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Add-on for:

Train Simulator 2013

# Berlin-Wittenberg


## Manual

| | |
|---|---|
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| Rolling stock: | Virtual Railroads |
| Manual: | Jan Bleiß |
| Installation: | Andreas Mügge |

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train-world

# Berlin-Wittenberg

## Manual

Addon for

## Train Simulator 2013

# Content

# Starting off

## Installation

You will be asked to insert your registration key. Please keep your registration key in a safe place, you will need it again if a new installation is necessary.

To start the installation of "Berlin - Wittenberg" simply insert the DVD into your DVD drive or run the file downloaded from your shop account.

After selecting your preferred installation language, the welcome screen will appear and you will be presented with some important information and the license agreement. Please read it carefully".

Now you will be asked to insert your registration key. Please insert it exactly the way it was written on the label or in the confirmation mail you received from your download shop.

The installation program will attempt to locate the correct path.

In the next screen you can select additional scenarios for installation. You need several additional add-ons for TS2013 to sue these scenarios (see chapter „Scenarios"). Please activate the option only if the appropriate add-ons is installed on your computer.

Before the installer starts to copy the files onto your hard disc, you will be shown all the installation details.

The installation program will now copy all of the "Berlin - Wittenberg" files onto your hard disk.

# Minimum system requirements

- Train Simulator 2013
- Microsoft Windows XP (SP2), Vista, 7 or 8
- Processor 2.6GHz, Duo2Core or similar
- Video card with 512MB video memory
- 1.6GB free space on your hard disk
- 4GB RAM

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# Preface

Following 21 months of research and development the add-on Berlin-Wittenberg (-Leipzig) is finally available with this first volume.

It includes the routes of the North-South S-Bahn Tunnel Berlin (Kilometre 2.2 – 8.0), the Anhalt Railway (Kilometre 5.0 – 95.0), the Berlin S-Bahn (Line S25) from Potsdamer Platz to Teltow railway station. State of construction is between 2008 and 2012.

# History

The centre piece of the add-on is the 96 km section of the Anhalt Railway from Berlin to the Lutherstadt Wittenberg. The Anhalt Railway was named after the Berlin-Anhalt Railway Company which initially built a line running from Berlin via Jüterborg and Dessau to Köthen in 1840/1841. In 1859 the direct connection to Halle/Saale was established following the completion of the section from Wittenberg to Bitterfeld.

The starting point of the railway was the Anhalter Bahnhof in Berlin-Kreuzberg.

The Anhalt railway was one of the most important long-distance railways in Germany at the time of its opening. This is where trains travelled from Berlin, the capital of the Reich, to Halle/Saale, Leipzig, Frankfurt a.M., Munich, Dresden, Prague and Vienna. In the 1930s you could encounter up to 30 pairs of long-distance trains every day. This amount of 30 fast trains was increased during the GDR era due to a massive density of freight traffic. Due to the changed political situation after World War II, traffic was directed to the new Berlin outer ring via Diedersdorf, Glasower Damm, Schönefeld, Grünauer Kreuz (Eichgestell, Rummelsburg / Wuhlheide RBf, Biesdorfer Kreuz) to the railway stations located in the GDR part of the capital Schöneweide, Ostbahnhof and Lichtenberg. [1]

The author, who used to live in Trebbin at the Anhalt railway, experienced the volume of traffic himself especially during the final years of the GDR. The railway divided the town of Trebbin into East and West. Record 1988: The level crossing barrier in question was closed for an hour to let 8 trains pass in both directions. Today, there is an underpass and in return a lot less trains as the trains to Frankfurt a. M., Stuttgart, Munich, Freiburg, Basel can travel much faster via the Hanover–Berlin high-speed railway.

However, this will change once again following the redevelopment of the section Bitterfeld – Halle/Saale and the new construction of the line Halle / Saale – Erfurt and Nuremberg. Once the extension is completed, a travelling speed of 200 km/h (320 mph) will be permit-

ted on the entire line. Thanks to the new high speed sections as well as the section between Nuremberg and Munich the travelling time from Berlin and Munich is reduced to less than four hours. In view of the autobahn blocked with trucks, it is unfortunately highly questionable that there will ever be as much freight traffic on this track as during the period described above...

In the course of the installation of the new Berlin traffic concept starting in 2002, the construction of a new line between Südkreuz and Ludwigsfelde with connection to new Berlin Central Station (lower level) began. This line was opened in time for the Football World Championship in 2006. Since then, all trains are passing directly through the heart of the capital.

Currently, the extension in the Berlin city zone is set to 160 km/h (Teltowkanal to city border) and from there to Lutherstadt Wittenberg to 200 km/h.

# Future

When I started the additional section in the add-on from Großbeeren via Diedersdorf, Glasower Damm, junction Selchow to the new Berlin Brandenburg Airport in February 2012, no one (apart from maybe a few people) could have guessed that BBI would ever be finished, at least not in 2012. Nevertheless, you are able to drive along and experience this section to Berlin Brandenburg Airport railway station in the add-on.

# Our route in TS2013

## Freight traffic

We did not forget the enthusiasts of rail transport.

This add-on features a sequence of facilities allowing interesting freight and shunting traffic.

- Container depot Großbeeren
- Connections to Teltow (5 operations in total)
- Connections in Ludwigsfelde (5 operations in total)
- Locomotive depot Lutherstadt Wittenberg
- Freight tracks Lutherstadt Wittenberg Ost
- Freight tracks in Niedergörsdorf, Jüterbog and Luckenwalde

## Specific features of the Add-on

As there is no real LZB for our simulator and the LZB for Munich – Augsburg was not available for licensing reasons which allow you to drive fast, a couple of curiosities have been built in. The transit through the stations Luckenwalde, Luckenwalde GBf and Jüterborg has been limited to 160 km/h.

The section from Berlin outer ring to Ludwigsfelde with 160 km/h is also marked by a significant picture source. I could not clarify for good if and when this section was released for 200 km/h in the period considered.

The restrictions for Luckenwalde and Jüterborg were imposed on purpose so it is possible to insert stopovers on high speed sceneries. Slowing down an ICE train at 200 km/h with one kilometre distant signalling distance to 60 km/h is impossible which explains the restrictions at these stations. Slowing down at 160 km/h is hard too, but it can be done.

# Alerting systems

As previously explained, this add-on does not feature LZB. It is outlined visually as there are cable loops on the track where you can go 200 km/h (theoretically). The sections permitting 200 km/h are introduced by a LZB sign and end with a speed limit (Lf7, mostly 160 km/h). I know, this does not always correspond to reality but, to me, it is a compromise that helps you driving in this add-on.

But all signals have a PZB which are secured with 1000Hz at the distant signal, 500Hz 250m before the main signal and 2000Hz at the main signal. At combination signals the magnets automatically deliver 1000Hz when the distant signal is set to warning which allows an exemplary driving operation provided the power unit feature the corresponding systems (VR  Expert Line, Fopix Br 218 and others).

In locomotives such as the Kuju-101 you will hear "Zugbeeinflussung" (continous automatic train running) in the cockpit while passing the 1000 magnet (distant signal set to warning). You can acknowledge this by pressing the key Q.

# Superelevation

When the development of this add-on started the simulator was still called Railworks. Then Train Simulator 2012 was released and introduced lighting. Train Simulator 2013 was released in September 2012 and featured super elevated curves. At that point the tracks were already placed in the add-on. So we decided to remove the existing tracks (and switches and marks and catenary masts and signals and mileposts; the section Jüterbog - Wittenberg was completely rebuilt) build with super elevation in the following sections:

Junction Dresdner Bahn (km 6.0) to Teltow (km 14.0),
Asig Ludwigsfelde (km 24.5) to Esig Trebbin (km 32.6)
Asig Trebbin (km 34.4) to Sbk 26129 (km 40.4)
Asig Jüterbog (km 62.8) to Esig Zahna (km 83.4)
Asig Zahna (km 84.2) to Esig Lutherstadt Wittenberg (km 92.2) in total about 51 Kilometers

# Scenarios

In the scenarios we used rolling stock that was either used in the European version of Train Simulator 2013 or whose license we purchased from Virtual Railroads including the double-decker coaches DBz, DABz and DBbzrf. I am aware of the fact that other vehicles are used in the Berlin area such as the RE 160 double-decker coaches, but they are currently not available for the TS 2013.

The RE-lines relevant for the add-on (RE3, RE4, RE5, RE9) are mostly served by 112.1 locomotives which are not available in TS 2013. Thus we chose the 111 Expert Line you can buy separately at Virtual Railroads so you can drive at 160 km/h in RE operation.



That is why several scenarios are available in two versions: one features the standard rolling stock from TS 2013 and the other one features rolling stock from other add-ons you would have to buy separately. This concerns the following add-ons for TS 2013:

Virtual RAILROADS - ICE1

Virtual RAILROADS - BR111 Expert Line and

Fopix Trains - BR218

Once you have installed these add-ons on your PC, you can install the corresponding versions of the scenarios.

| No. | Name | Description |
|---|---|---|
| 1 | Introducing the route | Introducing the route |
| 2 | Home run | Intercity to Berlin - all signals showing green! |
| 2a | Home run with vR ICE1 | ICE to Berlin - all signals showing green. |
| 3 | Morning rush hour | The first regional express train to Berlin in this morning |
| 3a | Morning rush hour with vR 111EL | The first regional express train to Berlin in this morning |

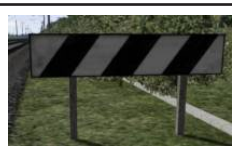
| | | |
|---|---|---|
| 4 | Carrying airline passengers | Carry airline passengers to the new Airport Berlin-Brandenburg and pick up other passengers there. |
| 4a | Carrying airline passengers with vR 111 Dosto | Carry airline passengers to the new Airport Berlin-Brandenburg and pick up other passengers there. |
| 4b | Carrying airline passengers back | Carry airline passengers back from the new Airport Berlin-Brandenburg to Berlin main station. |
| 4c | Carrying airline passengers back with vR 111 Dosto | Carry airline passengers back from the new Airport Berlin-Brandenburg to Berlin main station. |
| 5 | Ice storm | All signals showing green: drive the IC to Wittenberg. |
| 5a | Ice storm with vR ICE1 | All signals showing green: drive the ICE to Wittenberg. |
| 6 | Shunting in Großbeeren | Pick up the wagons from Teltow, from Spitzke and Bartscherer. Shunt the wagons to a train in Großbeeren at siding 3. |
| 7 | Containers for Berlin | Unload a container train. |
| 7a | Containers for Berlin with BR218 | Unload a container train |
| 8 | Journey with obstacles | Drive a container train to Großbeeren. You will be stopped repeatedly on your way... |
| 9 | Night train | Drive the last IC from Berlin to Wittenberg for today. |

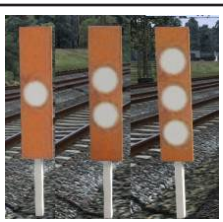
# Signals

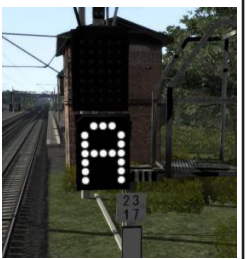
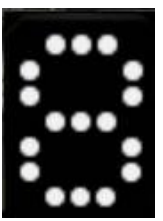
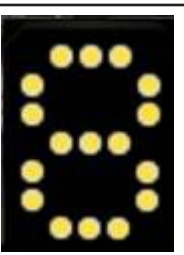
| | | |
|---|---|---|
| El 1 | "Turn off main switch" for electrical locos |  |
| El 2 | "Turn on main switch" for electrical locos |  |
| El 6 | „Stop for locos with pantograph raised" (End of overhead wires) |  |
| Hp 0 | „Stop" |  |
| Ks 1 | „Cleared" |  |

| | | |
|---|---|---|
| Ks 1 + Zs 3 | „Cleared with speed limit“<br>(number x 10 km/h). |  |
| Ks 1 blinking + Zs 3v | „Cleared,expect speed limit<br>(yellow number x 10 km/h) |  |
| Ks 2 | „Expect Stop“<br>(possibly in combination with Zs3) |  |

| | | |
|---|---|---|
| Lf 1 | „Expect a temporary speed limit“ (number x 10 km/h) |   |
| Lf 2 | “Begin” Begin of the temporary speed limit |   |
| Lf 3 | “End” End of the temporary speed limit |   |
| Lf 6 | “ Expect a permanent speed limit” Expect a Lf 7 with a speed limit of number x 10 in km/h |   |
| Lf 7 | “Permanent speed limit” (number x 10km/h. |   |

| | | |
|---|---|---|
| Ne 2 | "Distant signal sign"<br>Signal is a distant signal |  |
| Ne 3 | "Distant signal board"<br>Expect a distant signal |  |
| Ne 4 | "Checker board"<br>The main signal is on an irregular location.<br>(the image shows a main signal LEFT of the track) |  |
| Ne 5 | "Stop sign"<br>Stop here with the top of the train |  |
| Ne 6 | "Station sign"<br>Expect a station |  |

| | | |
|---|---|---|
| Ra 10 | "Stop for Shunting"<br>Do not pass this signage for shunting |  |
| Sh1 | "can be passed at 40km/h" |  |
| Sh2 | "Stop" |  |
| So 19 | "Main signal board"<br>Expect a main signal |  |
| Zs1 | "Replacement signal"<br>Passing the signal showing „Stop" (or defective signal) without written permission is allowed<br>(white blinking light) |  |

| | | |
|---|---|---|
| Zs2 | "Direction sign"<br>Points are switched to the displayed direction |  |
| Zs3 | "Speed limit"<br>(number x 10km/h) |  |
| Zs3v | "Expect speed limit"<br>Expect a speed limit (Zs3) |  |

| | | |
|---|---|---|
| Zs6 | "Track change sign"<br>You will be routed to the next main track |  |
| Zs 7 | "Attention"<br>Passing the defective signal (or showing Stop") is allowed, continue driving by visuals |  |

# Credits

We partly used textures from www.cgtextures.com for modelling objects.

We got the image of the cumulus congestus cloud for our weather from www.rabbarien.de. I want to thank Mr Andre Schneider for his wonderful image database.

The rolling stock used in the tasks mostly belongs to Virtual Railroads. Thanks for the support with the creation of this add-on.

This add-on would probably not exist without Mathias Gundlach, his signalling team and especially his constant willingness to modify, add and improve things and to provide a functional signalling system.

It would have taken much longer, if at all, to finish this add-on without the permission from Siegfried Derks to use this tracks, sounds, objects for the line modelling. So thank you much.

Virtual Railroads contributed their PZB system which works perfectly fine.

The hard-working and thorough beta testers were in alphabetical order:

Jan Bleiß, Benjamin Ebrecht, Maik Goltz, Christoph Otto,

Mathias Gundlach, Marco Weber und Günter Zehnel

The Aerosoft team also played in important part in completing this add-on.

Last but not last, I don't want to forget my family who let me do my work and supported me with advice and much patience.

Jan Bleiß

Wandlitz, den 9.4.2013

# Annex

## Speed tables

**Buchfahrplan HBF Berlin - Dresdner Bahn**

| 1 | 2 | 3a | 3b |
|---|---|---|---|
| **2,0** | **120** | | |
| | | **Berlin Hauptbf** | **2,2** |
| | | ASig | 2,5 |
| | | Sbk 51n1 | 3,6 |
| | | Sbk 52n3 | 4,1 |
| | | ESig | 6,2 |
| | | **Berlin Südkreuz** | **7,8** |
| | | ZSig | 8,0 |
| | | ZSig | 9,0 |

**Buchfahrplan Dresdner Bahn - HBF Berlin**

| 1 | 2 | 3a | 3b |
|---|---|---|---|
| | | **Berlin Südkreuz** | **7,8** |
| **7,8** | **120** | | |
| | | ZSig | 7,6 |
| | | ASig | 6,6 |
| | | Sbk 52n4 | 5,2 |
| | | Sbk 52n2 | 4,2 |
| | | ESig | 3,4 |
| | | **Berlin Hauptbf** | **2,2** |

**Buchfahrplan Berlin - Leipzig**

| 1 | 2 | 3a | 3b |
|---|---|---|---|
| | | ASig | 5,0 |
| **5,0** | **140** | | |
| | | Sbk 5411 | 6,4 |
| **6,8** | **160** | | |
| | | Sbk 5423 | 8,0 |
| | | **Lichterf Ost Hp** | **8,9** |
| | | Sbk 21107 | 9,0 |
| | | Sbk 21111 | 11,4 |
| **11,5** | **200** | | |
| | | Sbk 21113 | 12,4 |
| | | ESig | 13,4 |
| | | **Teltow** | **14,2** |
| | | ASig | 14,3 |
| | | Sbk 2213 | 16,4 |
| | | Bksig | 18,3 |
| | | **Bft Großbeeren Hp** | **18,4** |
| **18,8** | **160** | | |
| | | Bksig | 19,8 |
| | | **Birkengrund** | **20,5** |
| | | ESig | 23,2 |
| | | **Ludwigsfelde** | **24,4** |
| | | ASig | 24,5 |
| **25,6** | **200** | | |
| | | Sbk 26105 | 27,5 |
| | | **Thyrow** | **30,1** |
| | | Sbk 26111 | 30,6 |
| | | ESig | 32,6 |
| | | ZSig | 33.7 |
| | | **Trebbin** | **34,2** |
| | | ASig, ggf. Kennl. | 34,4 |
| | | Sbk 26123 | 36,8 |
| | | Sbk 26129 | 40,4 |
| | | SBk 31133 | 43,0 |
| | | **Wolterdorf** | **45,8** |
| | | Sbk 31139 | 46,2 |
| **48,6** | **160** | | |
| | | ESig | 48,8 |
| | | **Luckenwalde** | **49,7** |
| | | ZSig | 49,8 |
| | | ASig | 50,8 |
| **51,4** | **200** | | |
| | | Sbk 31153 | 53,3 |

| 1 | 2 | 3a | 3b |
|---|---|---|---|
| | | Sbk 33157 | 56,0 |
| | | Sbk 33161 | 58,4 |
| **60,2** | **160** | | |
| | | ESig | 60,9 |
| | | ZSig | 61,9 |
| | | **Jüterbog** | **62,5** |
| | | ASig | 62,8 |
| **65,0** | **200** | | |
| | | Sbk 4173 | 65,9 |
| | | ESig | 68,4 |
| | | **Niedergörsdorf** | **68,9** |
| | | ZSig | 69,0 |
| | | ASig | 69,6 |
| | | Sbk 4195 | 73,0 |
| | | **Blönsdorf** | **74,7** |
| | | Sbk 4273 | 76,6 |
| | | **Klebitz** | **78,6** |
| | | Sbk 4375 | 79,1 |
| | | Sbk 4377 | 81,2 |
| | | ESig | 83,4 |
| | | **Zahna** | **83,9** |
| | | ASig | 84,2 |
| | | **Bülzig** | **87,0** |
| | | Sbk 4395 | 87,6 |
| | | **Zörnigall** | **89,0** |
| | | Sbk 4867 | 89,9 |
| | | ESig | 92,2 |
| **92,2** | **160** | | |
| | | ZSig | 93,6 |
| | | **Lutherst Wittenb** | **94,2** |
| | | ASig | 94,4 |

**Buchfahrplan Leipzig - Berlin**

| 1 | 2 | 3a | 3b |
|---|---|---|---|
| **95,4** | **160** | | |
| | | ESig | 95,4 |
| | | **Lutherst Wittenb** | **94.2** |
| | | ZSig | 94,0 |
| | | ASig | 93,1 |
| **92,2** | **200** | | |
| | | Sbk 4868 | 90,5 |
| | | **Zörnigall** | **89,0** |
| | | Sbk 4394 | 87,2 |
| | | **Bülzig** | **87,0** |
| | | ESig | 84,8 |
| | | **Zahna** | **83,9** |
| | | ASig | 83,8 |
| | | Sbk 4378 | 81,9 |
| | | Sbk 4374 | 79,4 |
| | | **Klebitz** | **78,6** |
| | | Sbk 4370 | 77,3 |
| | | **Blönsdorf** | **74,7** |
| | | Sbk 4194 | 74,0 |
| | | ESig | 70,0 |
| | | ZSig | 69,2 |
| | | **Niedergörsdorf** | **68,9** |
| | | ASig | 68,7 |
| **65,0** | **160** | | |
| | | ESig | 64,1 |
| | | **Jüterbog** | **62,5** |
| | | ZSig | 62,4 |
| | | ASig | 61,2 |
| **60,2** | **200** | | |
| | | Sbk 33262 | 59,2 |
| | | Sbk 33258 | 56,8 |
| | | Sbk 31254 | 54,2 |
| **51,4** | **160** | | |
| | | ESig | 51,2 |
| | | ZSig | 50,0 |
| | | **Luckenwalde** | **49,7** |
| | | ASig | 49,5 |
| **48,6** | **200** | | |
| | | Sbk 31238 | 46,0 |
| | | **Woltersdorf** | **45,8** |
| | | Sbk 31234 | 43,4 |
| | | Sbk 26228 | 39,8 |

| 1 | 2 | 3a | 3b |
|---|---|---|---|
| | | Sbk 26224 | 37,4 |
| | | ESig | 34,9 |
| | | **Trebbin** | **34,2** |
| | | ASig | 33,7 |
| | | Sbk 26210 | 30,2 |
| | | **Thyrow** | **30,1** |
| | | Sbk 26206 | 28,3 |
| **25,6** | **160** | | |
| | | ESig | 25,0 |
| | | **Ludwigsfelde** | **24,4** |
| | | ASig | 23,8 |
| | | ESig | 22,0 |
| | | **Birkengrund** | **20,5** |
| | | BkSig | 19,3 |
| **18,8** | **200** | | |
| | | **Bft Großbeeren Hp** | **18,4** |
| | | Sbk 2224 | 17,0 |
| | | ESig | 15,1 |
| | | **Teltow** | **14,2** |
| | | ASig | 14,0 |
| | | Sbk 21112 | 12,3 |
| **11,5** | **160** | | |
| | | Sbk 21110 | 11,2 |
| | | **Lichterf Ost Hp** | **8,9** |
| | | Sbk 21106 | 8,8 |
| | | Sbk 5424 | 8,0 |
| **6,8** | **140** | | |
| | | Sbk 5422 | 6,4 |
| | | ESig | 5,2 |
| **5,2** | **120** | | |

# List of abbreviations

Abzw - junction

Asig – exit signal

Esig – entry signal

Zsig – in between signal

SBk – block signal

RE – regional express

LZB – on line continous automatic train running,cab signalling and train protection system allowing speeds of more than 165 km/h

PZB – pointed continous automatic train running, cab signalling and train protection system for speeds up to 165 km/

# Important note

Users owning an Nvidia video card can activate our improved sky by renaming the following files:

.\railworks\content\routes\f8b64803-ddb6-47bd-9ee8-69e3ceba1bf3\RoutePropertiesTTBSkyDome.xml

to

.\railworks\content\routes\f8b64803-ddb6-47bd-9ee8-69e3ceba1bf3\RouteProperties.xml

AND

.\railworks\assets\trainteamberlin\berlin-leipzig\templateroutes\TTB_KBS_250_Berlin-Leipzig_TTB-Himmel.bin

to

.\railworks\assets\trainteamberlin\berlin-leipzig\templateroutes\TTB_KBS_250_Berlin-Leipzig.bin.

Sadly, this does not work with ATI video cards.

# Sources

[1] http://de.wikipedia.org/wiki/Bahnstrecke_Berlin%E2%80%93Halle

[2] Die Signale der Deutschen Bahn AG, Signalbuch (SB) DS/DV301 – from 10 December 2006

train-world

Add-on for:

Train Simulator 2013

# SBB Route 1


The 70-km long SBB Route 1 takes you from Pfäffikon SZ (Schwyz) past the lower side of Lake Zurich to the Ziegelbrücke junction. The line runs along the left bank of Lake Walen to Sargans up the final destination of Landquart.

The newly-developed Swiss SBB signal system is included in a RailWorks add-on for the first time.

10 realistic locomotive driver activities offer you a variety of trips on the new RailWorks SBB -Route 1!

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**www.railworks-trainsimulator.com**