



Inselbahn

Stralsund to Sassnitz

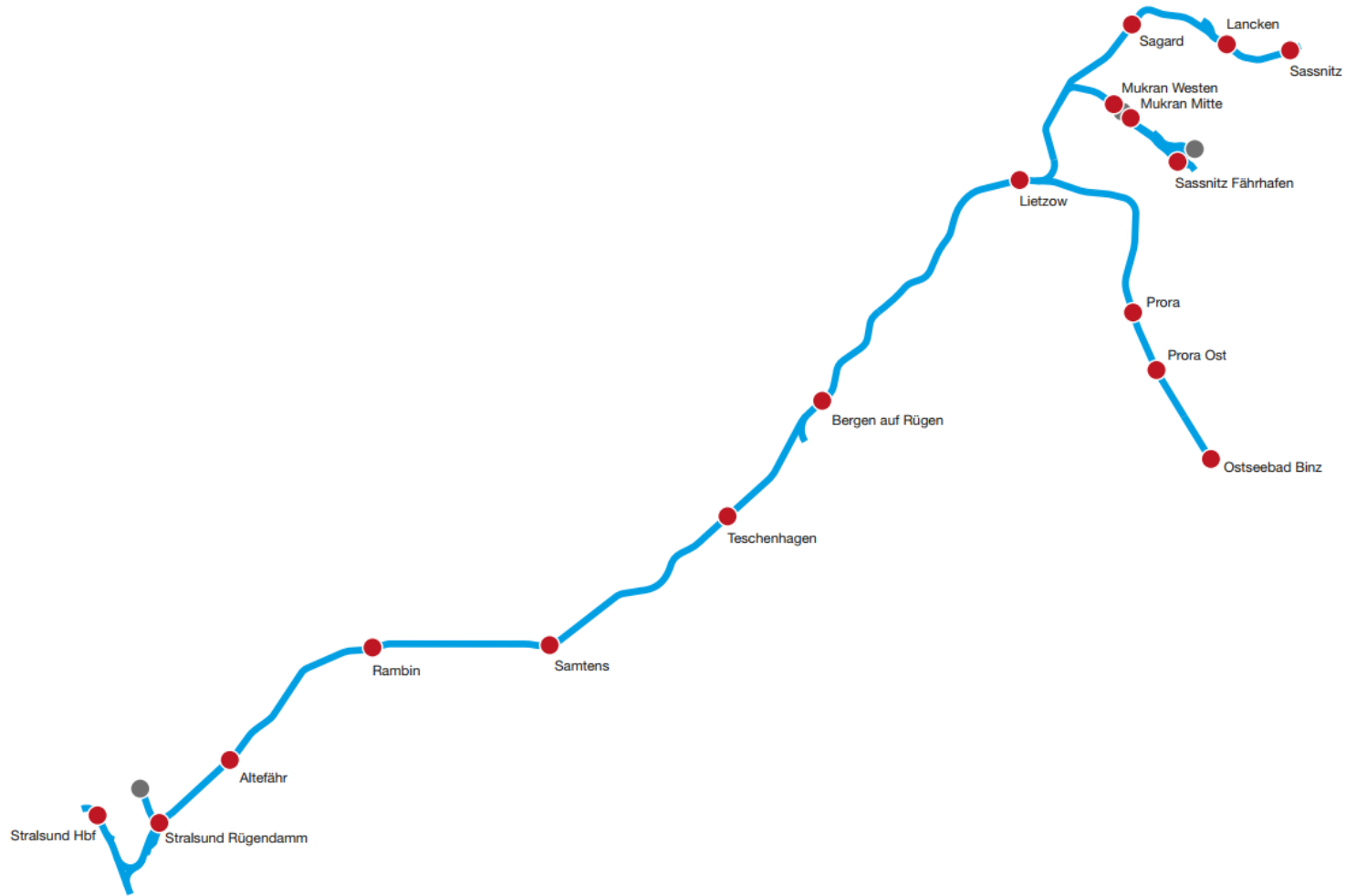


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Whilst we do our utmost to reproduce sounds that are accurate and true-to-life, sometimes these sounds may not completely tally with the user's expectation. Due to the nature of the simulation, it is often not possible to reproduce a completely accurate soundscape for a variety of reasons such as limitations with our current technology and occasional inability to gain meaningful access to the locomotives being created. You should therefore regard the audio reproduction for our locomotives as authentic interpretations rather than perfect recreations.

1 Route Map



2 Rolling Stock

DB BR 120



DB BR 143



DB BR 155



3 Driving the DB BR 120

Cab Controls



1	Ammeter Dial	10	Reverser
2	Voltage Dial	11	Headlights
3	PZB Override	12	Sander
4	PZB Free	13	Direct Brake Release
5	PZB Acknowledge	14	Signal Dimmer
6	Pantograph	15	Instrument Lights
7	Circuit Breaker	16	Cab Lights
8	AFB Lever	17	Traction Dial
9	Throttle		



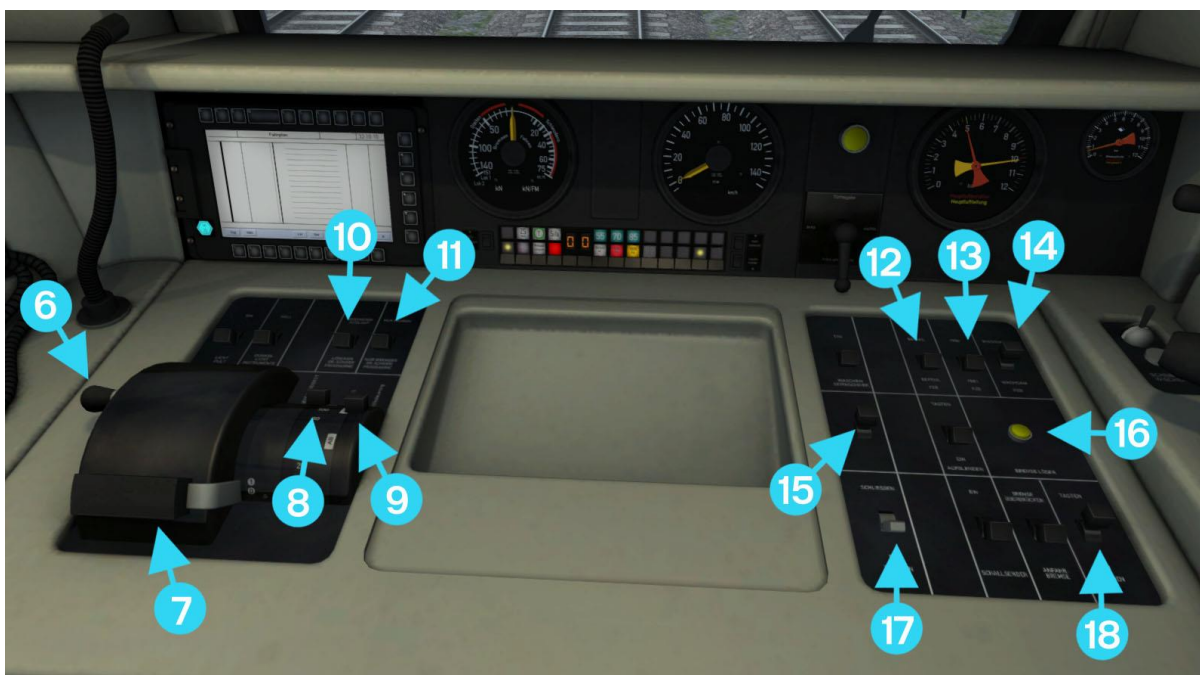
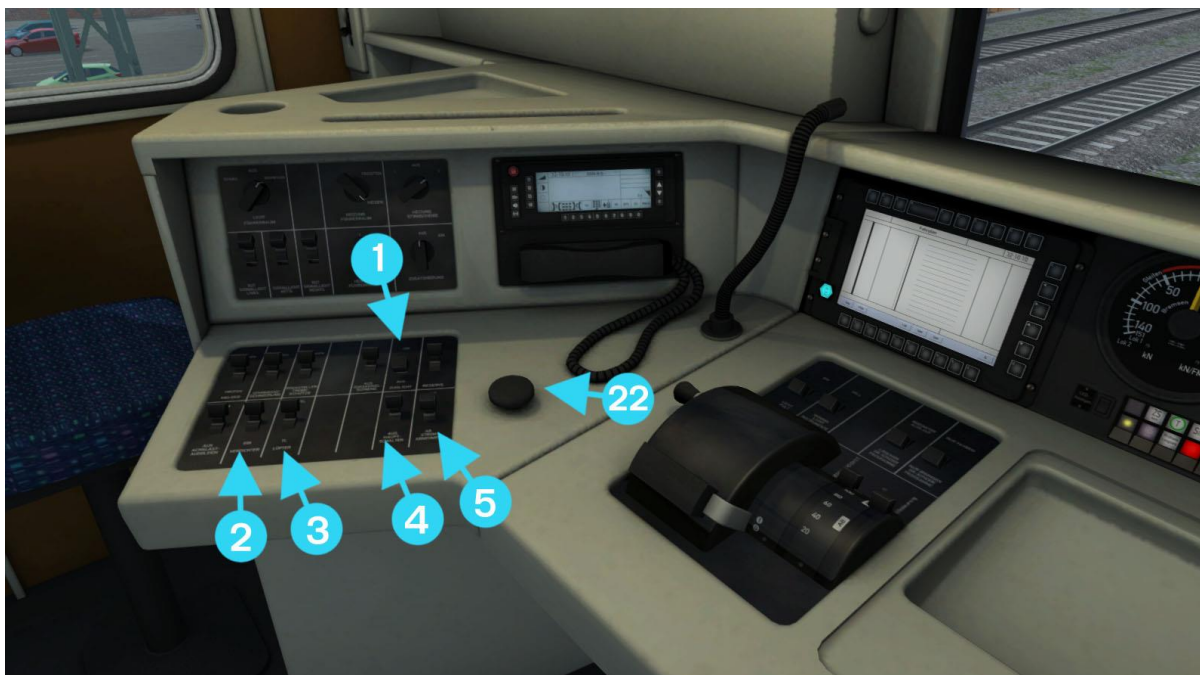
18	LZB Distance Bar	23	Direct Brake
19	Speedometer	24	Electric Brake
20	Main Reservoir Dial	25	Train Brake
21	Brake Pressure Dial	26	Wipers
22	Manometer	27	Emergency Brake

Key Layout

Function	Key	Key
Increase or Decrease Throttle.	A	D
Move reverser control Forward or Backward.	W	S
Increase or Decrease Train Brake.	;	'
Increase or Decrease Direct Brake.	[]
Increase or Decrease Electric Brake.	,	.
Load/Unload. Press once to load/unload passengers or freight.		T
Headlights. Repeatedly pressing will cycle through headlight states where appropriate.		H
Windscreen Wipers. Press once to switch on and again to switch off.		V
(Expert) Engine Stop/Start. By default, engines will already be running at the start of a scenario. Press this button to stop and then again to restart the engine.		Z
(Expert) Sander. Causes sand to be laid on the rails next to the wheels to assist with adhesion. Press and hold to activate sander, let go to stop.		X
Horn. Press once to sound the Horn.		Space
Horn. Press once to sound the Horn.		B
Handbrake. Press to toggle the train Handbrake on and off.		/
Cab Lights. Toggle the Cab lights on and off.		L
Pantograph. Raise and lower the selected pantograph.		P
Pantograph Selection. Cycle through the pantographs.	Shift +	P
Couple manually.	Ctrl + Shift +	C

4 Driving the DB BR 143

Cab Controls





1	Headlights	12	PZB Override
2	Compressor	13	PZB Free
3	Traction Blower	14	PZB Acknowledge
4	Circuit Breaker	15	Horn
5	Pantograph	16	Brake Release
6	Reverser	17	Close Doors
7	Throttle	18	Sander
8	Power Limiter	19	Direct Brake
9	Manual Tap Control	20	Wipers
10	Rundown / Cancel	21	Train Brake
11	Auto Drive / Brake Only	22	Sifa Reset

Key Layout

Function	Key	Key
Increase / Decrease the Power Selector.	A	D
Increase / Decrease the Reverser.	W	S
Increase / Decrease the Train Brake.	'	;
Increase / Decrease the Locomotive Brake.	[]
Increase / Decrease Manual Tap Selection	E	Shift + E
Load/Unload. Press once to load/unload passengers or freight.		T
Close Doors. Manually close passenger doors.	Ctrl +	T
Manual Door Control. Toggle Manual passenger doors control.	Ctrl + Shift +	T
Lights. Repeatedly pressing will cycle through headlight states.		H
Cab Lights. Press to cycle cab lights on and off		L
Instrument Lights. Press to cycle instrument lights on and off		I
Pantograph. Raise or Lower the selected pantograph		P
Pantograph Select. Cycle Pantograph Selection on this unit.	Ctrl +	P
Pantograph Select. Cycle Pantograph select on second unit.	Ctrl + Shift +	P
(Expert) Sander. Toggle sand to be laid on the rails next to the wheels to assist with adhesion.		X
Whistle. Sound the locomotive whistle.		Space
Handbrake On/Off. This icon is displayed in the Coupling view		/
Sifa. Toggle the Sifa safety system On / Off	Shift +	Numpad Enter
Sifa Reset. Reset the Sifa safety system.	Q	Numpad Enter
PZB. Cycle PZB signalling system modes.	Ctrl +	Numpad Enter
Destination Selection. Cycle destination displays on the passenger coaches.	Ctrl + Shift + 5	Ctrl + Shift + 6
Couple Manually.	Ctrl + Shift +	C
Request authority to pass a signal at danger.	Tab	Ctrl + Tab

5 DB BR 143 Operation

Pantograph Controls

There are three pantograph configurations available for the BR143; front pantograph only, rear pantograph only or both pantographs together. Cycle through the options by pressing Ctrl-P and a message will appear on screen confirming the pantograph configuration selected.

The pantographs on a coupled BR143 for double-headed trains may be controlled in a similar way by pressing Ctrl-Shift-P.

To raise the pantograph(s) the locomotive must have the reverser set to either the forward or reverse position. Pressing P will then raise the pantograph(s) selected above. If a pantograph is already raised, pressing P will lower it and a second press will raise the desired configuration. The HUD button and in-cab control (5) operate in the same way.

Tap Changer

The power of the BR143 is controlled by way of a tap changer which may be controlled either manually or automatically.

The first notch of the throttle lever puts the tap changer into Manual mode. All other notches of the throttle correspond to a speed setting for the Autodrive function and power will be automatically regulated. (see Autodrive Function below)

When in Manual mode, power can be increased or decreased on tap at a time by using the Manual Tap Control (9). Push forwards and release to change up one tap or hold until the locomotive tap display (alongside the PZB lights) corresponds to the power required. Pull back and release to change down one tap or hold until the tap display shows the desired setting.

When pushed forwards the Rundown/Cancel lever (10) will quickly run down through the taps until zero is reached. If this feature is used power may no longer be applied using the Manual Tap Control until the Rundown/Cancel lever has been pulled back to the 'Cancel' position. Setting the throttle to an automatic tap position will automatically cancel the rundown function.

Tap Changer Reset

Should an overload cause the tap changer to trip, it can be reset by returning the throttle to the Off position and the reverser lever to Neutral.

Power Limiter

Maximum power output can be restricted by use of the power limiter. By default this is set to 100% and this can be reduced by pulling the lever forwards. The limitation will remain active until the throttle lever is moved regardless of Power Limiter Lever (8) position.

Brake Release Switch (16):

Pressing the brake release switch will release brake pressure for the duration of the button press. Please note that any additional brake application made will be proportionally less effective and this will apply until the brake lever has been moved into the Release position.

Autodrive Function:

The BR143 Autodrive function is capable of providing either power to the locomotive or braking the train to maintain a chosen speed but not both at the same time. Use the Autodrive/Brake Only lever (11) to select which mode is operational. Pushing the lever towards the front of the locomotive will set Drive Only and pulling the lever towards the driver will set Brake Only mode.

Changing the position of the Throttle (7) will cancel the current Autodrive function and it will be automatically re-set to correspond with the new throttle position speed.

Manual Door Control

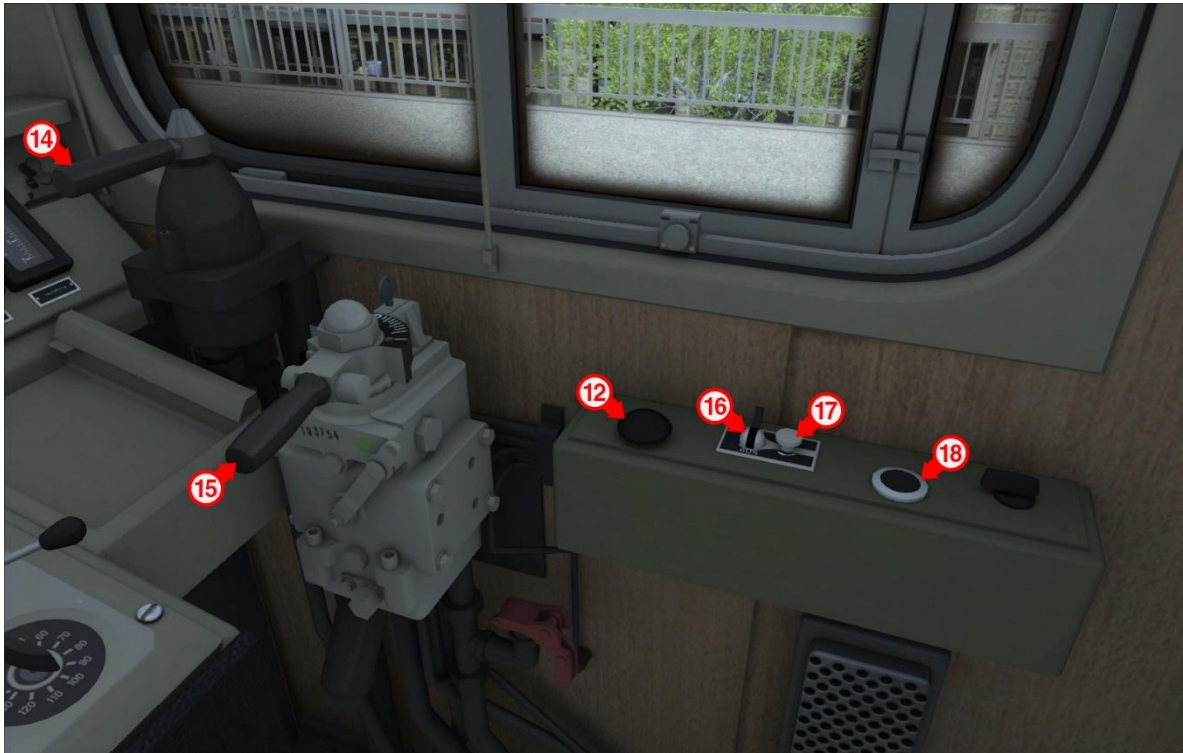
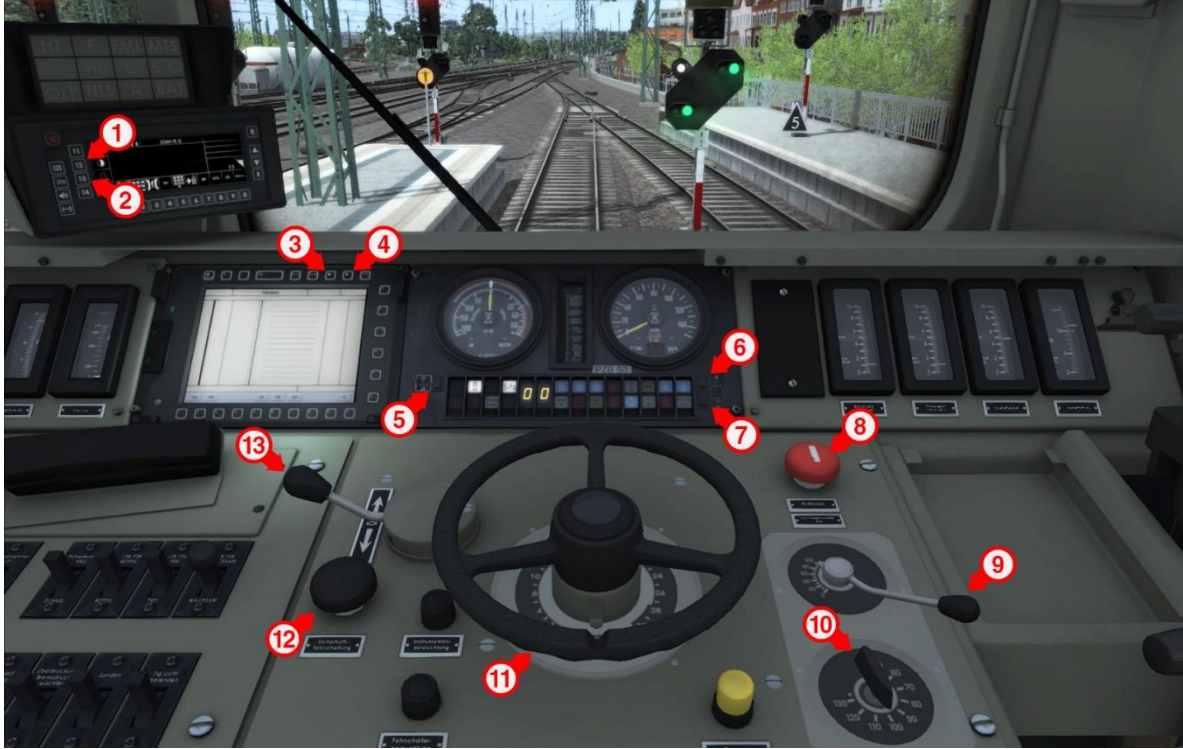
To enable or disable manual door control press Ctrl-Shift-T. A message will appear on screen confirming the selection.

Open the doors at stations in the usual manner, either by pressing T or using the Load/Unload button on the HUD.

The doors will not automatically close at the end of the passenger pickup timer and should be closed manually by pressing Ctrl-T.

6 Driving the DB BR 155

Cab Controls



1	GSMR Screen Invert	10	Power Selector
2	GSMR Button Backlight	11	Tap Control
3	EBula Button Backlight	12	Sifa Reset
4	EBula Screen Invert	13	Reverser
5	LED Test	14	Direct Brake
6	Dial Lights	15	Train Brake
7	LZB Test	16	Wipers
8	Emergency Brake	17	Wiper Speed
9	Electric Brake Power	18	Horn



19	Cab Heating	26	Sander
20	Instrument Lights	27	PZB/LZB Acknowledge
21	Cab Light	28	PZB/LZB Free
22	Headlights	29	PZB/LZB Override
23	Train Heating	30	Pantograph
24	Traction Motor Blower	31	Circuit Breaker
25	Handbrake	32	Main Battery

Key Layout

Function	Key	Key
Increase or Decrease Tap Control.	A	D
Move reverser control Forward or Backward.	W	S
Increase or Decrease Train Brake.	;	'
Increase or Decrease Direct Brake.	[]
Increase or Decrease Electric Brake Power.	,	.
Load/Unload. Press once to load/unload passengers or freight.		T
(Expert) Sander. Causes sand to be laid on the rails next to the wheels to assist with adhesion. Press and hold to activate sander, let go to stop.		X
Headlights. Repeatedly pressing will cycle through headlight states where appropriate.		H
Windscreen Wipers. Press once to switch on and again to switch off.		V
Windscreen Wipers Speed. Increase and decrease the windscreen wiper speed.	Ctrl + V	Ctrl + Shift + V
(Expert) Circuit Breaker. Trips the Circuit Breaker on and off.		Z
(Expert) Main Battery. Turns the loco main battery on or off.	Ctrl +	Z
Horn. Press once to sound the Horn.		Space
Handbrake. Press to toggle the train Handbrake on and off.		/
Cab Lights. Toggle the Cab lights on and off.		L
Instrument Lights. Toggle all Instrument Lights		I
Toggle dial lights.	Ctrl +	I
Toggle desk lights.	Shift +	I
Pantograph. Raise and lower the selected pantograph.		P
Pantograph Selection. Cycle through the pantographs.	Shift +	P
Couple manually.	Ctrl + Shift +	C

7 DB BR 155 Operation

Warning Display



FML	Traction Motor Blower On	MTS	Circuit Breaker (Amperage Overload)
IS	Tap Changer Fault	S-G	Wheel Slip
HLL	Emergency Brake	BAT	Main Battery Off

Semi-Automatic Tap Changer

Rather than using a standard throttle, the BR155 uses a control mechanism called a “Tap Changer”. This control allows the driver to set the desired amount of power for the loco based on ‘tap notches’, which the system then slowly runs up or down to in order to achieve driving force.

There are 34 notches on the tap changer control, 0 – 30 are used to set the targeted tap position. Below 0 there are 3 more notches, ‘Run Up’, ‘Hold’ and ‘Run Down’. The run up and down notches automatically increase or decrease the selected tap notch, whilst the hold notch maintains the currently selected tap. The current tap is indicated by the digital readout on the dash amongst the LED display lights.

It takes about 1/3rd of a second to change from one tap position to the next. In order to run up from 0 to 30, or down from 30 to 0, it takes approximately 9.6 seconds in total. This means that even if the driver has selected notch ‘0’ on the Tap Control, there is still driving power being applied until the tap changer reaches the ‘0’ position.

Tap Changer Fault

The Tap changer can trigger faults under certain circumstances, which cause power to be lost and for the fault to need resetting before power can be re-applied.

The various circumstances in which a tap changer fault can be triggered are as follows:

Electric Brake application - if the electric brake is applied whilst the tap changer is above tap position '0'.

Emergency Brake application - if at any point the emergency brake is applied, this will cause the Electric Brake to be applied, which will trigger a fault. The emergency brake will remain active until the loco comes to a stand-still, at which point the fault can be reset.

Quick Throttle Off - if the reverser is set to neutral whilst the tap changer is above tap position '0'. This fault is sometimes purposefully triggered and referred to as 'quick throttle off'. This will immediately stop power being applied to the loco, rather than waiting for the tap control to run down to the '0' position.

Amperage Overload - if the power being applied to the traction motors exceeds 450amps for more than a few seconds. This will cause the Circuit Breaker to trip as well, which will also need resetting before power can be applied.

To reset the Tap Changer Fault, the Tap Changer must be run down to tap '0' the Tap Control must be set to notch '0' and the Reverser must be set to neutral position. If the Circuit Breaker has also been tripped, then it will also need restarting. The Circuit Breaker reset is keyboard 'Z' or the 'Engine Start' button on the HUD, or the 'Circuit Breaker' control switch in the cab.

Train and Electric Brake

The Electric Brake (Dynamic Brake) in the BR155 is paired with the Train Brake lever in the cab and is not able to be operated independently. At and below 20km/h only the air brake is operated through the Train Brake control lever, above 20km/h up to 120km/h the air and electric brakes blend, phasing from air to electric the faster speed the loco is travelling. Above 120km/h only the dynamic brake is in operation.

The maximum amount of power able to be applied to the electric brake can be selected with the Electric Brake Power control, if this is set to 0% then the electric brake will not be applied at all. This can be useful when needing to apply the brakes before the tap changer has reached position '0' in order to avoid a tap changer fault.

Power Selector

There is another control on the driver's desk that allows modulating the amount of power applied to the traction motors. This control allows the reduction or increase of maximum power by 50 – 130%. This control is commonly used to regulate the power when pulling heavy freight consists.

Setting the Power Selector above 100% for an extended amount of time can be dangerous as it will lead to an excessive amount of power being applied to the traction motors which can cause them to overload.

8 SIFA

SIFA is short for Sicherheitsfahrerschaltung or “Safety Driving Switch”.

The SIFA vigilance alerter is disabled at startup, but can be activated or deactivated by pressing ‘Shift+Enter (Numpad)’. While activated the SIFA light on the cab dashboard is normally switched off. While the train is moving the driver is required to confirm an alarm every 30 seconds.

When the 30 second alarm is triggered the SIFA light on the cab dashboard will illuminate, after an additional 4 seconds an audible alert will sound. After a further 2.5 seconds the emergency brake will be applied. This can be avoided by acknowledging the alarm at any stage by pressing the ‘Enter (Numpad)’ key.

SIFA Key Controls

Function	Key	Key
Activate/Deactivate	Shift +	Enter (Numpad)
Alarm Acknowledge		Enter (Numpad)

9 PZB

PZB stands for Punktförmige Zugbeeinflussung, loosely translated to English this means “Spotwise Train Control”.

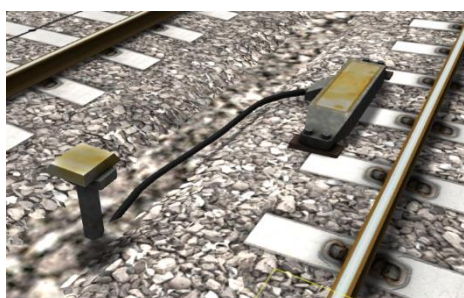
Safe distances between trains are managed conventionally through the use of block-based systems.

A given line is broken up into a series of blocks, and trains are permitted (via green or yellow) signals to enter a block. While a train is present in a block the signal permitting entry is set to red, preventing any more trains to enter.

As railways have developed, more complex control systems and in-cab signalling have been implemented to improve the safety of the railways and to ensure that drivers are fully aware of what is happening around them by requiring them to react in certain ways according to what is happening.

PZB is a complex system and requires that you understand the varying speed limits and the requirement to respond promptly to the signalling system.

PZB Track Interface



The PZB system incorporates in-cab signalling, this is where the control desk has indicators, alarms and buttons that will react according to the signalling status on the railway. The mechanism by which this works is a series of “balise” magnets placed on the side of the track. An example of one of these magnets is shown in the image on the left.

PZB Cab Controls

There are also three controls on the cab desk that you will need to use in order to interact with the PZB system.

These three controls, to the left of the control desk, item 2 in the cab control diagram above, are named as follows:

- **Override**
- **Release**
- **Acknowledge**

PZB Key Controls

Function	Key	Key
Activate/Deactivate	Ctrl +	Enter (Numpad)
Acknowledge		Page Down
Release		End
Override		Del

10 Scenarios

Career Scenarios

- [143] 1. On The Double
- [143] 2. An Evening Service
- [143] 3. Bring Your Umbrella!
- [120] 4. Out of the Big Station
- [143] 5. Frosty Challenge
- [155] 6. Northbound Freight
- [155] 7. Important Cargo

Railfan Mode Scenarios

Railfan Mode provides a unique chance to observe and enjoy the operations of trains without the pressure and involvement of driving them. Railfan Mode scenarios are positioned at various key points along the route and provide camera functionality to sit back and watch the action unfold.

The following scenarios are located on the Drive screen under the **Career** tab:

- [RailFanMode] Bergen auf Rügen
- [RailFanMode] Lietzow

The following scenarios are located on the Drive screen under the **Standard** tab:

- [RailFanMode] Altefährr

11 Acknowledgements

Dovetail Games would like to thank the following people for their contribution to the development of Inselbahn: Stralsund to Sassnitz:

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Stuart Galbraith

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Dan Barnett

Route Builder

Dovetail Games Beta Testing Team

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