

Typ	Train Simulator 2013 - AddOn
Autor	B. Ebrecht, E. Frädrieh, P.Polzin
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Contact	ebrecht@trainteamberlin.de



1. Preamble

Dear consumer,

we thank you for your interest in our AddOn „Railworks Class 151 PlusPack“. The present AddOn is an eminently special implementation.

After the classes 101 and 143 we improved this classic cargo locomotive which is in deployed since 1972. This way we are going to create a felicitous cadre of rolling stock. But it's a good way to demonstrate several new features in praxis too.

The class 151 has a completely new soundscape. These sounds are much more accurate and demonstrate the capabilities of the simulator: mainly chirring in curves and cab/outside outputs. As you have seen in the prior plus packs we use more technical possibilities of Train Simulator 2013. So we are able to present a couple of new features like a simplified version of the German train control system PZB which replaces the Railworks default pseudo-PZB. We intentional simplified this system - it's the first step to a full-featured PZB. On top we programmed a completely working implementation of the SiFa (German abbreviation for: Sicherheitsfahrshalter). So you get another full working train control system in the expert mode. In addition we added a new soundscape and retextured freight coaches. In combination with our previous AddOns now all German coaches delivered with the Railworks simulator use our new soundscape and additional functions.

There are six scenarios for the routes Hagen - Siegen, Köblitzer Bergland and Köln - Düsseldorf. You will hear the popular acoustic announcements in every scenario.

We are planning to create further German Train Simulator AddOns. So it's worthwhile to have a look at our website and forum <http://www.trainteamberlin.de/forum> periodically.

In this sense, we wish you as much pleasure with this AddOn as we had while creating it.

Best regards

TrainTeamBerlin
Berlin, in December 2012

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3. The Team And Acknowledgements

The team is free to introduce itself at this place::

Software: TrainTeamBerlin

Distribution: Halycon Media and TrainTeamBerlin

Benjamin Ebrecht	Sound, Scripting, Repaints, Scenarios, Manual
Eckhard Frädrieh	Investigation, Quality management, Scenarios, Manual
Ronald Jacobi / Halycon	Sound
Partrick Polzin	Modelling, Scripting, Quality management

On top we want to sincere thank all other (partly anonymous) helpers who supported us creating this software. One or more textures on 3D models used in this AddOn have been created with images from CGTextures.com. These images may not be redistributed by default, please visit www.cgtextures.com for more information.

4. System Requirements

For a proper function of the simulation we recommend the following PC-Hardware conditions

Processor (CPU):	DualCore 3 MHz
Memory (RAM):	4096 MB
Graphic board:	DirectX 10-ready or better, 1024 MB Graphic memory
Hard disk memory:	350 MB free
Sound board:	Soundblaster or compatible Gamer card
Software:	Train Simulator 2013
	Addon DLC "European Community Asset Pack" (automatically installed if you had a former version of TS2013)

This AddOn has been developed with Train Simulator 2013 .

5. Installation & Configuration

You have to execute the file setup.exe to install „Railworks BR151 PlusPack“. The automatic install routine is opening. Follow the instructions and install the AddOn in your Railworks main folder. This is detected automatically in most cases. With this you finished the installation.

Advice: We recommend using the class 151 in active status just in the Railworks expert mode (you'll have to activate it in the Railworks option menu). **Don't** drive the class 151 using the **CabDriver** (F4) - Use only keyboard and mouse (for clicking on the control elements in the cab).

Configuration:

Please note that all new configurations and definitions are integrated in the rail vehicles automatically. If you like to deactivate it and run the Railworks default sound again, you won't need to uninstall the whole AddOn: Just open "BR151 Konfiguration" which you can find in you windows start menu: Programs → TrainTeamBerlin → Railworks BR151 PlusPack. Run it and click on "Deaktivieren."

It's possible to reactivate all new features again with a click on "Aktivieren" in the same program (e.g. after a forced update by Steam).

Uninstallation:

If you want to uninstall "Railworks BR151 PlusPack ", just run the uninstall routine which you can find in the start menu: Programs → TrainTeamBerlin → TrainTeamBerlin → Railworks BR151 PlusPack → Deinstallation.

6. Characteristics Of The Class 151



- Producer: mechanical Part: Krauss-Maffei, Krupp
electrical part: AEG, Siemens
- Developed since: 1969
- Initial operation: 1972
- Lot size: 170 (3 total loss caused by accidents)
- Start of rejection: NN
- Speed V_{max} : 120 km/h
- Power: 6 x 1090 kW
- Start. tractive effort: 395 kN (232 kN permanent tractive effort)
- System of drive: six 14-pole phase AC motors with rubber annular spring and spur gear unit
- Axle arrangement: Co'Co'
- Triggering: High voltage control unit W29T with 28 regulating steps and 2 thyristor actuators; oil cooled power transformer
- Weight/Axle load: 118 t / 19,7 t
- Length over buffer: 19490 mm

7. Features

Besides a really accurate sound we provide some special features with this PlusPack.

Pantograph control:

You know that Railworks is controlling both pantographs of a loco by its own. Railworks raises the rear pantograph every time you change the direction. We implemented a more flexible and manual pantograph control:

The player has now the check on both pantographs independently. You can raise and drop the front pantograph by pressing **Shift** + **P**, the rear pantograph is controlled with **P**. It's clear that you have to raise at minimum one of both pantographs for making the loco able to move. But it's no problem as well to use the class 151 with both pantographs raised. This can make sense while shunting. On top it's possible to simulate an accurate pantograph control driving a double traction regime: Then you'll have to raise the front panto of the leading loco and the rear panto of the second one.

In AI traffic the class 151 raises the rear panto in most cases independent of direction changes. In AI double traction regimes the front pantograph of the leading loco is raised. If the loco is marked as a "defect" vehicle in the scenario editor, both pantos are dropped.

Rear pantograph	P
Front pantograph	Shift + P

Simplified PZB:

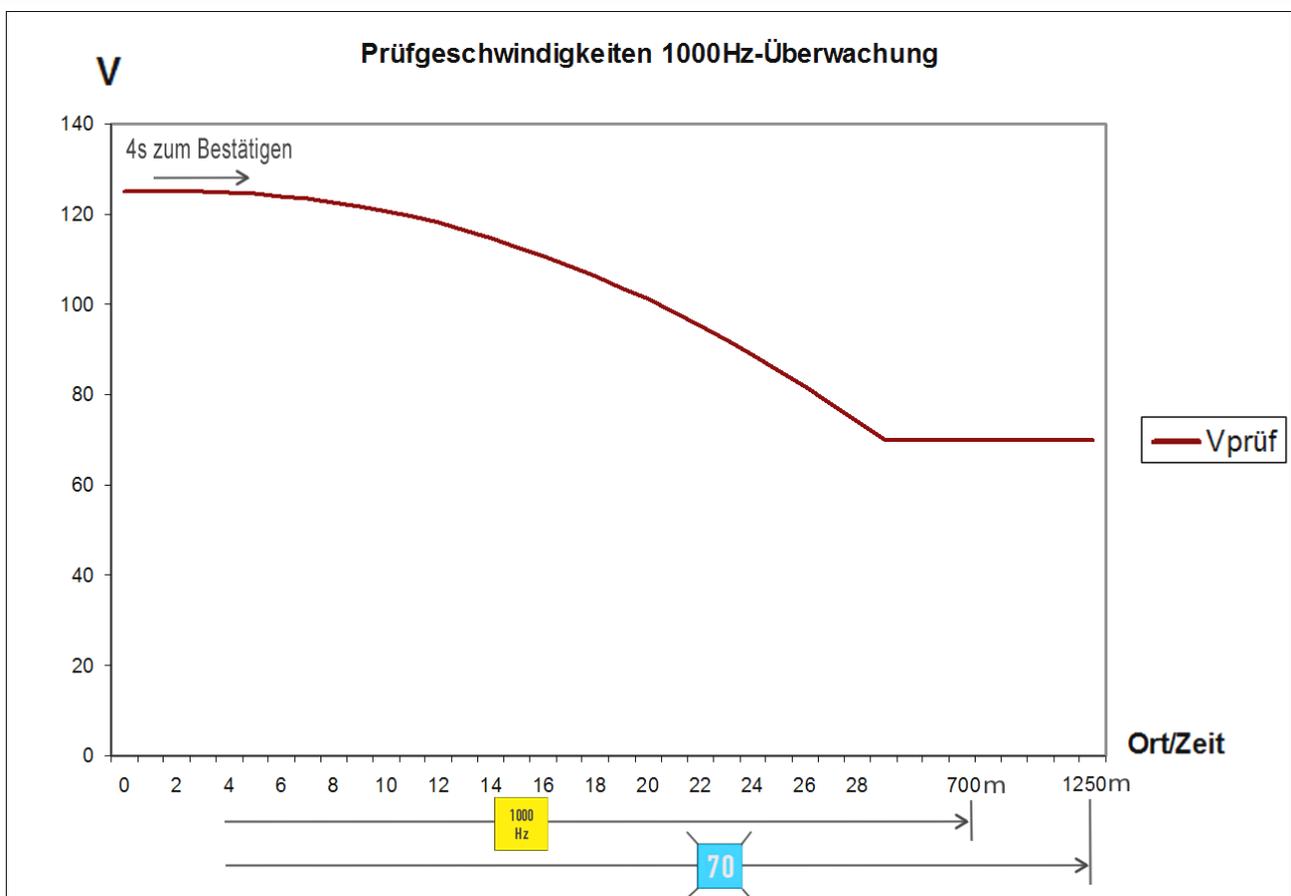
Railworks contains a very pseudo implementation of the German train safety system "punktförmige Zugbeeinflussung" - shortly called PZB.

We programmed a PZB more related to reality. But we first want to suggest that this implementation is not complete as well. The equipment of Railworks default routes and German cabs set limitations, so we constrain the implementation to the 1000Hz monitoring without possibility to free from monitoring and no restrictive mode. Certainly we adapted the forced braking on active 2000Hz magnets. We simulate the class 151 in train mode M. In the following we explain the functionality of our implementation:



There is a 1000Hz monitoring in this version of the class 151. This means that distant signals showing a stop or expected speed reduction below 100 km/h **have to be acknowledged in the first 4 seconds with key [Q]** after driving over an active 1000Hz magnet located at the distant signal. If you fail to do this a emergency braking will be triggered.

Furthermore you have to lower your speed after passing an active 1000Hz magnet. There is a continuous speed curve which is used for controlling your actual speed. You must lower your speed **below 70 kilometres per hour within 29 seconds** - otherwise a forced braking will be triggered. Afterwards there is a monitoring of a **constant speed of 70km/h as far as you travelled 1250 meters** since you passed the active 1000Hz magnet. The following diagram shows the functionality of our 1000Hz monitoring graphically:



Further Information:

If you get a PZB forced braking your train will be stopped until it stands. Finally you have to **confirm the forced braking with key [Q]**. Then you can accelerate again. After a 1000Hz monitoring forced braking the 1000Hz monitoring will be continued.

After confirming a 1000Hz monitoring the yellow 1000Hz indicator will light up until you travelled 700m since passing the active 1000Hz magnet. After this there is a possibility to free from monitoring. This possibility is **not implemented** in our simplified PZB. The indication speed of 70km/h must be kept until you travelled 1250m since passing the active 1000Hz magnet.

The restrictive mode **isn't implemented** as well. In reality lowering the speed under 10km/h respectively stopping the train while an active 1000Hz monitoring will let you fall in the restrictive mode which lowers the indication speed to 45km/h. This restriction is not programmed by us, so you still have to keep the indication speed of 70km/h.

On top the passing of red signals (active 2000Hz magnet) is checked. If you have no permission to pass it (oral permission or signal Ra12 - key TAB respectively Shift + TAB in Railworks) a forced braking will be triggered.

Advice: The functionality of the PZB is initial **active**. You are able to deactivate the PZB while driving the class 151. Just press **Ctrl + Shift + Q**. The deactivation will be acknowledged with the acoustic output "PZB deaktiviert". It's possible to reactivate the PZB by pressing **Shift + Q**. This is acknowledged with an acoustic output as well.

PZB acknowledge	Q
PZB deaktivation	Ctrl + Shift + Q
PZB aktiviation	Shift + Q

Safety brake system "SiFa":

The so called "SiFa" (dead man's handle) is a safety system of locos and motor train sets which ensure that the driver is capable of acting and can do his job. Otherwise the train will be slowed down automatically. We implemented the missing SiFa in Railworks for the class 151 which works like the time-time SiFa in reality.

This means that after 26 seconds of moving the train with 15 km/h or above the SiFa indicator will light up. After 4 seconds more an acoustic warning "SiFa" appears. Then there are **8 seconds** left for pressing **the key Y** for confirming the SiFa. If you fail do this, a forced braking will be triggered. At any time the forced braking can be interrupted by pressing the Y-key so you can prevent the train from stopping.

Please note that after accelerating the train over the threshold speed of 15km/h an additional confirming is required.

Advice: The functionality of the SiFa is initial **active**. You are able to deactivate the SiFa while driving the class 151. Just press **Ctrl + Shift + Y**. The deactivation will be acknowledged with the acoustic output "SiFa deaktiviert". It's possible to reactivate the SiFa by pressing **Shift + Y**. This is acknowledged with an acoustic output as well.

SiFa	Y
SiFa deactivation	Ctrl + Shift + Y
SiFa activation	Shift + Y

Second Horn

In the times of MS Train Simulator the usage of an second horn sound (a short an one long sound) was established. The usage of both was controlled by the train speed. Railworks provides different possibilities. So we decided to use two different key combinations for both horn sounds. You can use the following ones:

Horn short	Space
Horn long	Shift + Space

Fan Control

There are two running modes for the engine and transformer fans: automatic and manual. The automatic mode will be initialized during the start of the scenario. In automatic mode, the fans will start to run if you use the 9th regulator level or higher. If you want to run the fans manually press the key **B**. Pressing **B** again will stop the fans. Pressing **B** while driving the locomotive will have no effect until you decrease the regulator to the 8th regulator level or below.

Fan switch on/off	B
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8. Scenarios

We want to present you the six scenarios in this block of the manual. We'll show the main data for each scenario and give hints which are maybe useful for successfully complete them.

Hagen - Siegen

TTB 05: On the tour of Germany

Class: 151traffic red

Rating: hard

Season / Weather: Autumn, dusty

Time: 7:18

Period: 1:00 Stunden

Description: Today there is a special train to drive. the „Berliner Parkeisenbahn gGmbH“ becomes 20. On its way from “Frankfurter Feldbahnmuseum” to Gütersloh-Mühlenstroth the train arrives on his Germany tour from Hagen at Finnentrop. Cause by a damage of the locomotive you have to take the train and drive it to Hagen-Kabel.

First decouple the coaches, press TAB-key and drive to the returning point. Now drive backwards to track C2 and pass with Ctrl + TAB the signal. After a turning at track C1 couple the coaches of the train. Please be patient until the dispatches tells you to depart. Then press Ctrl + TAB again and drive along the left track. At km 54,3 there is a disaster. You are allowed to pass the area with maximal 25km/h. At Markt Siesel you change to the right track with 40km/h. You will have to pass some disordered signals which you have to pass with pressing Ctrl + TAB before.

In Plettenberg will be a maintenance. After that drive your train to Hagen-Kabel track 6.

The following time table shall be a guidance for you:

Scenery start		7:18
Finnentrop	ab	7:24
Plettenberg		7:42 - 7:45
Werdohl	dch	7:52
Altena	dch	7:59
Letmathe	dch	8:06
Hohenlimburg	dch	8:09
Hagen-Kabel	an	8:17

TTB 06: Heavy Load

Class: 151 traffic red

Rating: heavy

Season / Weather: Summer / clear

Zeit: 04:15

Dauer: 1:35 Stunden

Description: You are arriving at Hagen-Kabel with your class 151 from Witten to reinforce a associate. Because of the cade that his locomotive is out of order you have to take this critical loaded train and take him to Siegen. Caused by your delay you get in touch with the morning rush hour so there will be some maintenances.

Please note: The maximum speed of this freight train is 80 km/h, the shunting speed at Hagen-Kabel 25 km/h. In front of red Signals please stop and press TAB-key.

The following time table shall be a guidance for you:

Aufgabenstart:	04:15
Hagen-Kabel:	04:24 04:26
Hohenlimburg:	04:36 04:38
Letmathe:	04:43
Altena:	04:49
Werdohl:	04:56
Plettenberg:	05:05 05:08
Finnentrop:	05:24 05:26
Grevenbrück:	05:32
Lennestadt-Meggen:	05:36
Altenhundem:	05:40 05:43
Kirchhundem:	05:47
Welschen-Ennest:	05:55
Kreuztal Pbf.:	06:04
Kreuztal Abstellbhf. Süd:	06:16 06:21
Hüttental-Geisweid:	06:24
Siegen-Weidenau:	06:25
Siegen:	06:28

Attention: You won't be able to succeed this scenario because of internal program reasons. This is normal and sadly cannot be changed. In our point of view, you succeed, when you stop your train in Siegen and the scenario ends automatically.

Im Köblitzer Bergland

TTB 05: Small ore train on tour

Class: 151 traffic red

Rating: medium

Season / Weather: Spring / showers

Time: 8:43

Period: 0:35 hours

Description: The freight train FIR 48371 at Bad Rinckenburg is ready to depart. Please put the locomotive into operation and wait for a further commissioning. Then drive with maximum 80km/h to Altenburg with a maintenance at Altenburg. The scenario will end behind Altenburg central station during driving.

The following time table shall be a guidance for you:

<i>Bad Rinckenburg Gbf</i>	<i>8:46</i>
<i>Altenbrück</i>	<i>8:57 - 9:00</i>
<i>Altenburg Hbf</i>	<i>9:20</i>

TTB 06: InterRegio to Bad Rinckenburg

Class: 151 traffic red

Rating: medium

Season / Weather: Spring / cloudy

Time: 17:00 am

Period: 0:30 hours

Description: You take an InterRegio with a class 151 sandwich about one kilometer before reaching Altenburg. Drive the train to the station and switch the loco ("Ctrl" + "-") and the driving direction as well. Bring the train in schedule to Bad Rinckenburg with a stop in Köblitz. After all passengers left the train you'll have to drive it to the shunting area of Bad Rinckenburg.

Köln - Düsseldorf

TTB 05: Shift start in Cologne

Class: 151 049 green

Rating: hard

Season / Weather: Autumn / showers

Time: 14:29

Period: 1:00 hour

Description: At a poor autumn day the designated museum locomotive 151 049 stands at Cologne-Deutzerfeld. Drive it to Cologne Kalk Nord and couple a freight train there.

Get the machine started, drive onto the turning platform and switch left twice. Drive on to the turning point 1. Then drive backwards to Cologne Messe/Deutz and change the cab. At 14.36 you drive to Cologne Kalk Nord. Drive over turning point 3 and couple the coaches. Now you can drive this freight train to Dusseldorf via Dusseldorf-Reisholz shunting area.

The following time table shall be a guidance for you:

<i>Köln Deutzerfeld</i>	<i>14:30</i>
<i>Köln Messe Deutz</i>	<i>14:36</i>
<i>Köln kalk Nord</i>	<i>14:43</i>
<i>Leverkusen Mitte</i>	<i>14:54</i>
<i>Düsseldorf Benrath</i>	<i>15:07</i>
<i>Düsseldorf Reisholz</i>	<i>15:10</i>

TTB 06: Double Traction to Kalk Nord

Class: 151 084 traffic red, double traction

Rating: medium

Season / Weather: Autumn / cloudy

Time: 17:20

Period: 0:35 hours

Description: You have to drive a 3600t heavy freight train with loaded crushed rock coaches starting at D-Reisholz. Give way to a shunting service and forward your train upto the departure signal. Then drive your train to Cologne (max. speed: 80 km/h). At Leverkusen you have to decrease your speed to 25 km/h while passing a damaged loco. At Cologne you will need TAB-Key two times. Place your train at Cologne-Kalk at track 12. Your timetable:

<i>D-Reisholz ESig</i>	<i>ab</i>	<i>17:22</i>
<i>D-Reisholz ASig</i>	<i>ab</i>	<i>17:26</i>
<i>Leverkusen Mitte</i>	<i>dch</i>	<i>17:44</i>
<i>Köln Kalk Nord</i>	<i>an</i>	<i>17:56</i>

Graphic schedules

You can find graphic schedules in pdf format for the routes Seebergbahn and Hagen - Siegen in the folder ..\Railworks\TTB-Material\BR151-PlusPack\. You can print them and use it for solving our scenarios.

Both files are linked in the windows start menu, too: Programs → TrainTeamBerlin → TTB BR151 Pluspack

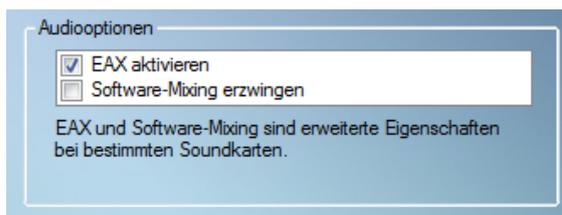
Known problems:

→ The acoustic announcements of the 6 provided scenarios are played at wrong times when you save and reload the scenarios. We recommend to play the scenarios at a stretch.

→ We strongly recommend to got to the railworks start menu and activate the "30FPS Lock" option. Please be sure that you use railworks with graphic options that produce a smooth gaming experience. Otherwise it's possible that several functions won't work properly - for example the acoustic outputs may be played too early / too late and/or the animations may be not synchronized with the sound.

Further advices:

→ We strongly recommend using an EAX capable sound card for an optimal audio pleasure. According to your hardware you should activate EAX in Railworks settings. The option "Force software mixing" can cause sound problems and should be deactivated in such cases. The following adjustments are approved:



→ You can use our support forum <http://www.trainteamberlin.de/forum> for further questions.