# Train Sim World ®
# Rapid Transit

## DRIVER'S MANUAL

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

# Contents

## Introducing Train Sim World®: Rapid Transit



Train Sim World®: Rapid Transit is an all new First-Person Simulator that brings to life the experience of S-Bahn commuter passenger trains on one of Germany's commuter railways.

Powered by Dovetail Games' new SimuGraph® vehicle dynamics engine and Unreal Engine 4® technology, Train Sim World uses real world data to accurately replicate the performance, sounds and feel of real trains. Master the DB BR 442 Talent 2 in and around Leipzig S2 as you ensure commuters get to their destinations. Catering for players of all ability levels with accessible tutorials for beginners and advanced procedures for experts.

# An Introduction to the Leipzig S2 S-Bahn



Originally formed from two separate networks, the Halle and the Leipzig S-Bahns of 1969, which were then lined in 2004, the reformed S-Bahn Mitteldeutschland was established following the completion of the Leipzig City Tunnel in December 2013. The new tunnel, which started construction in July 2003, unlocked service potential through the centre of Leipzig with all S-Bahn lines serving the 4 brand new underground stations, all of which are uniquely detailed. The exact definition of where the S2 Line runs has changed multiple times since the inception of the Mitteldeutschland S-Bahn, today however it covers the 70+ kilometre route from Markkleeberg-Gaschwitz, a station south of Leipzig which opened in September 1842, and Dessau Hauptbahnhof, 177 years old and a terminus of the S-Bahn Mitteldeutschland since December 2015.

With a modern network would come modern traction, and with the start of the S-Bahn Mitteldeutschland, a fleet of 51 Bombardier 'Talent 2' EMUs was ordered to run on the S-Bahn lines, including the S2. The majority of the Mitteldeutschland S-Bahn Talent 2 fleet, which is classified as the DB BR 1442, is formed of 3 articulated coaches, which often run in pairs to form 6-car sets in the busy hours. These Talent 2s are quite different in respect to most other German examples, as they are resplendent in a sleek sliver livery.

There is little doubt of the Talent 2's popularity, over 360 have been ordered since they started production in 2008, and they offer the latest in ergonomics, diversity and safety; in fact, their nickname of "Hamsterbacke" (Hamster Cheeks) is derived from their characteristic, crash-optimised cab design. With an operating speed of 160 km/h, the Talent 2 EMUs are ideally suited to commuter operation, and are perfect for working the Mitteldeutschland S-Bahn.

# Leipzig S2 S-Bahn Route Map
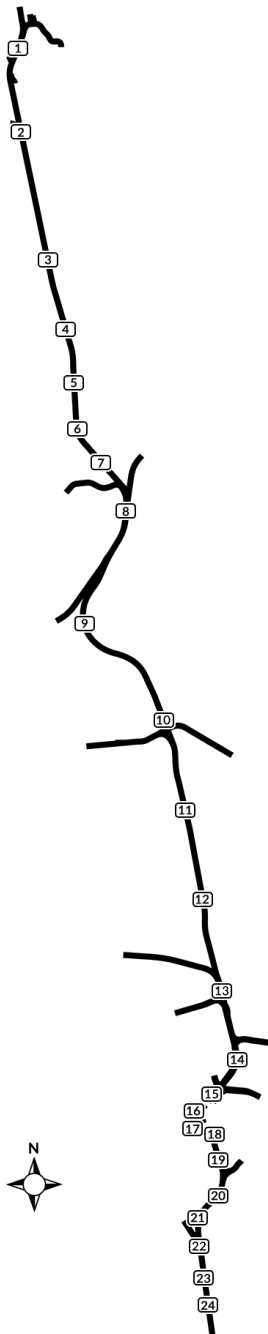
| 1 | Dessau Hbf |
|---|---|
| 2 | Dessau Süd |
| 3 | Marke |
| 4 | Raguhn |
| 5 | Jeßnitz (Anh) |
| 6 | Wolfen (Kr Bitterfeld) |
| 7 | Greppin |
| 8 | Bitterfeld |
| 9 | Petersroda |
| 10 | Delitzsch unt Bf |
| 11 | Zschortau |
| 12 | Rackwitz (b Leipzig) |
| 13 | Leipzig Messe |
| 14 | Leipzig Nord |
| 15 | Leipzig Hbf (Tief) |
| 16 | Leipzig Markt |
| 17 | Leipzig Wilhelm-Leuschner-Platz |
| 18 | Leipzig Bayerischer Bahnhof |
| 19 | Leipzig MDR |
| 20 | Leipzig-Connewitz |
| 21 | Markkleeberg Nord |
| 22 | Markkleeberg |
| 23 | Markkleeberg-Großstädteln |
| 24 | Markkleeberg-Gaschwitz |

# The Game Modes

### Tutorials
Tutorials give you the knowledge you need to get the most from your locomotives and trains via interactive lessons that teach you key concepts. If you're new to Train Sim World, we recommend you start here to learn the fundamentals.



### Scenarios
Provides a selection of operations over the Rapid Transit Leipzig S2 route, Scenarios are objective based activities which provides unique experiences. Put your skills to the test mastering the busy Leipzig S2 S-Bahn railway in Germany.



### Services
Provides a host of activities throughout an entire 24-hour time period, Service Mode is a new way to play. There's always something to do with a large variety of services to take control of or ride along with. Sit back and enjoy the action and capture amazing screenshots, hop on or off and ride along with the various services as they go about their duties or take control and carry out the duties yourself.

Featuring over 80 individual services, you'll always find something going on.

## An Introduction to the DB BR 442 Talent 2 EMU

The DB BR 1442 'Talent 2', known more common simply as the DB BR 442, was first introduced onto European soil in 2011 as an evolution of the previous 'Talent' electric and diesel multiple units. Despite sharing names however, the two families of units are most distinct with the Talent 2 offering improved crash safety, better performance, and all-round more widespread service potential.

The original Talent was designed by Waggonfabrik Talbot, however Bombardier would acquire the company before any construction would begin, and subsequently, Bombardier also oversaw the development of the brand new Talent 2, which began production in 2008. Like their predecessors, the Talent 2 family quickly proved popular, with hundreds ordered, and delivered, for operation throughout Europe.

It's all in the name; Talent of course alludes to particular skills or natural abilities, however in the case of the unit family, it is also a clever anacronym of TALbot LEichter Nahverkehrs Triebwagen, or Talbot light suburban railcar, and the Talent was sought out by many. The units range anything from 2 to 5 cars in length, and can easily achieve a maximum speed of 160 km/h, sailing past their predecessors' previous limit of 140 km/h.

The Talent 2s are also smooth, sleek and safe; shared Jacobs bogies allow for a lesser impact on the rails, keeping things quiet and comfortable for the passengers, all while reducing drag and improving efficiency, and ensuring the units stay upright in any derailments. They are also safe from a front-end point of view, the crash-optimised cab is designed to cushion impact, but it is this distinct detailing that earned them the nickname of "Hamsterbacke" (Hamster Cheeks).

As the Leipzig-Halle S-Bahn was set to be transformed into the Mitteldeutschland S-Bahn, with the opening of the Leipzig City Tunnel, a new fleet of rolling stock was required which met all the tunnel safety regulations, unlike older traction. Attention turned to the Talent 2 family, and at the cost of about 200 million Euro, an order for 51 EMUs was placed. Classified as the DB BR 1442, they entered service on the Mitteldeutschland S-Bahn lines in August 2013.

A total of 36 of the Mitteldeutschland S-Bahn DB BR 1442s are formed of 3 articulated coaches (as the 1442.1 subclass), which double up to form 6-car sets in the rush hour. Across all the lines, the daily ridership averages at 57,000, meaning the Leipzig City Tunnel in particular feels the pressure in the peaks, a pressure alleviated with a frequent timetable of Talent 2 action.

# Quick Start Guide: BR442 Talent 2

1.      Enter the leading cab

2.      On the back wall, hold the battery switch labelled "Batterie" to Ein for 4 seconds and then release.

3.      Observe the "Lampentest Schaltschrank" light is now lit.

4.      To run with PZB and/or SIFA safety systems enabled, toggle the PZB Störschalter and/or SIFA Störschalter switches to Ein appropriately.

5.      Sit in the Driver's seat

6.      Turn the Master Switch to the ON position

7.      Raise the pantograph by using the Pantograph Height Control Switch

8.      Turn on the main circuit breaker by Main Circuit Breaker Switch

9.      Ensure that the brake cylinder is showing pressure, indicating that the brakes are applied, it should be showing around 3 bar when stationary.

10.     Press the Handbrake Release button.

11.     Ensure the Throttle/Brake lever is set to the central position.

12.     Move the Indirect Brake Lever to the release position.

13.     Set the headlights to the correct position.

14.     Move the Reverser Switch to the forwards direction (marked "V" on the switch label).

15.     Open the doors left or right as required.  Door controls for each side of the train can be controlled independently. Interaction with the door system can be achieved by using the TAB key on the keyboard and selecting the appropriate option. If the doors are open, a relevant option to close and lock the doors will be available. **Important Safety Notice:** Care should be taken to ensure the correct doors are unlocked, only unlock doors that are adjacent to a platform. For reference, the left side relates to the left side when facing the direction of travel.

16.     Once it is time to depart, press the button to close the doors and wait for them to finish closing.  Push the Throttle/Brake lever to release the brakes and apply throttle, the unit should begin to pull away.

## Safety Systems – SIFA

SIFA is short for Sicherheitsfahrschaltung, or "Safety Driving Switch".
SIFA is a straight forward Driver Vigilance Device and its purpose is simply to ensure that the driver is constantly aware of the train and able to react and respond to the train in a timely manner.  It is similar in purpose to the DSD in the UK, and the Alerter in the USA.
If "SIFA" is visible on the central MFD with a yellow background it means that SIFA is not enabled.  Once enabled via a switch on the back wall or pressing SHIFT-ENTER, this indication will be removed and be simply an empty white box.

When driving with SIFA enabled, after a period of time the indicator on the MFD will come on (black text on a white background), press the SIFA reset key (by default, this is Q on the keyboard or the B button on the Xbox controller).
If the driver fails to respond to the visual notification, a few seconds later there will be an audible alarm which can still respond to in the same way without any penalty.
If, after a few further seconds there has not been a response from the driver, the train will apply emergency brakes and come to a full stop.  If the alarm is then acknowledged while the train is slowing down, the brakes can be released and then continue on with the journey without having to come to a complete stop.
If the train has come to a stop from a SIFA alarm simply acknowledge the alarm and then release the brakes and proceed.
Press the SIFA reset key any time and this will reset the SIFA timer.
The SIFA visual indication is also present on the HUD.

## Safety Systems – PZB

PZB stands for Punktformige Zugbeeinflussung.  Loosely translated to English this means "Intermittent Train Protection".
The PZB system is enabled by operating a switch on the back wall, or by pressing CTRL-ENTER.

PZB is a safety system that operates via a series of three types of track balise magnets at various key points along the line.  The purpose of the system is to ensure that the driver operates the train at an appropriate speed for the conditions that are ahead, such as approaching a speed reduction or a stop signal.
There are three controls that are used in order to interact with PZB:

| German | English | Key |
|---|---|---|
| PZB Wachsam | PZB Acknowledge | Page Down |
| PZB Frei | PZB Release/Free | End |
| Befehl40 | PZB Override | Del |

There are three types of PZB programme that can be selected on most trains, however on the Talent 2 it is hard coded to only use "Type O" for Passenger trains. The type reflects the speeds that should be adhered to at various points.

PZB is implemented via three types of magnet:

| 1000hz Magnet | 1250 meters from obstruction/signal |
|---|---|
| 500hz Magnet | 250 meters from obstruction/signal |
| 2000hz Magnet | At the obstruction/signal |

Magnets are only active if the signal they are protecting is showing a non-green aspect, they are also sometimes used on fixed posts such as speed reductions where they will always be active.

### How to Drive with PZB Enabled
Driving with PZB enabled can be a challenge for the new driver, pay full attention to the line ahead and know when to acknowledge a PZB event without any form of alert (visual or audible) in the cab, failure to do so in a timely manner will result in the train coming to a stop.

This is an example short journey that demonstrates the system in action, what the driver is seeing and what their reactions should be.

**Start Program**
From a standing start, with PZB enabled, the driver eases the combined handle forwards towards a green signal.  When the speed reaches 5 km/h the PZB system switches to its "Start Program" and flashes the 85 icon, putting a 45 km/h restriction message on the screen.  For the time being, the driver is limited to 45 km/h by the PZB Monitoring system, even if the line speed is higher.

The driver may now choose to release from PZB monitoring by pressing PZB Release (The END key), if they do this then the restrictions will be lifted and the driver can now proceed up to line speed.

The train is limited to 165 km/h under PZB control, faster than this requires a more advanced system called LZB that is not available on the Talent 2.  Should the driver exceed 165 km/h the system will automatically apply brakes to bring it back to within that speed.

**Stop Signal**
The driver observes that they are approaching a yellow signal. Within 4 seconds of passing that signal, the driver must press PZB Acknowledge (Page Down, or B on the controller), and on doing this a 1000hz icon will appear along with an 85 km/h restriction message.

The driver must now slow to 85 km/h within 23 seconds, or the emergency brakes will apply.

After 700 meters the 1000hz light will go out and the driver should now observe the condition of the upcoming signal – is it still red? Or has it returned to green?  If it has returned to green, the driver has an opportunity now to press PZB Release (the END key) to clear the 85 km/h restriction and return to line speed.  If the driver releases the restriction and then hits the next magnet because the upcoming signal is still red then the emergency brakes will apply.

If the signal ahead is still at danger, the train will pass over the active 500hz magnet.  This does not require an acknowledgement from the driver but the train must be travelling below 65 km/h as it passes over the magnet.  It also imposes a further reduction to 45 km/h which must be completed within 153 meters.
The driver should now pull up in front of the red signal.  If the driver goes past the red signal, the system will be tripped by a 2000hz magnet which will always stop the train.

An alternative approach to this red light could be that the driver has been given permission to pass it by the signaller.  In this instance, the driver must slow to below 40 km/h and hold the Befehl40 Override button down (the DEL key) as they go over the 2000hz magnet, this prevents it from triggering the emergency brakes.

**Restriction**

If the driver is under 1000hz or 500hz influence and brings the train to below 10 km/h for 15 seconds, or if they come to a complete stop, then a restrictive monitoring is enforced and this is visualised by the 85 icon now flashing and the speed limit being further reduced as indicated in the table below.

The following table shows the speed limitations that are enforced according to the types of magnets that are traversed:

| Normal Monitoring | | Restrictive Monitoring | |
|---|---|---|---|
| 1000hz | 500hz | 1000hz | 500hz |
| 165km/h -> 85km/h | 65km/h -> 45km/h | 45km/h | 45km/h -> 25 km/h |
| In 23 seconds | In 153 meters | | In 153 meters |

If not in restrictive monitoring:

On approach to an active 1000hz magnet, ensure the train is below 165km/h and then drop speed to 85km/h within 23 seconds.

On approach to an activate 500hz magnet, ensure the train is below 65km/h as the train passes it and then drop speed to 45km/h within 153 meters.

If in restrictive monitoring:

On approach to an active 1000hz magnet ensure the train is below 45km/h.

Under restrictive monitoring the train must always remain below 45km/h.

On approach to an active 500hz magnet, ensure the train is below 45km/h and then drop the speed to below 25km/h within 153 meters.

## Passenger Door Controls



In Train Sim World: Rapid Transit, you can control the passenger entry and exit doors on each side independently i.e. either left side or right side. A simple method of control has been implemented for the BR442 Talent 2. Simply press the TAB key to call up the menu and select which side of the train you wish to lock/unlock the doors.

On the Talent 2, you can also interact with the passenger doors by using the appropriate controls on the driver's control desk.
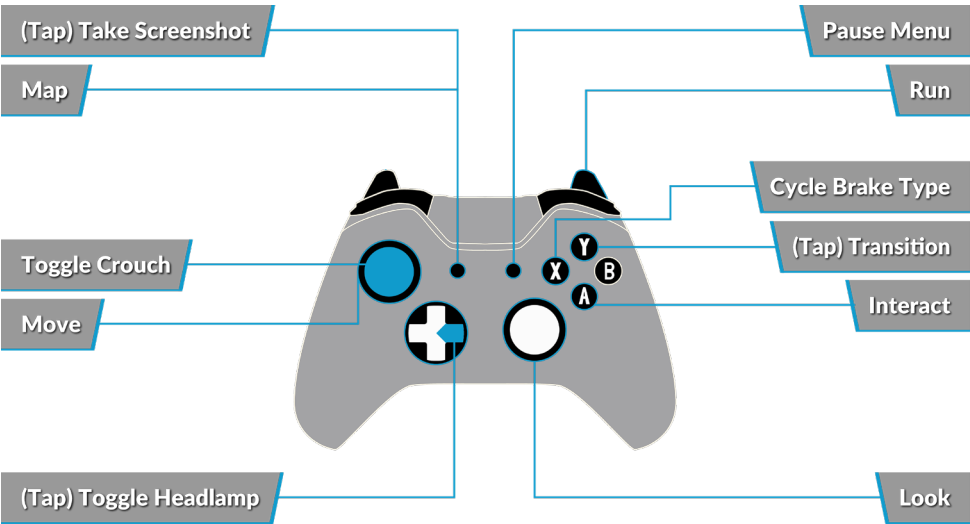
Once you have unlocked the doors, the passengers will be able to alight and board the train via any of the unlocked doors and care should be taken to avoid opening the doors on the wrong side of the train. A random length timer will begin to count down as shown in the indicator in the top-left of the screen. Once the timer has expired, you can then proceed to close the doors and proceed to the next station.
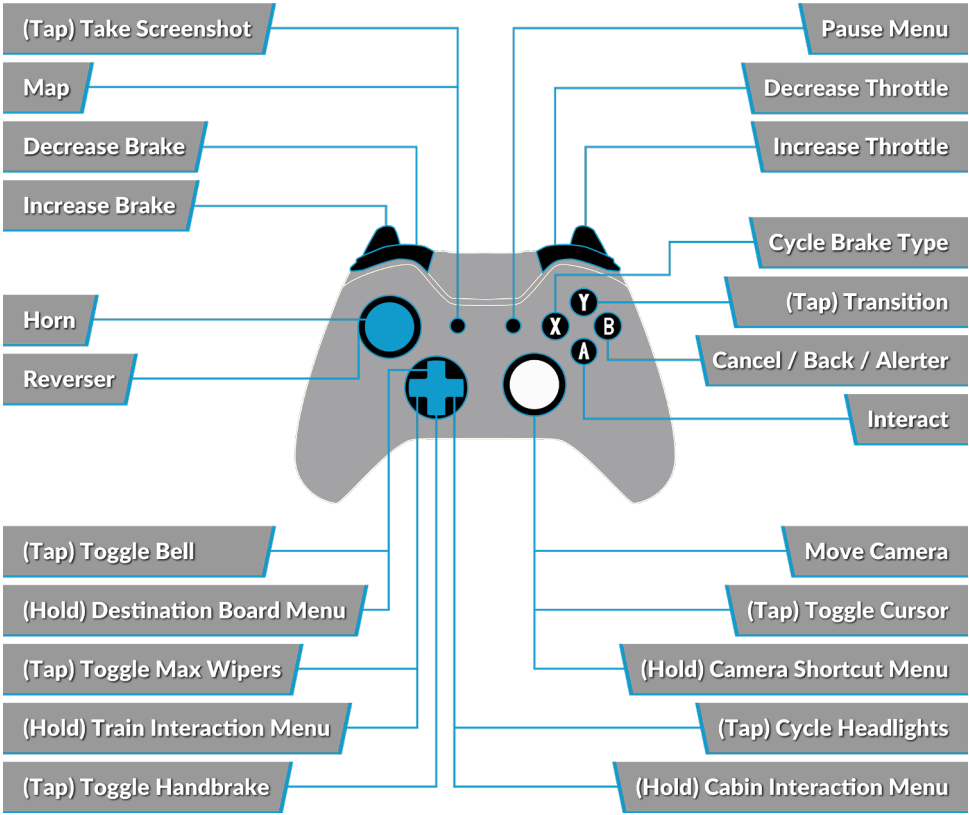
# Controls / Input Devices

Input devices like the controller and keyboard take on different functions depending on what you are doing.

| Mode | Notes |
|---|---|
| First Person | When walking around the world in first person, this is the mode that is active. |
| Diesel Locomotive Driving | While you are sat at the controls of a diesel locomotive, this is the mode that is active. |
| External Camera | If you are driving a locomotive and opt to move to an external view camera, the system will behave in this mode. |

**Controller - First Person Mode**

(Tap) Take Screenshot

Map

Toggle Crouch

Move

(Tap) Toggle Headlamp

Pause Menu

Run

Cycle Brake Type

(Tap) Transition

Interact

Look

## Controller - Locomotive Mode

(Tap) Take Screenshot

Map

Decrease Brake

Increase Brake

Horn

Reverser

(Tap) Toggle Bell

(Hold) Destination Board Menu

(Tap) Toggle Max Wipers

(Hold) Train Interaction Menu

(Tap) Toggle Handbrake

Pause Menu

Decrease Throttle

Increase Throttle

Cycle Brake Type

(Tap) Transition

Cancel / Back / Alerter

Interact

Move Camera

(Tap) Toggle Cursor

(Hold) Camera Shortcut Menu

(Tap) Cycle Headlights

(Hold) Cabin Interaction Menu

## Keyboard - First Person Mode

| W/A/S/D | Walk forwards, Backwards, strafe left and right |
|---|---|
| C | Crouch |
| E | Interact with ladder, stairs etc. |
| L | Toggle headlamp/torch |
| Shift | Run |
| Mouse move | Turn, look up/down |
| Mouse left click | Interact |

**Locomotive Controls**

| Name | Keyboard | | Controller | |
|---|---|---|---|---|
| | Increase/ Press | Decrease | Increase/ Press | Decrease |
| Throttle & Brake | A | D | Right Trigger | Right Bumper |
| Reverser | W | S | Left Stick Up | Left Stick Down |
| Indirect Brake | Apostrophe | Semi Colon | Left Trigger | Left Bumper |
| Headlights | H | SHIFT + H | DPad Right (Hold) | DPad Right (Hold) |
| High Horn | Space | | Left Stick Click | |
| Low Horn | N | | | |
| Uncouple | C | | | |
| Master Switch | CTRL + W | | | |
| SIFA Reset | Q | | B | |
| Pantograph | P | SHIFT + P | | |
| Sander | X | | | |
| Cab Light | L | SHIFT + L | | |
| Tempomat On/Off | R | | | |
| Handbrake | \ | SHIFT + \ | | |
| Emergency Brake | Backspace | | | |
| Wipers | V | SHIFT + V | DPad Up | |
| PZB Acknowledge | Page Down | | B | |
| PZB Release | End | | | |
| PZB Override | Del | | | |
| Toggle PZB | CTRL + Enter | | | |
| Toggle SIFA | SHIFT + Enter | | | |

# Controlling the Camera & Camera Modes

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

**First Person Camera or Cab Camera**
Use this camera to operate your locomotive, flip switches and handle all your cab controls.

**Boom Camera**
Just like the camera from Train Simulator 2018, your camera extends outward on an invisible pole, you can rotate it around your focussed vehicle. Use [CTRL] + Left & Right Cursor keys to switch between vehicles or press the [2] Key again to switch between the front and rear of your consist.

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

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

## Customising the HUD

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

| Control | Function |
|---------|----------|
| CTRL + 1 | Toggles the in-world objective marker |
| CTRL + 2 | Toggles the in-world next speed limit marker |
| CTRL + 3 | Toggles the in-world next signal marker |
| CTRL + 4 | Cycles the next speed limit / signal information panel in top right |
| CTRL + 5 | Toggles the speedometer panel (or clock/compass while walking) |
| CTRL + 6 | Toggles the Score Display |
| CTRL + 7 | Toggles the passenger stop marker on the track |
| CTRL + 8 | Cycles the centre dot transparency (off, 50/50, white) |

## Dovetail Live & TScom Accounts

Train-simulator.com is your one-stop destination for everything Train Simulator related, including features, interviews, competitions and all the latest news. We have an ever-growing and vibrant community of train enthusiasts from all over the world, ranging from experienced railroad veterans to new players getting into the world of train simulation. So, if you haven't already, why not sign up for an account today and join our community – we'd love to have you on board!
See more at: **www.train-simulator.com/register/**
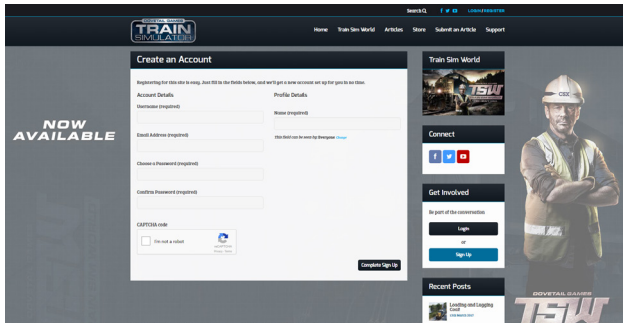


Dovetail Live is an online destination which enables players to interact with Dovetail's products and each other in an environment tailored specifically to fans of simulation entertainment. Dovetail Live will evolve to become central to Train Sim World®, enriching the player experience in every way from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

Signing up for Dovetail Live is completely voluntary. However, users that do sign up for it will receive exclusive benefits in the future.
See more at: **live.dovetailgames.com**
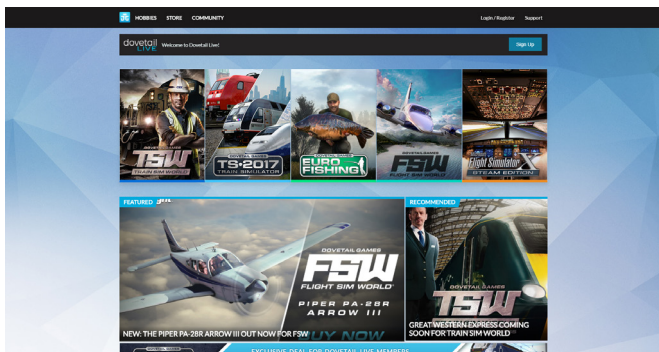
# Troubleshooting Guide & How to Get Support

**I have a problem downloading the Steam client, how do I contact them?**
You can contact Steam Support by opening a customer service ticket at support.
steampowered.com/newticket.php. You will need to create a unique support
account to submit a ticket (your Steam account will not work on this page) and this
will enable you to track and respond to any tickets you open with Steam.

**How do I install any secondary programs that the game may need?**
Train Simulator World: Rapid Transit requires certain secondary programs to
operate properly. These are standard programs that most up-to-date computers
already have installed on them, such as DirectX and Flash Player. If these programs
are not already installed on your computer, the installation files can be found on
the Train Simulator World: CSX Heavy Haul DVD-Rom, at the following location:
Local Disk (C:) > Program Files (x86) > Steam > SteamApps > common > TSW >
CommonRedist

**How do I change the language of TSW: Rapid Transit?**
This is an easy process and will allow you to play Train Simulator World: Rapid
Transit in English, French, Italian, German, Spanish, Russian and Polish. To change
the language of Train Simulator World: Rapid Transit, right-click on the Steam icon
on your PC desktop, left click on 'Library', right click on 'Train Simulator World:
Rapid Transit', left click on 'Properties', and finally left click on the Language tab and
select your preferred language.

**How do I reset my display screen size settings?**
It is possible to change the display screen size settings for Train Simulator World:
Rapid Transit from within the game. Changing display screen size settings is done
from the Settings menu in the Display tab.

**Where can I find the digital manual?**
This digital manual for Train Sim World: Rapid Transit can be downloaded from the
Steam Store Page at store.steampowered.com/app/577350. Scroll down the page
and locate the Download Manual Link to download.

**Can I download Train Sim World: Rapid Transit from Steam rather than the DVD?**
Yes, you can. If you do not have Steam already, download and install it from store.
steampowered.com/about. Once downloaded, open Steam and click 'Add a Game',
located in the bottom left corner of the Steam window. From here, select 'Activate
a Product on Steam' and enter the activation code on the inside back page of this
catalogue when prompted. Train Sim World: Rapid Transit will then download and
install automatically.

For any questions not covered here, visit our Knowledgebase at
**dovetailgames.kayako.com**
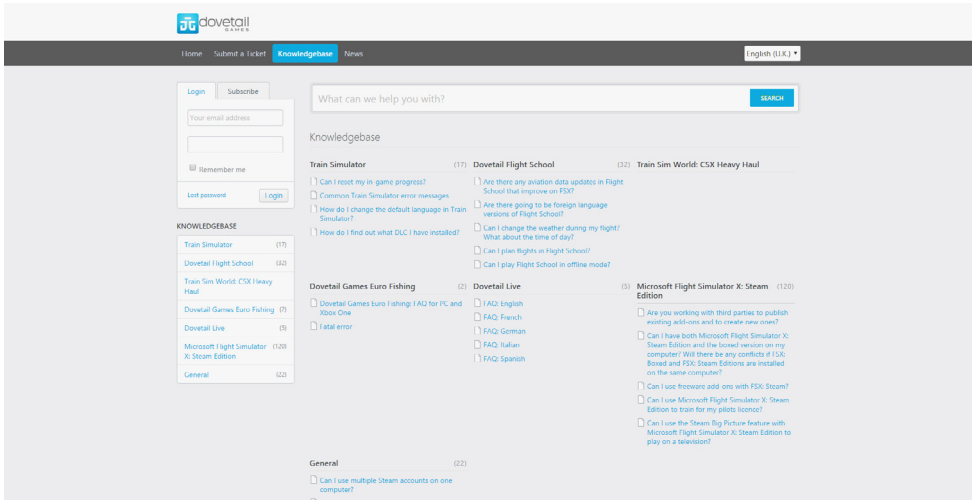
# DOVETAIL GAMES

## TSW

## TRAIN SIM WORLD®

## RAPID TRANSIT