a customer service ticket at support.steampowered.com/newticket.php. You will need to create a unique support account to submit a ticket (your Steam account will not work on this page) and this will enable you to track and respond to any tickets you open with Steam.

How do I install any secondary programs that the game may need?

Train Simulator World requires certain secondary programs to operate properly. These are standard programs that most up-to-date computers already have installed on them, such as DirectX. These programs can be found at the following location: Local Disk (C:) > Program Files (x86) > Steam > SteamApps > common > TSW > CommonRedist

How do I change the language of TSW?

This is an easy process and will allow you to play Train Sim World in English, French, German, Spanish, Russian and Simplified Chinese. To change the language of Train Sim World, right-click on the Steam icon on your PC desktop, left click on 'Library', right click on 'Train Sim World', left click on 'Properties', and finally left click on the Language tab and select your preferred language.

How do I reset my display screen size settings?

It is possible to change the display screen size settings for Train Sim World from within the game. Changing display screen size settings is done from the Settings menu in the Display tab.

For any questions not covered here, visit our knowledgebase at
https://dovetailgames.kayako.com