

We want to thank you for buying this product from virtualRailroads!

This package contains vehicles with additional capabilities and features that will challenge even experienced drivers!

For you as the loco driver there are a lot of advanced features and operational capabilities to enjoy. The loco is designed to function as much as possible like its prototype in the real world.

Important: You can drive the vehicles in this package only in EXPERT Mode and you can't use the F4 (HUD) driver controls.

Please read this manual carefully to have as much fun as possible with these vehicles!



BDnrzf



BR143

1. Getting Ready

There are different ways of driving the units supplied in this pack depending on how they are being used and in what combination.

- If you're driving the BR143 (with or without the BDnrzf on the back) then driving is standard.
- If you're driving the BDnrzf with the BR143 pushing from the back, then you will need to drive with ZWS mode enabled.
- If you're driving the BR143 and you have another BR143 on the back in a "top and tail" configuration or a second BR143 directly behind you in a double traction then you will need to drive with ZWD mode enabled.

The different driving modes don't change how you drive the train as much as they enable the different units to communicate as they would in real life.

1.1. Starting to drive the BR143

To drive with the BR143 you have to make the loco ready for work.

The pantograph must be raised and the main power switch must be switched on.

You can only switch on main power when the pantograph is lifted up.

Keys to use to make the BR143 ready for work:

- **Pantograph from front to back = Shift+P (Front up – both up – back up)**
- **Pantograph from back to front = Ctrl+P (both up – front up – both down)**
- **Main Switch = Ctrl + Z (Toggle switch on / off)**

To raise the pantographs you should press Shift+P, each time you press it they will cycle through a different combination in the following sequence:

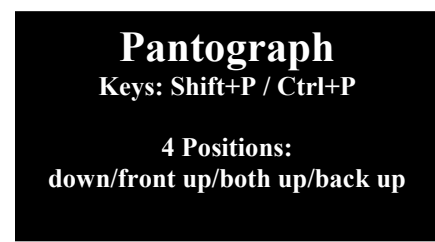
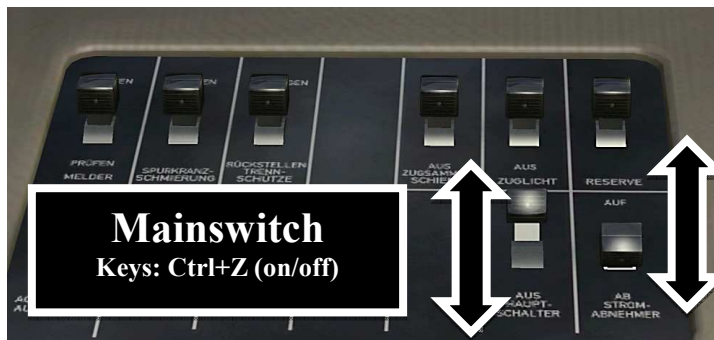
Both Down / Front Up / Both Up / Rear Up

This sequence is reversed using the Ctrl+P key.

You should have only *one* pantograph raised. Under normal circumstances you would have the rear pantograph (closest to the coaches) raised for Passenger or more normal freight services, and the front pantograph raised (above the driver) for special Freight services such as Oil or Gas. You should never operate with *both* pantographs raised.

Once the pantograph is raised, toggle the main switch by pressing Ctrl+Z.

After you have completed these steps you can drive the loco.



2. Getting ready to drive BDnrzf (BDnrzf + BR143 Pushing / ZWS Mode)

To use the BR143 as a pushing loco with a train you must have a vehicle in front of the train which supports ZWS mode such as the BDnrzf included in this package.

ZWS provides the capability to control the loco that pushes the train completely from the vehicle in the front of the train.

Enter the cab of the BDnrzf and then press keys **Shift+9** to enter ZWS mode.

If you switch successfully into ZWS mode you should see three messages to the right telling you something about ZWS status.

The messages are from the vR Loco Message System and will appear from time to time to give you some information about what is happening.

Press key **P** to raise the pantograph and you will get the next message confirming the pantograph status.

Switch on the Main switch with keys **Ctrl+Z** and you are ready to drive the train.

If you received any error messages when trying to enter ZWS mode please make sure that the loco is coupled to the train and that the loco is able to drive in ZWS mode. At the time of release, only the BR143 included in this package can drive in this mode.

If you wish to switch ends in order to drive in the other direction, you must remember to switch off ZWS mode first and shut down the locomotives, otherwise you will get a ZWS error message.

Keys to use to make the BDnrzf ready for ZWS mode:

- **Switch on ZWS mode = Shift+9 (Toggle switch)**
- **Pantograph up = P (the loco selects automatically the correct pantograph)**
- **Main switch = Ctrl+Z**

3. Getting ready to drive in ZDS mode (2 x BR143 / Top, Tail / Double Traction)

You can use two BR143 locomotives to double the traction in your consist.

Operating in a “Top and Tail” configuration with one BR143 at the front pulling and the second BR143 at the end pushing is only possible when the vehicles between both locos use the vR-Consist-Message System. The ABn and Bn coaches included in this package use this system.

Keys to use to make two BR143 ready for work in ZDS mode:

- **Raise its first pantograph up = Shift+P**
- **Switch on ZDS and then wait for the status messages = Shift+9**
- **Raise the pantograph on the other BR143 = Ctrl+Shift+P**
- **Toggle the main switch on the first BR143 = Ctrl+Z**
- **Toggle the main switch on the second BR143 = Ctrl+Shift+Z**

If you wish to switch locomotives in order to drive in the other direction, you must remember to switch off ZDS mode first and shut down the locomotives, otherwise you will get a ZDS error message.

4. Driving

The BR143 does not use a normal regulator like the ones that you might know from other locomotives. The BR143 can be driven in two different modes for speed control.

One mode is a speed control like the AFB you know from the ICE or BR120 units, it operates somewhat like a kind of cruise control whereby the driver sets the speed they want the locomotive to travel at and then the locomotive will aim to achieve and maintain that speed. This mode is normally used on passenger trains because it provides for a comfortable drive with smooth transitions between speeds. There are a number of switches that enable you to alter exactly how this mode operates, these will be covered in a later section.

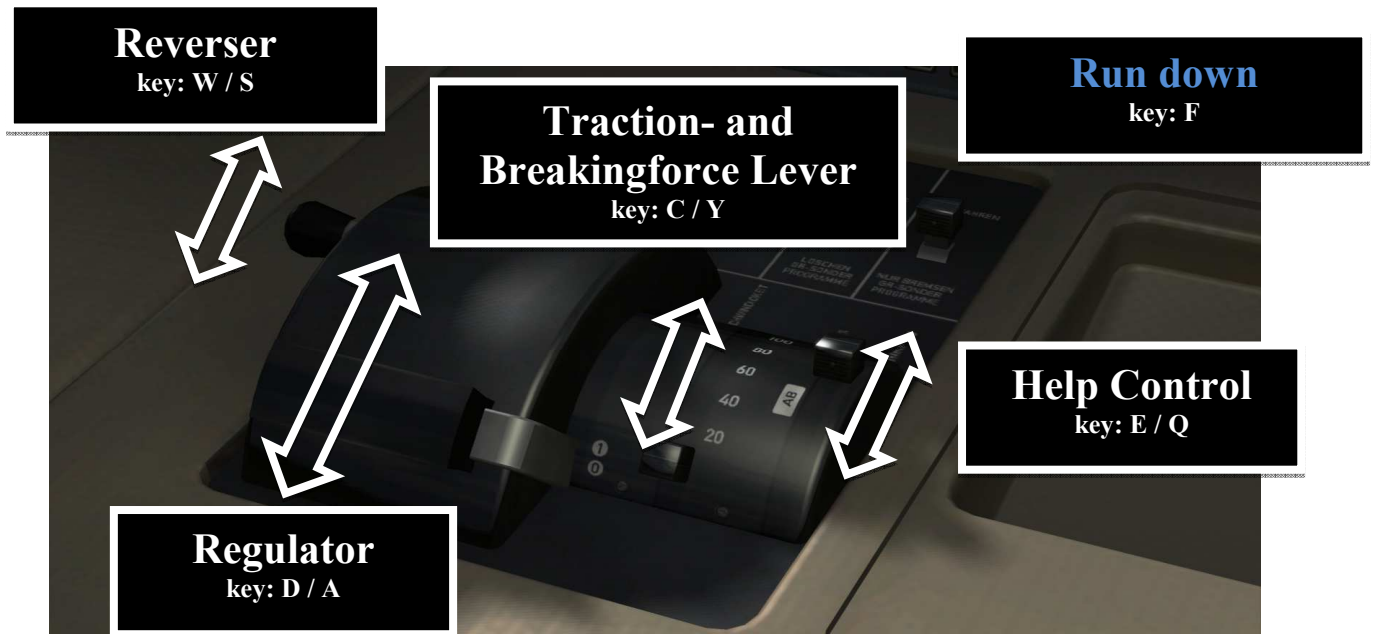
The other mode is a speed control with a special additional control which is like a notched regulator. It allows more fine control of the specific notch that the engine is in, this can be useful in shunting or freight scenarios for example. It is worth noting that this mode provides for no protection against the driver overloading the electrical system or causing wheel slip so more care must be taken.

Very important!!

Because the BR143 uses a notched regulator it is very important to set the notch to zero before you can start braking. Use the key **F** (Run down) to let the regulator run down to notch zero (Notch Display on the console shows which notch you are currently in).

Even with AFB mode the engine is internally being driven by notches, visible on the display, so when braking you should wait until this reaches zero.

If this is not done correctly the loco will be damaged and develop a fault, so it is very important to be ready well in advance for all actions.



4.1 Driving the BR143 with AFB control mode

Important: the AFB has not the same functions as it has in the ICE or the BR120!

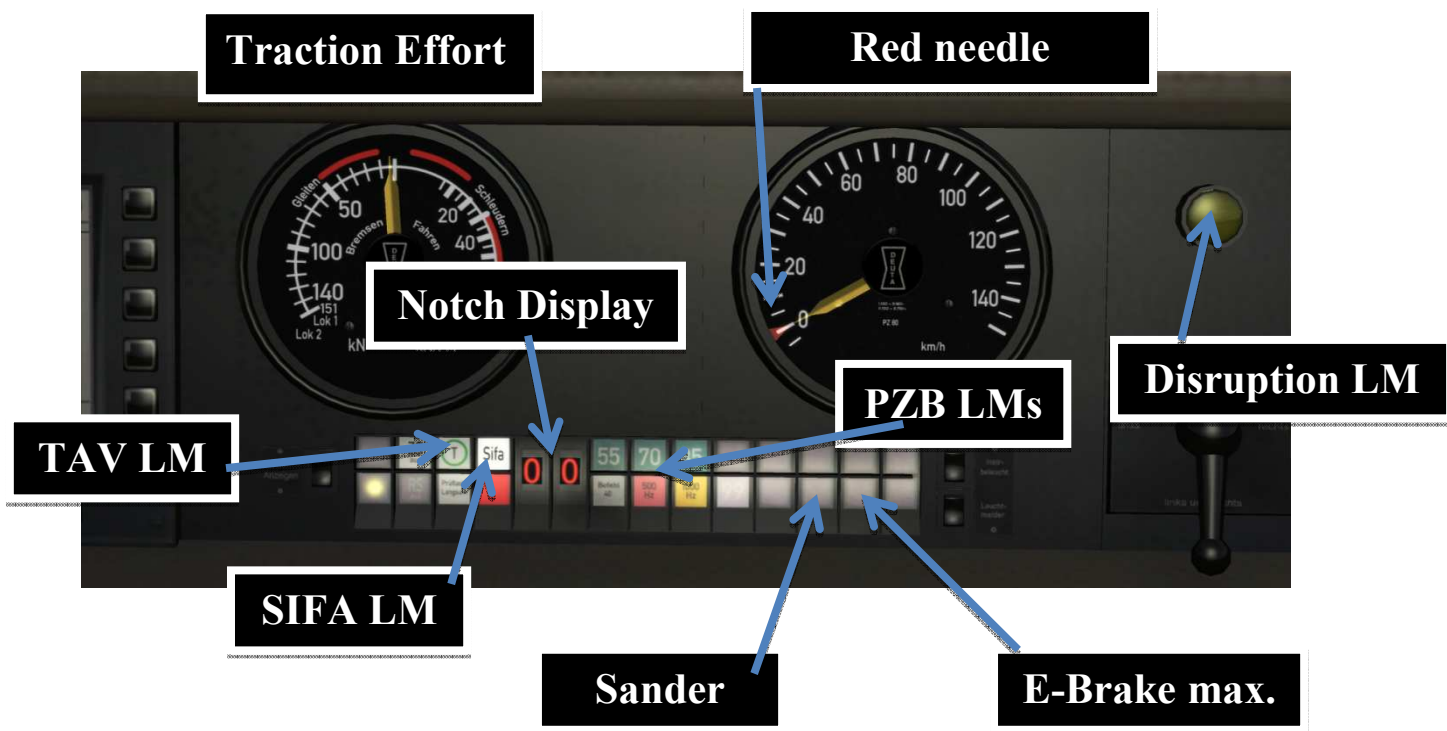
The speed control in AFB control mode is regulated by two levers. One is the regulator (which is not used as a “normal” regulator) and the Traction- and Brakeforcelever.

Once you have made the locomotive ready for work (See Section 1 and follow the relevant instructions for your train), follow these steps to being driving:

- **Choose your power level with the Traction and Brakeforcelever keys C / Y**
You should choose a level which corresponds to your train weight.
Normally you would start at Maximum and then fall back a little bit.
If you drive a lighter train choose a lower level.
- **Release the train brake (eventually the loco brake) key ; / [**
- **Adjust the regulator to select the target speed key A / D**
A small red needle in the speedometer shows the selected speed.

The BR143 should begin to move. If you want to change the speed when driving use the regulator and adjust the red needle to the new target speed. If you want to change the power use the Traction and Brake Force lever.

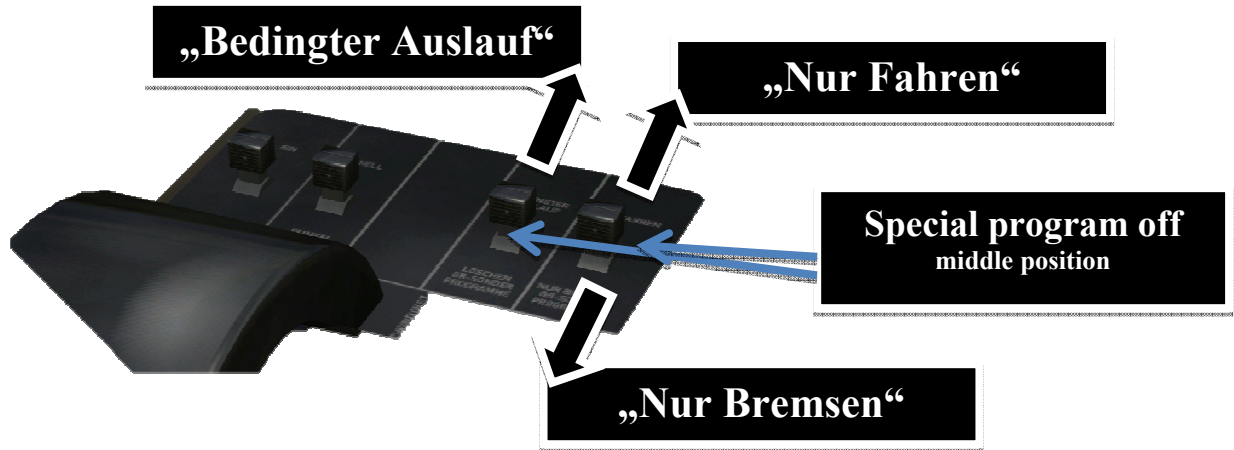
Keep in mind: if you would like to brake use F key before braking to let the regulator run down to notch 0 Notch Display on the console shows which notch you are currently in)!



The Notch Display should show zero if you would like to brake manually!

4.1.1 Special programs

There are three special programs for speed control which helps you to drive the BR143. The programs could be switched on or off at any time you wish while driving the locomotive.



4.1.1.1 „Bedingter Auslauf“ (Conditional Discharge)

Normally you use this mode when you drive a S-Bahn service (near traffic train). The distances between the stations are short.

“Bedingter Auslauf” is switched on with keys **Shift+D** and off with **Ctrl+D**.

When this mode is enabled, locomotive speed control is switched off when the selected maximum speed is reached. The regulator will run down automaticly to notch zero; after that braking is possible without any disruption.

4.1.1.2 “Nur Fahren” (Only Go)

This mode provides assistance when you’re going up an incline and don’t need to use the brakes. When using this mode there will be no automatic brake involved; so keep an eye on your speed!

You switch on this mode by **Shift+W** and off by **Shift+S**.

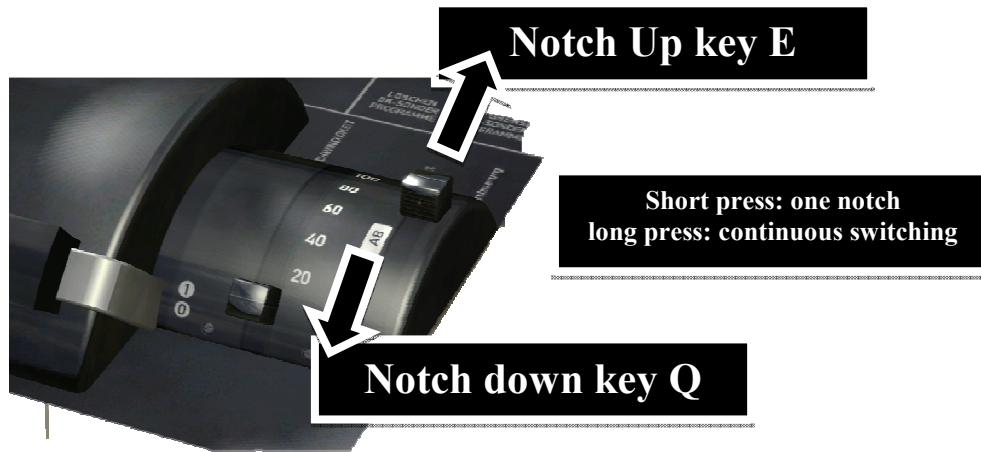
4.1.1.3 “Nur Bremsen” (Only Slow)

This mode is similar to “Nur Fahren” with the difference that it is only controlling the brakes and not acceleration. . This mode would be primarily used when you are descending.

Use keys **Shift+S** to activate the program and **Shift+W** to deactivate.

4.2 Driving the BR143 in Notched Control Mode

To use Notched Control Mode you should first ensure that the Regulator is set to the minimum position, press the A key to lower this lever. Once the lever is in the minimum position, the Notch lever becomes usable with the Q (Notch Down) and E (Notch up) keys.



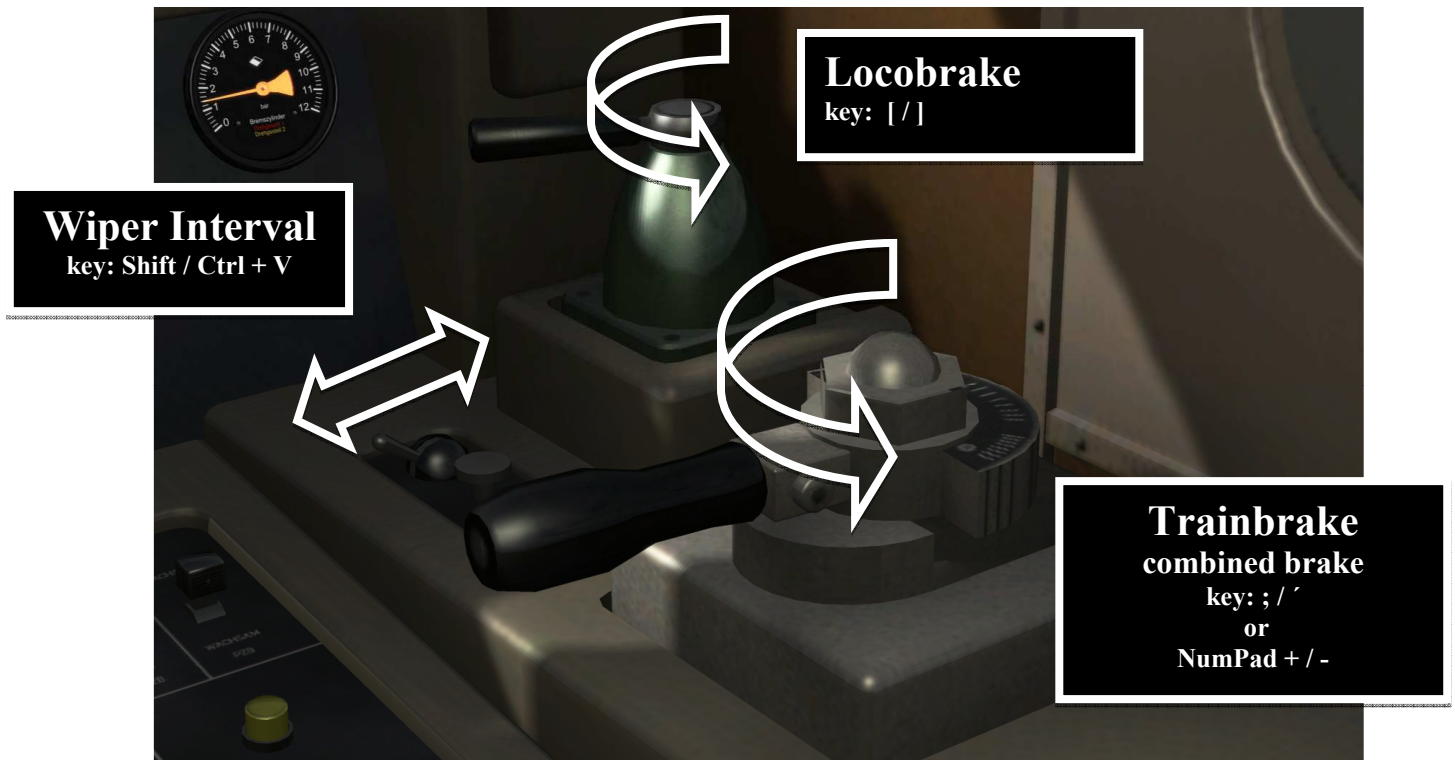
With this mode you have a better control over the speed and acceleration especially when driving slow or performing shunting, however you are now in full command of the locomotive and should be careful not to exceed the acceptable tractive effort, doing so may cause a fault and the electrical system will cut out.

Using the help control is very easy; use key **E** for one notch up and key **Q** for one notch down. A short press gives you one notch; a longer press switches the notches until you release the key.

Be careful when switching up; keep an eye at the traction effort. Values more than 70 kn/fm might cause a disruption and switch off the main switch.

You can use key **F** to switch all the way down to zero if you need to brake.

5. Braking the BR143



Braking with this loco needs some experience.

Normally you brake with the E-Brake. The force used for the braking is chosen with the Traction – Brakeforce lever. Higher levels give you more traction- and more brakeforce. If the Traction – Brakeforce lever is at zero there will be no E-Brakeforce available!

If the brakeforce from the E-Brake is too weak the normal air driven brake will start braking too. If the LM E-Brake lights up in the MFA the brakeforce limit for the E-Brake has been reached.

To brake now with air brake power pull back the train brake lever one notch to give the air brake the initial brakepower of 4.5 bar brake pipe pressure.

If you need to make an emergency brake pull back the train brake lever to 100%. The train will stop in a very short time because now both the E-Brake and Air Brake have full power.

Use the brake carefully! To brake from 120 km/h down to zero in a distance of 1000m you need the brake lever at 50 – 60%.

6. Driving the BDnrzf 740

The BDnrzf is only useable for electric locomotives. The driveable trailer for diesel locomotives have different controls.

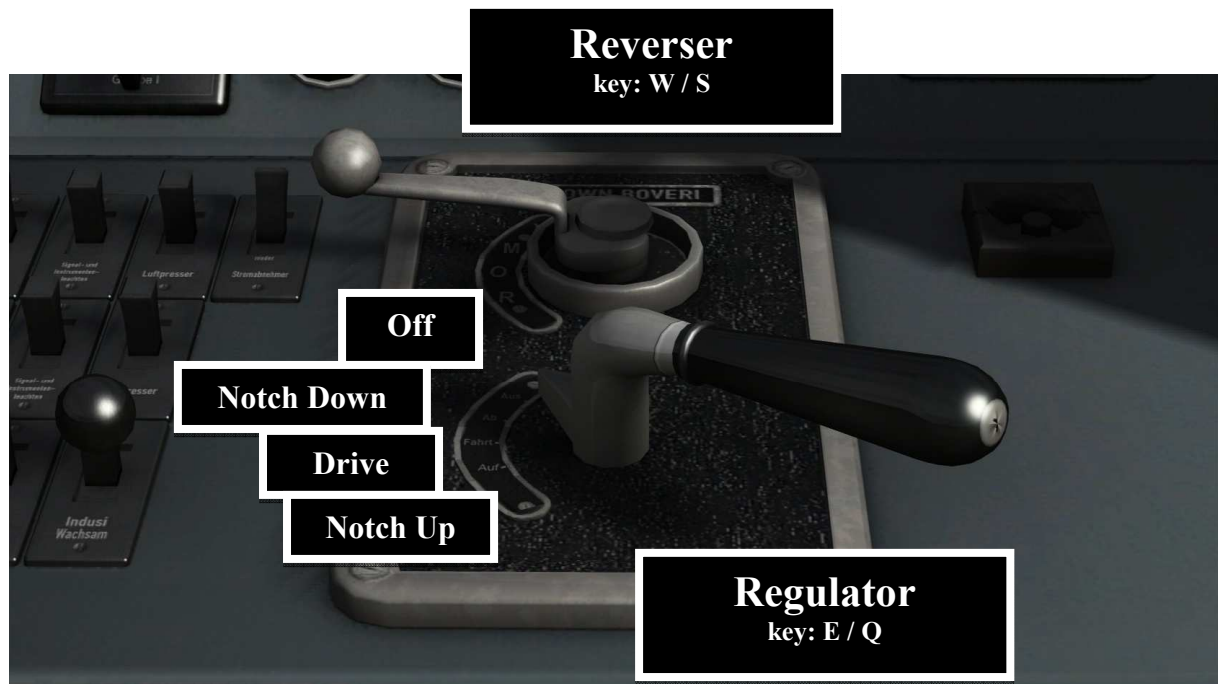
The BDnrzf is a driveable trailer carriage, it hasn't got its own power source; you are remotely controlling the BR143 sitting at the other end of the train.

The BDnrzf uses a special style of handle in order to control the pushing loco, and there is no feedback in the cab that will tell you which notch you are in.

The Traction Effort Meter will tell you how much force the locomotive on the rear of the train is applying and this is your only indication about what is happening with the locomotive. The regulator handle allows you to increase or decrease the amount of force that the locomotive should apply.

So driving the BDnrzf needs a little bit "feeling" and experience to get the best out of it!

6.1 The Regulator



Before proceeding, ensure that you have made the train ready for work in ZWS mode (See section 2 in this manual)

The BDnrzf uses a regulator with four positions.

They could be read as

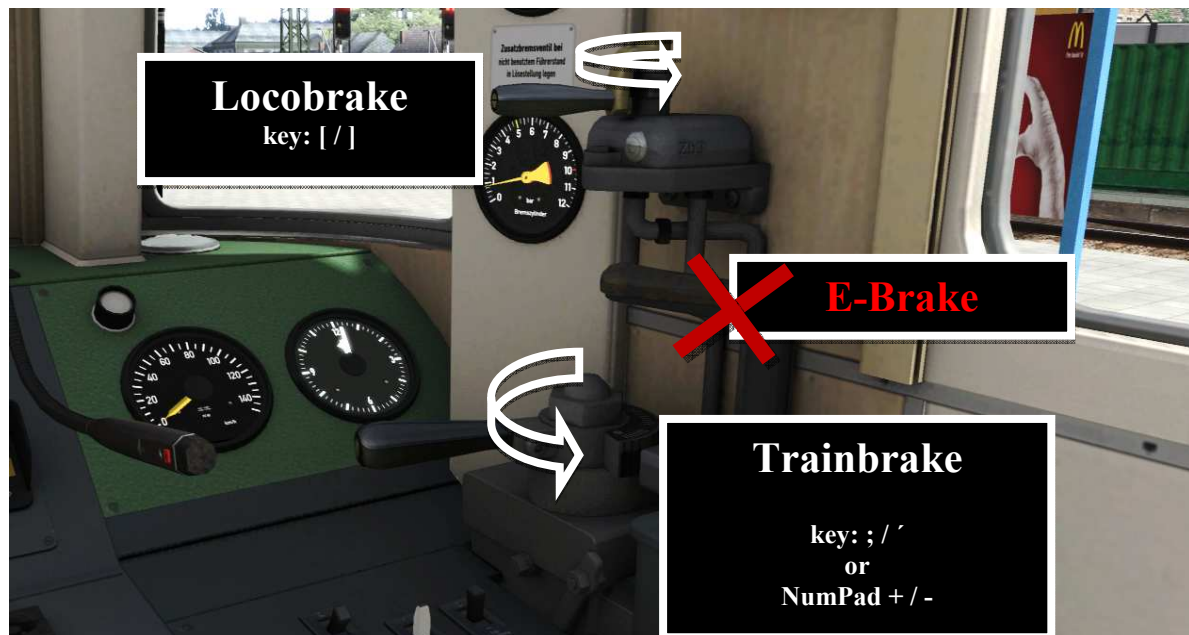
- Off
- Notch Down
- Drive
- Notch up.

The regulator does not rest in the position “Notch – Up”; it will switch back to “Drive”!

How to drive the BDnrzf:

- Set the reverser to forward key W
- Release the brakes (loco- and train brake) key ; / [
- Check that the doors are closed. If the doors are open you can't move the train
- Set the regulator to “Drive”; use key E until you are in the right position
- To start driving press E, hold and keep a close eye on the Traction Effort Meter
Don't go higher than 40 – 50kn with a BR143 as pushing locomotive.
- To stop acceleration release E; the regulator jumps back to “Drive”
- To switch down notches press Q once and the regulator switches to “Notch-Down”. The notches are switched down until you press E or set the regulator with the mouse to position “Drive”
- Position “Off” rises down the power immediately (don't use this normally)

6.2 Braking the BDnrzf



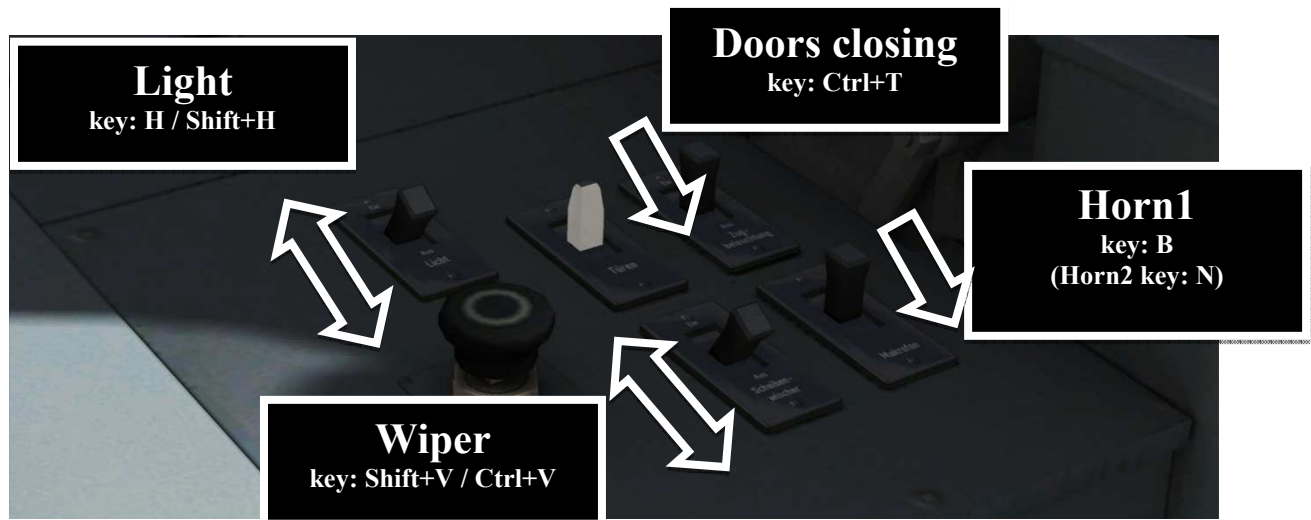
The BDnrzf has no E-Brake; you can't use the lever in the Cab!

You will only be able to use the normal Air Brakes and the locomotive brake using their respective levers.

Important!! The Traction Effort Meter must be showing no load before you can use the

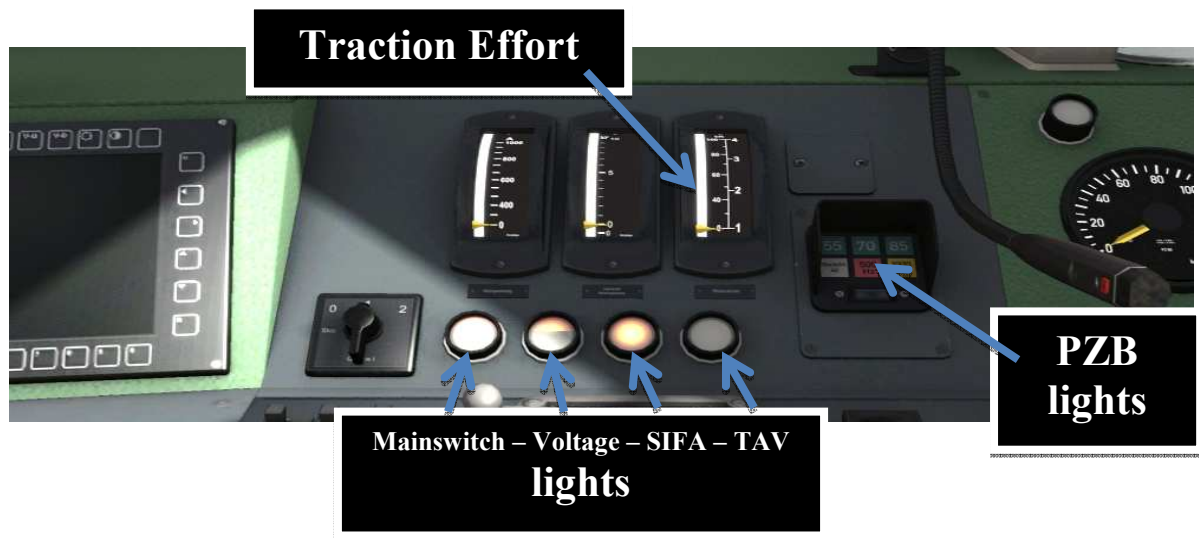
brakes. Before braking switch the regulator to “Notch – Down” and wait until the Traction Effort Meter is zero and then set the regulator to the Off position.
You can then safely begin to brake the train.

6.3 BDnrzf Cab



Just like with the BR143, the BDnrzf uses a special control for the doors of the passenger wagons called TAV. To use the TAV use the white switch or the key **Ctrl+T**

More detail on the TAV comes later in this manual.



BDnrzf uses SIFA and PZB.

How to use these controls you can read later in section 10 and 11 this manual.



7. Faults (BR143 only)

In real life there are a lot of possible faults that can occur when driving a locomotive. For this locomotive we are only using three. If a fault occurs the fault light will glow.

7.1 Electrical Fault

If you try to brake without setting down the Regulator to notch zero (key F) you will damage the loco and get an disruption. This will not happen when it occurs only once but when you often forget this rule the loco will stop; the main switch will switch to off and you have to wait a random time until to continue. You will see a message to the right when you can go on.

7.2 Speed control Fault

As in real life it can happen that the speed control will stop operating. You can use the direct speed control to drive the loco by dropping the Traction and Brake Force lever to its minimum position and then using the manual notch control (Q and E). You will see a message to the right when the speed control is operational again.

7.3 Running out of sand

If you are using sand without thinking about the how much you have, you will run out very soon, it is not in infinite supply! The locomotive itself will be still operational if this occurs but if you need sand there might be nothing left.

The sand containers will replenish automatically as time elapses.

8. Door control TAV

The BR143 has a programmed door control that could be used with the passenger wagons included in this package (ABn / Bn). **Other passenger wagons won't work with these controls because they need a special script for this to work.**

To open the doors use the normal key **T**.

The doors do not open at once! Each wagon has a time delay to make door opening more realistic. When T is pressed and the TAV control is activated you will see the TAV indicator on the cab control panel light up and hear a beep sound. The speed control is now blocked until the doors are closed.



Closing the doors must be done with Ctrl+T or operating the indicated white switch. You will hear a Zp9 (whistle) when the doors can be closed. Doors will not be closed automatically, you must now press Ctrl+T to activate the door closing process. The TAV light will start flashing and you will hear a beep every second until all doors are closed. It will take up to 10 seconds for all the doors to be closed at which point the TAV light will stop blinking and remain off, and the beeping will cease.

When the TAV light is off; all doors are closed and the speed control is no longer blocked.

10. SIFA (Sicherheitsfahrschalter / Security Switch)

The BR143 has a working Zeit-Zeit-Sifa (time-time-SIFA) which could be activated or deactivated with **Shift+7**.

The purpose of the SIFA is to keep the driver vigilant at all times and to allow the locomotive to come quickly and safely to a stop should the driver become incapacitated or otherwise not in proper control of the train.



If you switched on the SIFA you have to press the space bar every 30 seconds to reset it.

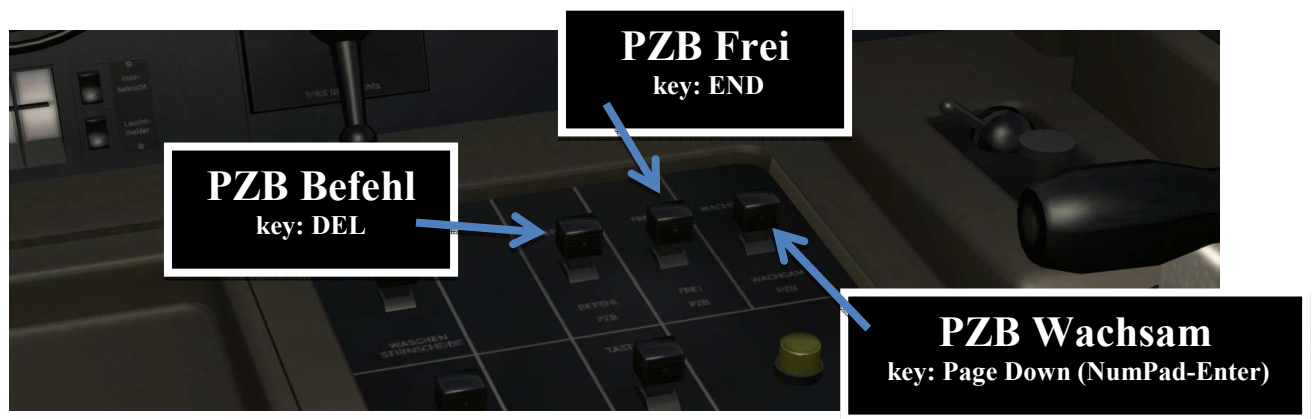
If you forget to reset the SIFA, the SIFA light will start glowing on the console to remind you to press the SIFA button. If you miss this again after 2 seconds you will hear a warning beep that will last for a further 2 seconds after which the train will begin emergency braking.

If you are not inside the cab when driving the loco you won't get any warning about the SIFA status but remember that SIFA **is still working**! You will need to press the SIFA reset button outside the loco or it will eventually come to an emergency stop.

11. PZB (Punktförmige Zugbeeinflussung / train security system) BETAversion

The BR143 has a realistic build in PZB90 System used in Germany for speed controlling trains. . Note that this implementation of the system is in Beta and may exhibit errors from time to time. The PZB system also only works properly when the route you are driving on has been built with this in mind. There are some special magnets included in this package that must be placed on the route to interface to the systems within the locomotive.

To switch on PZB use key **Shift+8**; to change the train mode use **Ctrl+8**.
After switching on or changing the mode the PZB will start a selftest.



To use the PZB operate with the keys

- **PZB Befehl / Del**
- **PZB Frei / End**
- **PZB Wachsam / PageDown**

To use PZB Frei you have to press the key End a little longer to give the system the chance to recognize your key press.

The PZB system only works properly when the route you are driving on supports PZB. For this you need special magnets which are included in this package.

11.1 Overview of PZB 90

The PZB 90 system is used to ensure that trains are running at correct speeds in certain controlled sections (for example, leading up to signals) and also to ensure that no train can pass a signal at danger.

There are three types of train controlled via the PZB system, these are described as:

Zugart O	Obere (Upper)	Light trains / Passenger trains
Zugart M	Mittlere (Medium)	Heavy trains / Freight trains
Zugart U	Untere (Lower)	Very heavy trains / Freight trains

When you enable PZB with Shift+8 it will start up ready for a Zugart O train.

Zugart could be read in the vR Message window to the right in the cab.

You can use Ctrl+8 to cycle between the train types until you have the one most appropriate for your train. The key differentiators are the maximum speed and the ability to stop, so a long slow heavy freight train should be a Zugart U, for example.

In the descriptions below, the process that is followed is exactly the same regardless of the train type selected, what differs is the speed limits that are enforced.



PZB is implemented by means of three kinds of magnets that are placed on the track; these are described as 500Hz, 1000Hz and 2000Hz. These magnets are only powered if their associated signal is set at a non-clear aspect, if the aspect is clear ('green / green') then the magnets have no effect on the train.

For some controlled element, such as a signal, each of the magnets will be placed in the following order:

- 1000Hz - at some remote point on the track such as the distant signal
- 500Hz - usually 250m before the main signal being checked
- 2000Hz - placed at the signal itself

For this description, a **Zugart O** train is assumed.

Note: In the speed limit descriptions below the line limit always overrides that given in the description. For example, if the description says that you must be below 85km/h and the line limit is 60km/h then this takes precedence.

1000Hz Magnet

A passing train will first meet the 1000Hz magnet and the 1000Hz lamp will light on the PZB display after pressing PZB Wachsam / key Page Down while passing the signal.

On the Train Simulator 2012 HUD, the exclamation point indicator will light up with a wasp black/yellow pattern, but there is no audible indicator. The driver now has four seconds within which to press the PZB Wachsam button (Page Down). Failure to do this will result in emergency brakes being applied.

Having acknowledged the 1000Hz magnet, the driver now has 23 seconds to drop their speed to 85km/h (Note: A different Zugart (M or U) has a different speed) or emergency brakes will apply.

After the train has passed 700m from the 1000Hz magnet the 1000Hz lamp will go out and at this point the driver *may* choose to press PZB Frei (End) to get out of the speed restriction if, and only if, they can clearly see that the controlled signal is now showing a clear aspect. If the driver presses PZB Frei and then runs over an active 500Hz magnet the train assumes the driver has made a mistake and will apply emergency brakes.

500Hz Magnet

On passing the 500Hz magnet, the train must not be exceeding 65km/h or the emergency brakes will be applied. The 500Hz lamp on the PZB display will light up. The train now has 153 meters to reduce speed to 45km/h.

The 45km/h speed limit is now in force for the next 250m. It is not possible to release from this with the PZB Frei button.

2000Hz Magnet

If the train passes an active 2000Hz magnet then it will always apply its emergency brakes as the only time this can happen is if the train is passing a signal at danger.

Other notes

If, while under the control of a 1000Hz or 500Hz magnet, the train stops or spends more than 15 seconds at less than 10km/h the enforced speed limit will be reduced by a further 20km/h and this is then called a restrictive speed limit. This is indicated on the PZB display by the speed indicators (the top row) alternating between two lamps (70 and 85).

Once the magnet lamp goes out you can press PZB Frei (END) to get out of the restrictive speed limit.

Befehl40 ('Order 40km/h')

The Befehl40 button (DEL) allows a special case that instructs the train to *ignore* a 2000Hz (red signal) magnets that it comes across. You are put in to an enforced speed limit of 40km/h while this is active, exceeding this limit will cause the emergency brakes to apply.

To pass the red signal press and hold DEL for PZB Befehl40 until the Befehl40 light lights up.

Type of Train	Normal Monitoring		Restrictive Monitoring	
	1000Hz	500Hz	1000Hz	500Hz
O (Obere)	165km/h -> 85km/h in 23 seconds	65km/h -> 45km/h in 153m	45km/h constant	45km/h -> 25km/h In 153m
M (Mittlere)	125km/h -> 75km/h in 26 seconds	50km/h -> 35km/h in 153m	45km/h constant	25km/h constant
U (Untere)	105km/h -> 55km/h in 34 seconds	40km/h -> 25km/h in 153m	45km/h constant	25km/h constant

Further Reading

You can find more recommended reading about the German PZB90 system at these links:

- <http://www.marco-wegener.de/technik/pzb90.htm>
- <http://www.sh1.org/eisenbahn/rindusi.htm>

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12. Time Delayed Wipers

The BR143 has a time delayed wiper system equal to those already published in the ICE and BR120. You can use the traditional system provided by Train Simulator 2012 by pressing the V key to activate the wipers.

If you want to use the time delayed mode you must switch on the wipers with **Shift+V** for interval up und **Ctrl+V** for interval down.

You switch through Off, On, 4, 7 and 12 seconds time delay.

You will get a message to the right when you switch into time delayed wipers mode.

13. Train and Cablight

You can control the headlight of the BR143 using the H key as normal.

Use **Shift+L** and **Ctrl+L** to dim the light up or down.



The cablight could be cycled from Half to Full using **Ctrl+H** and from Full to Half to off using **Ctrl+Shift+H**.

The middle position switches off the cablight.

Please hold the key a little bit longer pressed to switch.

14. FML (Fahrmotorlüfter / Engine Fan)

You can switch on FML / engine fan manually. This has no effect to the simulation or the locomotive performance and is only for your acoustic happiness.

Switch on FML with **Shift+F** and off with **Ctrl+F**.

Switching the FML is only possible when the main switch is On.

15. Simple Controls / Stop-Go Mode

To use all features of this loco you have to drive in Expert mode in Train Simulator 2012 but it is also possible to use the BR143 loco in Simple Controls or Stop-Go mode.

Some features are not available or work differently in this mode:

- ZWS / ZDS (section 2 / 3)
- SIFA and PZB
- The regulator is used as a combined drive and brake lever but needs some experience in braking.

Important! The BDnrzf can't be operated in Simple Controls / Stop-Go mode!!

16. Troubleshooting

Cannot get the BDnrzf to start moving

Please observe the following sequence must be employed in the correct order before the train will begin moving. If some steps are done out of sequence it can cause the unit to fail.

1. Enter cab of unit.
2. Shift+9 and wait for the three message boxes.
3. P to raise pantograph, visually confirmed on locomotive at end of train.
4. Ctrl+Z to power up, console screen switches on.
5. Press T, doors open.
6. Press Shift + 8, wait for PZB to power up and test.
7. Wait for departure whistle.
8. Press Ctrl + T, wait for TAV to stop flashing and beeping to stop.
9. Reverser to forwards.
10. Train and Loco brakes released.
11. Regulator to Drive.
12. Regulator to Notch Up, hold until desired traction effort is reached.

Other common causes to look out for:

- The doors are open; they must be closed.
- One of the brakes (locomotive or train) are still applied, they must both be 0%.

Driving with PZB enabled, the train keeps applying emergency brakes.

Please read section 11 carefully, the PZB system is complex and will require some getting used to.

The most likely causes of emergency brakes suddenly applying are:

1. Not acknowledging a magnet in a timely manner



You have perhaps not noticed that you passed a magnet, where you have four seconds to acknowledge by pressing the PZB Wachsam button (Page Down). You can see this on the HUD in the indicated control as shown on the figure to the left. There is no audible alarm for this happening.

2. Entering controlled sections too fast
 - a. Take note of the entry speed restrictions, e.g. a Zugart U train passing a 1000hz magnet must not be exceeding 165km/h.
3. Not reducing speed in controlled sections
 - a. After passing a magnet you must ensure that you have reduced your speed as required within the time or distance limit.

Occasionally the simulator fails to start a scenario with an error and exits the game

If you experience any problems loading a scenario then try completely exiting Train Simulator 2012 and then starting it up again. If problems persist, you may need to verify your local steam cache to ensure there are no errors in the files on your system.

When I press T to open the doors, TAV does not seem to work

- This likely means that one or more of the coaches in your train are not the ABn or Bn coaches supplied in this pack. If creating your own consist, ensure that you use coaches whose name ends with "vr03". Also, in one of the included scenarios you are pulling a BR101 and Eurofina IC coaches, neither of which support TAV and hence this behaviour will also be found, again, this is correct behaviour.

17. Advanced: Optional Parameters

You can make changes to some special text files to switch on or off some options at the vehicles.

First of all: to make changes use a text editor like Notepad; do NOT use Wordpad or MS-Word!! Wordpad and MS-Word save signs to the text which could not be operated by the simulation scripts.

There are two text files which give you control over some options.
The text files could be found here:

{ Your Railworks directory } \ Assets \ virtualRailroads \ vR_BR143_SBRE \ Scripts

17.1 Player Options

The text file “vR_Module_Player_Parameter.lua” gives you control over some player options
The following changes could be made:

- Lights; here you can decide if you want to see a light-cone
optional Parameters are ON / OFF (Default is ON)
- AFB malfunction; switch AFB malfunction on or off
optional Parameters are ON / OFF (Default is ON)
- AFB malfunction calculating time interval; gives you control over the time interval the simulation should calculate a AFB malfunction. If it occurs too often please use a higher number. The number MUST be positive and true.
optional Parameters are positive true number (Default is 60)
- Empty sand container; setup here if you want the sand container to get empty or not
optional Parameters are ON / OFF (Default is ON)
- Electrical distortion (Trennschutz_malfunction); decide here if electrical distortion should be possible.
optional Parameters are ON / OFF (Default is ON)

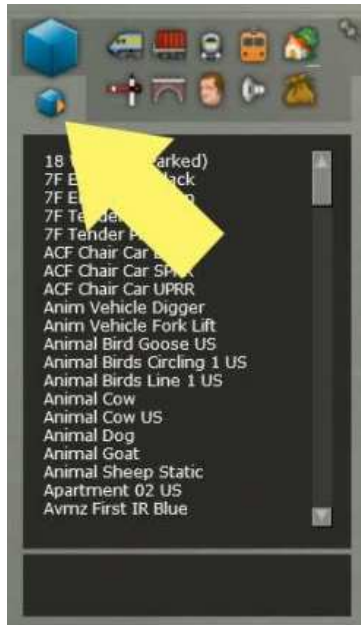
17.2 KI Options

Changes for the AI trains could be made in the text file “vR_Module_KI_Parameter.lua”
At the moment there is only one parameter which could be changed:

- Lights; here you can decide if you want to see a light-cone
optional Parameters are ON / OFF (Default is ON)

18. Using the BDnrzf and the BR143 Expert Line in Custom Scenarios

Before you are able to use the BDnrzf, the BR143EL or the other vehicles included in this package in your own scenarios you must enable them in the object set filters for that scenario.



When you make your own scenarios, or edit existing ones, only the default object sets are enabled for that route (for example the Kuju/Railsimulator assets for European routes and Kuju/RailsimulatorUS for North American routes). To enable additional object sets (which could be for any downloaded or freeware content) ready for use they must be checked in the object set filter list in the editors.

When editing the scenario you wish to add the BR143EL to, ensure you are in the Scenario Editor and click the small blue square on the middle left panel.

This opens a new panel on the right hand side of the screen (you may need to move your mouse over to the right hand side for the panel to fly out. You can pin it open if you wish).

This new panel has a drop down list of providers. Choose the entry vR_AddOn3. This will show you a list with all available vehicles in the package.

To enable the content of the BR143 for use in this scenario, check the box next to "vR_BR143_SBRE".

Now the BR143 will be available in the asset browser list for placement in the current scenario only.

If you want the BR143 to appear in the browser list for EVERY scenario on a route you must follow the same procedure but be in the World Editor and you can now check the first box.

The slight disadvantage of having content enabled for all scenarios on a route, even when that content may not be used, is increased loading times.

To use all functions described in this manual driving the BR143EL with the BDnrzf you need the coaches ABn and Bn coupled between BR143 and BDnrzf. The coaches and the BDnrzf are included in the Package vR_Slb_StwVrot_Elektro.



Keyboard BR143

Function	add	Primary key	Secondary key
Pantograph		Shift+P Ctrl+P	
Main switch		Ctrl+Z	
Reverser		W S	
Regulator		D A	
Traction Breaking Force Lever		C Y	
Program 1	„Bedingter Auslauf“	Shift+D Ctrl+D	
Program 2	„Nur- Fahren/Bremsen“	Shift+W Shift+S	
Freier Auslauf		F	
Direct Notch control	Auf Ab	E Q	
Trainbrake		; ´	NumPad + -
Locobrake		[]	
Headlight		H Shift+H	
Headlight dim		Shift+L Ctrl+L	
Cablight		Ctrl+H Shift+Ctrl+H	
Door control TAV		T	
Doors closing		Ctrl+T	
Wiper normal		V	
Wiper time delayed	Off On 4 7 12	Shift+V Ctrl+V	
Horn 1		B	
Horn 2		N	
Sander		X	
ZZA up / down		0 (Null) Shift+0	
ZWS/ZDS on / off		Shift+9	
FML on / off		Shift+F Ctrl+F	
SIFA on / off		Shift+7	
SIFA Reset		Space	
PZB on / off		Shift+8	
PZB train mode		Ctrl+8	
PZB Wachsam		Page-Down	NumPad Enter
PZB Frei		End	
PZB Befehl		Del	

Keyboard BDnrzf 740

Function	add	primary	secondary
Pantograph		P	
Main switch		Ctrl+Z	
Reverser		W S	
Regulator	up down	E Q	D A
Trainbrake		; '	NumPad + -
Locobrake		[]	
Headlight		H Shift+H	
Headlight dim		Shift+L Ctrl+L	
Cablight		Ctrl+H Shift+Ctrl+H	
Doors open TAV		T	
Door close		Ctrl+T	
Wiper normal		V	
Wiper time delayed	Off On 4 7 12	Shift+V Ctrl+V	
Horn 1		B	
Horn 2		N	
Sander		X	
ZZA up / down		0 (Null) Shift+0	
ZWS on / off		Shift+9	
SIFA on / off		Shift+7	
SIFA Reset		Space	
PZB on / off		Shift+8	
PZB train mode		Ctrl+8	
PZB Wachsam		Page down	NumPad Enter
PZB Frei		End	
PZB Befehl		Del	