Type	**TS Classic: Additional software**
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Foreword

Dear TrainSimmer,

One of the most enjoyable activities in our hobby is testing the limits of the simulator and trying out new ideas. Sometimes such experiments lead to serious new projects. The software presented here is actually just a technical demo of a much more powerful framework, for which unfortunately no public use is currently foreseeable. Nevertheless, in my opinion, the software is a gain in realism, which is why I am happy to make it available to you.

This standalone version of an external door level indicator for is to be understood as a technical demo. It is specially tailored to a few vehicles and will not work with every vehicle in Train Simulator Classic. The program displays the door status as well as the signals Zp10 ("Close doors") and Zp 9 ("Depart") at the end of the passenger change.

Particularly in view of the prototype character of the software, I am very interested in feedback and an exchange of ideas. So please feel free to join the discussion - preferably in the support forum at https://trainteam.berlin/forum/index.php?/topic/1718-neues-zusatzprogramm-t%C3%BCrmonitor/ !

Thanks to the constructive and extensive feedback, the "Overlay" mode was quickly added. There was also a great tip for use on mobile devices, which we have included in the appendix.

The program currently only works fully with the BR 481 and BR 483/484 S-Bahn vehicles from TrainTeamBerlin - however, an extension to other vehicles is not ruled out.

Have fun with this additional program
Benjamin Ebrecht, TrainTeamBerlin

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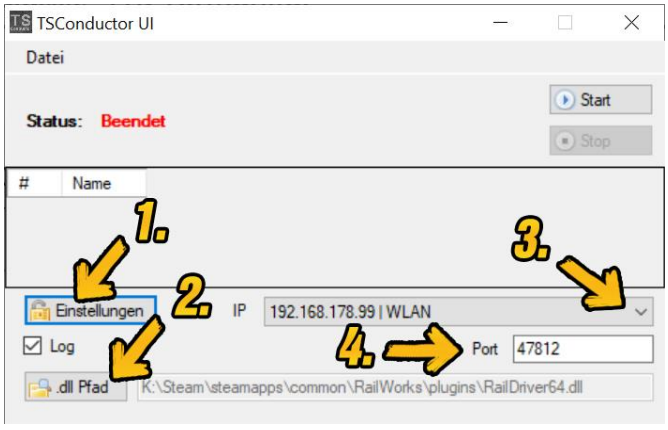
Functionality

Before the installation instructions, a brief introduction to how the system works should be given:

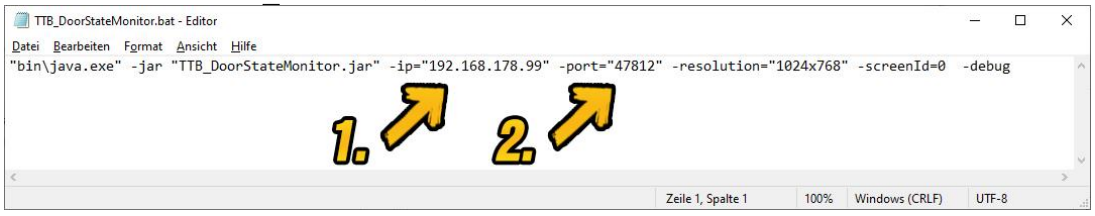
- As an additional program to TrainSim Classic, the "TS-Conductor" is able to read values from the current player vehicle and make them available to other programs on request via network communication or receive commands for the Train Simulator from outside (function as a local server).
- The "TTB Door Monitor" now functions as a client that logs on to the TS conductor, requests the corresponding data and graphically displays the door monitoring status. This makes it possible to recognize when the in-game passenger change in TrainSim has been completed without having to use the HUD with the F3 key.

Installation

- The "TS-Conductor" is required first. If you are using a 64-bit operating system, please install the 64-bit version of the program: https://rail-sim.de/forum/filebase/entry/3505
- Start the "TS-Conductor". Configure the program:
  - 

- 1. click on "Settings" to activate the configuration.
- 2. select the "RailDriver64.dll" (RailDriver.dll when using the 32bit version of the program) from your TrainSimClassic installation. The file can be found in the folder ..\railworks\pulgins\.
  - If you do not know the installation path of your simulator, proceed as described here: https://trainteam.berlin/forum/index.php?/topic/1712-faq-train-simulator-classic-grunds%C3%A4tzliches-sowie-f%C3%BCr-einsteiger/&do=findComment&comment=13097
- 3. select one of your networks that allows communication between the programs.
- 4. select a port. The selection can be flexible. It is recommended not to use any of the ports used elsewhere (e.g. 80 for http communication). The port 47812 specified in the example will certainly not lead to problems due to overlapping with the communication of other programs and is therefore well suited.
- 5. finish the configuration by clicking on "Settings" again (see 1.).

- Unzip the folder contained in the download archive to any location on your computer.
  - Note: the "TTB Door Monitor" is a Java program. However, as a free Java distribution is supplied with this tool, it is not necessary to have a separate Java installation on the computer.

- Configure the start file **TTB_DoorStateMonitor.bat** in this folder:
  - 

  - A) Right-click on the file and select "Edit"
  - B) You get the above view. Adjust at least the parameters marked with 1. and 2.
  - C) For -ip="<xx>", enter the IP address that you have selected for your network in the TS-Conductor instead of <xx> (see above).
  - D) For -port="<xx>", enter the port that you have selected for your network in the TS-Conductor instead of <xx> (see above).
  - E) Further parameters can be adjusted, deleted or added with regard to the display of the program, see also the "Configuration" section
  - F) Save your changes and close the window.

Use of the program

In addition to Train Simulator Classic, the TS-Conductor must always be opened and started for the door monitor to work. The "TTB Door Monitor" is designed to be comparatively flexible and can be started before Train Simulator and TS-Conductor, but the appropriate vehicles will still be recognized after the scenario start. A possible starting sequence is:

1) Start the "TS-Conductor" program.
2) Click on "Start" in TS-Conductor to start the server.

3) Open the TTB door monitor via the "TTB_DoorStateMonitor.bat" link
4) If necessary, align the "TTB door monitor" to the desired screen (if not automatic).
5) Start Train Simulator Classic with a supported vehicle.

The program can be closed by right-clicking in the graphics field for 1 second, especially if full-screen mode is being used.

The door monitor is designed to be displayed on a separate screen on which Train Simulator is not running. This can be another monitor on the same gaming PC.

Tip: Running the program on another computer in the home network also works, as long as the network communication between the computers is not blocked.

The „Overlay" mode

An additional program mode has been implemented since version 1.1. The "Overlay" mode differs from the normal program mode in two ways:

- 3 seconds after the door has been closed and the train has departed, the program window turns transparent. It becomes visible again when the train is stopped the next time.
- In "Overlay" mode, the program "fights" for the foreground repeatedly and is therefore suitable for being displayed in the foreground in front of the (full-screen) Train Simulator

To use the "overlay" mode, the start parameter -overlay must be used (e.g. with the additionally supplied start shortcut, which must also be configured). Window size and other settings can also be set there as usual.

This means that the program in overlay mode is also appropriate for use on systems with only one monitor. Alternatively, a mobile device can be used (see Appendix I).

Note: To ensure that the overlay mode can work safely in the foreground without affecting the use of TrainSim, the program has been prevented from becoming an active window. This means that it will not intercept any keystrokes and will not appear in the taskbar. However, it can be moved as usual by dragging it with the left mouse button and closed by right-clicking for 1 second.

Configuration of the program

Various start parameters can be entered in the supplied start link "TTB_DoorStateMonitor.bat" according to the pattern -<parameter>=<value> in order to preconfigure the program. The following parameters can be used:

- Start parameter -ip="<x>"
  - IP address of the TCP server with <x> as IP entry
  - Must match the server IP of the TS-Conductor
  - Example: -ip="192.168.178.1"
- Start parameter -port="<y>"

  - Port of the TCP server with <y> as port entry
  - Must match the port of the TS Conductor
  - Example: -port="4711"
- Start parameter -resolution="<z>"
  - Selection of a resolution for the door status display with <z> as an entry
  - Example: -resolution="1024x768"
- Start parameter -screenId=<a>
  - Selection of a screen on which the door status display is to be shown
  - Numbering of the screens starting at 0, ascending
  - Example: -screenId=0
- Start parameter -fullscreen
  - Starts the door status display in full screen mode
- Start parameter -overlay
  - Starts the door status display in overlay mode (c.f. above)
- Start parameter -debug
  - Activates diagnostic output in the command line window

Supported vehicles

The use of the door monitor is limited to suitable vehicles, as the necessary vehicle controllers are not standardized. The following vehicles are currently supported:

- Class 481 (Addon "The Class 481" / TrainTeamBerlin)
- Class 483/484 (Addon "Rimgbahn Berlin" / virtualTracks and TrainTeamBerlin)
- Class 483/484 (Addon "BR483/484 ExpansionPack" / TrainTeamBerlin)

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The "TTB Door Monitor" provides an OpenJDK instance as a Java Virtual Machine. OpenJDK is licensed under the "GPLv2 + Classpath Exception" (GPLv2 + CPE).

Appendix I: Notes on use under Android and iOS with „spaceDesk“

Understandably, the desire quickly arose to be able to use this additional program on mobile devices that are not operated with Windows. Although platform-independent use seems obvious for this app, the development and distribution of full-featured apps for two other operating systems goes beyond the goals of this "sideline project" in regard to the required time and effort. We are therefore happy to adopt a welcome tip from the community.

By using additional software, the "door monitor" can also be brought to mobile devices relatively easily. It is used in the same way as on a PC - but an additional virtual monitor is set up with a desktop application and displayed on the Android or iOS device via a corresponding mobile app. It is therefore obligatory to mention at this point that the use of third-party software is always at your own risk. The programs used are completely free of charge and free of advertising at the time of publication of these instructions.

Quick guide:

- From your PC on which Train Simulator Classic is running, visit the manufacturer's website https://www.spacedesk.net/de/
- Download the appropriate driver software for primary devices for your system and install it ("SPACEDESK DRIVER SOFTWARE for Windows PRIMARY PC (server)")
- On your mobile device, download the "deskspace Display Screen Cast" from the relevant software store (under Android in the PlayStore, on Apple systems in the AppStore)
- After installation, start the "SpaceDesk DRIVER console" on your PC
- The control center is intuitively structured:
    - Use the "spacedesk DRIVER <computer name>" slider to activate the driver
    - As a standard solution, it is enough to keep the "Local Area Network" ticked in the "communication interface" area to connect the mobile device to the computer via the local WLAN.
    - In the "Videowall" area, also activate the display of an additional virtual monitor using the "Videowall Mode" slider
- Open the client app on your mobile device.
    - Establish a new connection with your computer, which should already be listed if the driver is activated
- The virtual PC screen is now displayed on the mobile device.
    - You can make changes on the PC in the Control Center or the display settings, such as adjusting the screen resolution
- Start the door monitor app and display it on the virtual monitor
    - For regular use, it is advisable to preselect the display ID with the start parameter -screenID in the start shortcut

Appendix II: List of supported vehicles

Attached you will find an exact list of the supported vehicles from Train Simulator Classic. The display follows the scheme <provider>.:.<product>.:.<vehicle name>.

TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 1/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 2/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 3/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 4/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Rollband 1/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Rollband 2/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Rollband 3/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Rollband 4/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Ursprungslack Rollband 1/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Ursprungslack Rollband 2/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Ursprungslack Rollband 3/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Ursprungslack Rollband 4/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Ursprungslack 1/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Ursprungslack 2/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Ursprungslack 3/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Ursprungslack 4/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Adagio 1/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Adagio 2/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Adagio 3/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Adagio 4/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung DDR-Museum 1/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung DDR-Museum 2/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung DDR-Museum 3/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung DDR-Museum 4/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Donuts 1/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Donuts 2/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Donuts 3/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Donuts 4/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Fußball 1/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Fußball 2/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Fußball 3/4
TrainTeamBerlin.:.TTB_BR481.:.TTB BR 481 Werbung Fußball 4/4
TrainTeamBerlin.:.TTB_BR483-484.:.TTB BR 483-A
TrainTeamBerlin.:.TTB_BR483-484.:.TTB BR 483-B
TrainTeamBerlin.:.TTB_BR483-484.:.TTB BR 484-A
TrainTeamBerlin.:.TTB_BR483-484.:.TTB BR 484-D
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB BR 483-A
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB BR 483-B
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB BR 484-A
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB BR 484-D
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 483 001-A EP "Ich Bins"
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 483 001-B EP "Ich Bins"
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 483 001-A EP "Komplett"
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 483 001-B EP "Komplett"
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 483 004-A EP "Ideenzug"
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 484 003-A EP "Ich Bins"
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 484 003-D EP "Ich Bins"
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 484 085-A EP "Komplett"
TrainTeamBerlin.:.TTB_BR483-484_ExpPack.:.TTB 484 085-D EP "Komplett"
virtualTracks.:.Ringbahn.:.TTB BR 483-A
virtualTracks.:.Ringbahn.:.TTB BR 483-B
virtualTracks.:.Ringbahn.:.TTB BR 484-A
virtualTracks.:.Ringbahn.:.TTB BR 484-D