DPZ S-bahn Shuttle

Re 450 - DPZ Bt

User Guide

For use with Train Simulator 20XX

Copyright information

Revision A: January 2021

Contents

1. Prerequisites

Intended audience

This document is intended to be used by customers who own TrainworX's DPZ S-Bahn Shuttle add-on for TS 20XX. The software is available for purchase at www.trainworx.nl.

Additional documents

1. For general instructions for using Train Simulator 20XX, please refer to the documents included with this game and the various information on the internet.

2. For additional scenarios, please visit our website at https://www.trainworx.nl/scenarios/

3. For information on various issues you might encounter while using this product please read our FAQ's at https://www.trainworx.nl/frequently-asked-questions-overview/

4. If you have any further inquiries, please contact us on support@trainworx.nl

System requirements

1. Modern PC with Intel 5,7 or 9 series (2020) or AMD Ryzen 5, 7 or 9 series (2020)

2. GPU Nvidia (preferred) 980, 1070, 2060 or equivalent

3. Internet connection (stable)

4. Computer with the following software installed on it:

   • Windows 7 or 10

   • Winzip , 7zip or any archive unpacking software

   • DTG Train Simulator 2019 or newer

NOTE: If you are connected to the internet when you install the software and you do not have .NET Framework installed on your computer, .NET Framework will automatically be downloaded and installed.

2. Software overview

Unpacking and installing the software:

After download, TwX_DPZ_VXX.zip needs to be unpacked before installing the software. XX is the version number.

After unpacking you will have the following files:

- TwX_DPZ_VXX.exe (installer)
- English, German, French and Dutch user manuals
- EULA

1. Please read the manual before installing the software

2. Install the software by running the installer (TwX_DPZ_VXX.exe). The installer will perform some operations in order for the add-on to become available in your TS environment. Please check the information in the progress windows until you arrive at the activation key input screen.

3. Look up and copy your personal serial key which was sent to you after purchase and can be found in your account on https://www.trainworx.nl under 'Downloads'. Then paste it into the serial key field and press next. This key should always look like the following format: XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX

4. Now the software will be installed on your system in your railworks folder (..Program Files (x86)\Steam\steamapps\common\RailWorks\Assets\TrainworX\.

NOTE: The installer looks up the location of your steam folder in the windows registry. Please make sure you install steam to the correct drive and not just copy the folder.

3. Game settings

1. Depending on your system, the graphics settings of your TS game should be set accordingly. If you get low frame rates or memory dumps (game crashes) please lower the quality settings. This can be route-dependent.

2. Set the controls to 'Expert' (Settings-Gameplay)

On most systems the following graphics settings work best. Please note that you might prefer running in 'Full Screen' instead of 'Windowed' mode and best resolution depends on your monitor.
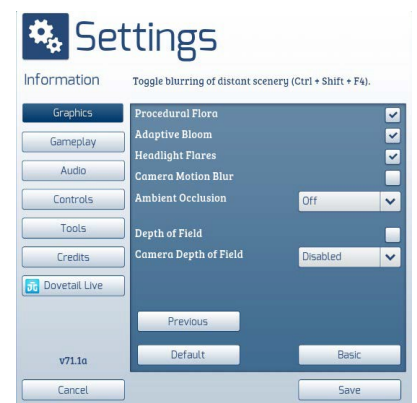
In the Pause menu (press esc during gameplay), please check the following settings for best results:
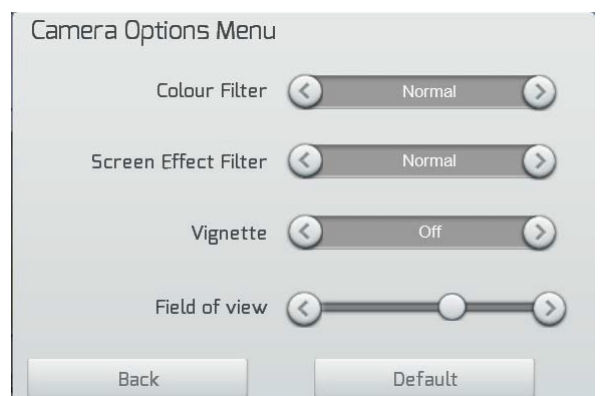
4. What's included

1. Re 450 Standard Engine

2. DPZ Bt Control Car

3. DPZ AB wagon

4. DPZ NDW wagon

5. Various (Quick Drive) consists

- DPZ4
- DPZ4 reverse (Bt)
- DPZ8
- DPZ8 reverse (Bt)
- DPZ12
- DPZ12 reverse (Bt)

6. Scenarios

Please check our website for DPZ scenarios (https://www.trainworx.nl/scenarios/)

5. Operating the DPZ

Startup sequence (basic):

1. Move to the cab (1), if the scenario starts outside.

2. Turn the key (Crtl-Z).

3. Set IBS to position 1 (Z), Lamp test will run, warning buzzers will sound. Also the dead-man safety will be activated. Press Shift-7 to de-activate.

4. Move IBS to position 2, Panto will be raised.

5. Once Panto is fully raised, move to position 4 (all the way to the right). The main switch will engage. The IBS handle will return to position 3 automatically.

6. Set reverser to forward (or reverse) (W-S).

7. Select max speed (V-soll) (Y-C).

8. Turn Regulator wheel to the right to add power and drive off.

Startup sequence (ZUB):

The default setting (off) will use the game's standard AWS system. If you choose to use the Swiss ZUB system please perform the following steps after step 5 of the basic startup sequence:

1. Press the green button on the ZUB panel. A testing sequence will run.

2. At the end of the ZUB test the emergency brake will be applied and a continuous warning buzzer will sound.

3. To end the test sequence and activate ZUB, press the red button on the ZUB panel.

4. ZUB is now active. There are 2 modes available:
   a) ZUB simulation on Rivet Games routes with ZUB magnets. This mode will be activated automatically after the train picks up the first magnet. This mode is the most realistic.
   b) ZUB simulation on routes with other magnets or without ZUB magnets. This mode tries to control the ZUB display using track and signal information.

5. Don't forget to re-activate the main switch after the Emergency Brake Test.

Driving:

After completion of the basic start-up operations, the train becomes drivable.

Acceleration

1. Loosen the Handbrake.

2. Set the V-Soll (Cruise Control Y-C) to the desired speed, normally 40 km/h at start.

3. Turn the combined regulator-brake wheel to the right first position. The engine will prepare to quickly start moving when wheel is turned further to the right.

4. Set the power to 10%, when the whole train is moving slowly, proceed to 50%. When you reach a speed of approx. 10 km/h you can turn the wheel all the way to 100%.

5. When the set speed is reached you can lower the power to approx. 50% or lower depending on conditions. The actual speed can now be set with the V-Soll handle (Y-C).

Deceleration

1. When driving at a certain speed, set by the V-Soll, you can decelerate by lowering the set V-Soll speed. The train will use the Dynamic Brake to slow down and then hold the required speed.

2. If you want to slow down to a halt, you can turn the combined regulator wheel to the left. This will engage the Dynamic Brake and from 45% also the Electro-Pneumatic (EP) Brake.

3. Alternatively, if you want to slow down more/faster you can increase the Electro-Pneumatic (EP) Brake (; - ').

Emergency Braking

1. If you require a manual Emergency Brake you can pull the Emergency Brake Handle all the way down ([-]).

2. The Emergency Brake will be engaged automatically in the following cases:
   a) When failing to press the deadman-pedal (in time)
   b) When failing to acknowledge a ZUB warning
   c) When the ZUB system detects exceeding the maximum speed or red signal

   NOTE: In the real Re 450 the Emergency Brake is also activated when pulling the Cruise Control lever down. This has not been implemented in the simulated version.

Parking Mode:

When leaving the cab and/or switching to the opposite side of the train you will have to engage the Parking Mode (Parkstellung).

Switch Parking Mode on

1. When fully stopped, press the Parking Mode on switch.

2. Now switch off the train (V-Soll off, Reverser neutral, IBS to off, Key off). The Hand Brake (Federspeicherbremse) is engaged, the Main Switch stays engaged and the Pantograph stays up. Also one headlight on each side of the train is on.

3. You can now move into the opposite cab

4. To activate this cab turn the key and perform a normal startup. Then press Park Mode off and loosen the Hand Brake. The lights will automatically return to normal operation.

Doors:

Door operations are not exactly as in reality. This mainly has to do with limitations of the game engine.

Prepare for doors to open

1. When a planned stop is made you can press the yellow door button. This button will light up when your speed is lower than 10 km/h.

2. When your train has come to a full stop you will need to press 'T' to open the doors. The yellow door light will start blinking.

3. A timer will run and close the doors automatically. The red door button will light up.

Controls:

The illustrations below reference the controls of the Re 450 and DPZ Bt cabs:

1. Key
2. IBS (In BetriebstellungsSchalter)
3. Reverser
4. Cruise Control
5. ZUB reset
6. ZUB activate
7. High Beams
8. Combined power-brake control wheel
9. Whistle
10. Doors free left
11. Doors free right
12. Electro Pneumatic Brake (EP-Brake)
13. Emergency Brake
14. Wipers
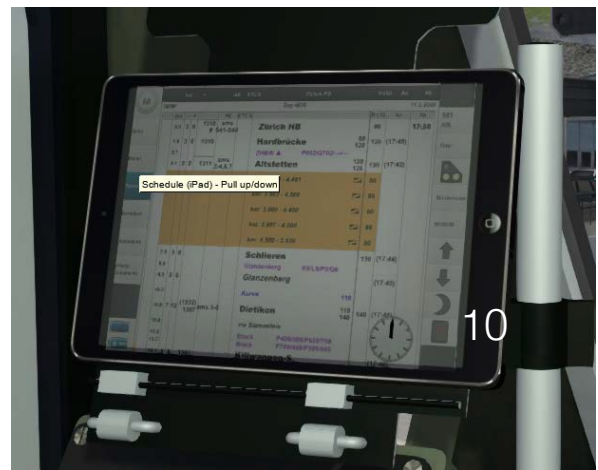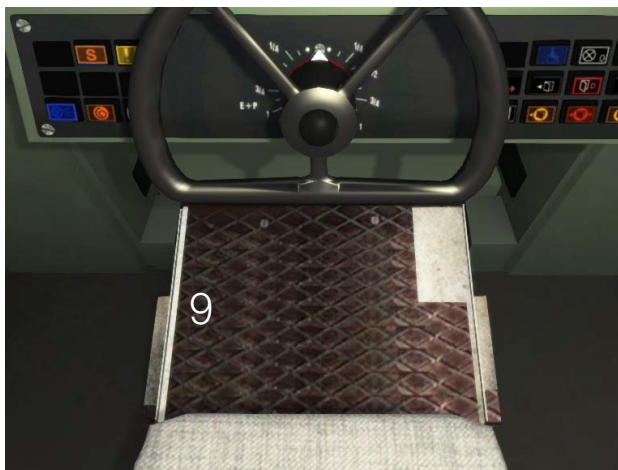
Controls:

The illustrations below reference the controls of the Re 450 and DPZ Bt cabs:

1. Cab Light

2. Shunting Mode (Manoever)

3. ZUB acknowledge

4. Meter Illumination

5. Parking Mode on

6. Parking Mode off

7. Emergency Lights

8. Desk Drawer

9. Dead-mans Safety Pedal

10. iPad schedules

Key Mapping:

This mapping is for a US QWERTY keyboard

Key mapping | TrainworX DPZ S-Bahn Zug

Control	Type	Toggle	Increase	Decrease
Ignition Key	Toggle	Ctrl-Z		
IBS	Move		Z	Shift-Z
Reverser	Move		W	S
Cruise Control	Move		Y	C
Throttle-Brake Wheel	Move		A	D
Hand Brake	Toggle		Equals (=)	Minus (-)
EP Brake	Move		Semicolon (;)	Apostrophe (')
Emergency Brake	Move		[	]
Horn/Whistle	Toggle	B		
Pedal	Toggle	Spacebar		
ZUB Acknowledge	Toggle	Q		
ZUB Free	Toggle	Shift-Q		
Wipers	Move		V	Shift-V
High Beams	Toggle	Ctrl-H		
Mirrors	Toggle	Ctrl-S		
Luggage Door (450)	Toggle	R		
Cab Light	Toggle	L		
Instrument Light	Toggle	I		
Shunting Mode	Toggle	Ctrl-M		
Activate Driverf Alert Safety	Toggle	Shift-7		
Schedule	Move		Shift-F	Ctrl-Shift-F
Destinationboards	Move		Ctrl-F9	Ctrl-F10
Sander	Toggle	X		

6. ZUB 121

When driving on a Swiss route it is preferred to have the ZUB 121 system active. This system is like the Dutch ATB and German PZB. ETCS will in time overtake this system in all of Europe.

This DPZ has 2 ZUB modes:

1. Emulated ZUB for routes without actual ZUB magnets (for input from the signals and track)

2. Real ZUB for routes that have AUB magnets placed on the tracks. At the moment this is only available on Swiss routes by Rivet Games.

A. Emulated ZUB

This system is active when the ZUB testing sequence has finished (see page 9). The engine will take information coming from the track and signals to simulate ZUB 121. This system fully dependent on the quality of the route it drives on and will, from time to time, miss correct information to function properly. Mostly however you will get notified of speed restrictions down the track and brake curves will have to be enforced in order to prevent warnings and or emergency stops.

If you find that a specific route does not 'play well' with this system you should probably refrain from activating ZUB and use the basic AWS system instead (default)

B. Real ZUB

After activating ZUB and driving off in the mode mentioned above (1), the DPZ will be 'listening' for Rivet Games ZUB magnets. Once it detects one it will automatically switch to Magnet ZUB mode.

Now the ZUB 121 display is fully dependent on information coming from the Magnets. This should in theory give you a realistic ZUB behavior. The magnet at the warning signal sends a signal to the display after passing it which has the display show the upcoming main signals restricted speed (for example 60 km/h). If that speed is lower than the current driving speed a braking curve is monitored and you should slow down gradually (to 60) until you reach the main signal. After passing that signal the display will switch to ' monitored' mode (----).

General behavior

After getting a warning about a restriction ahead the display will show (----) after entering the restricted area (main signal). When the restriction is lifted (end of restricted area) the display can show 7777, which means that the restricted speed is still active until your complete train has passed that magnet, the display will then return to 'no restriction' (----). This means that you should now adhere to the maximum speed set for that specific stretch of track.

When passing a signal showing a restriction (and a magnet sending that restriction to the ZUB display), the ZUB warning buzzer sounds and the ZUB button starts flashing yellow. You have to turn that button to the right to acknowledge. Failing to do so will result in an emergency stop.

If you drive up to a halt signal (red main signal) the display will show a '0' (zero). Once you have come to a full stop you cannot start moving until the main signal turns to something else than red. You will get a

warning and emergency stop if you choose to ignore this rule. If the signal changes from red to yellow or green, you can break out of the ' stop' mode by turning the ZUB acknowledge button to the LEFT. You can now proceed to pass the main signal with a max. speed of 40 km/h.

NOTE: Non-Rivet routes like Zürich-Olten have known inconsistencies in the signals. This means that you will see 'weird' ZUB info every now and then. We have scripted the emulated ZUB in way that the system will then show ----, which means that you need to be careful and adhere to the signs and signals.