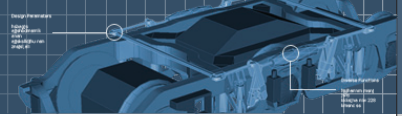


TRAINZ™ **SIMULATOR 2010** **ENGINEERS EDITION**



MANUAL



CONTENTS

| | |
|---|----|
| 1 - INTRODUCTION TO TRAINZ | 3 |
| 2 - GETTING STARTED | 5 |
| 3 - MENU SYSTEM | 8 |
| 4 - TUTORIALS | 9 |
| 5 - ROUTES MODULE | 10 |
| 6 - DRIVER | 11 |
| 7 - NAVIGATING THE DRIVER INTERFACE | 13 |
| 8 - CREATING A SIMPLE DRIVER SESSION | 18 |
| 9 - SURVEYOR TUTORIAL | 19 |
| 9.1 BUILDING YOUR WORLD..... | 19 |
| 9.2 TOPOLOGY | 21 |
| 9.3 GROUND TEXTURING | 22 |
| 9.4 INDUSTRIES | 23 |
| 9.5 LAYING TRACK | 25 |
| 9.6 LOCOMOTIVES, ROLLING STOCK AND CONSISTS | 26 |
| 9.7 ASSIGN A DRIVER | 28 |
| 10 - USING RULES | 30 |
| 11 - ENVIRONMENT MENU | 33 |
| 12 - LAYERS | 35 |
| 13 - FAVORITES | 36 |
| 14 - CONTENT SEARCH FILTER | 38 |
| 15 - SETTINGS | 39 |
| 16 - MANAGING YOUR CONTENT | 41 |
| 17 - KEYBOARD CONTROLS | 47 |
| 18 - CREDITS | 52 |

1 - INTRODUCTION TO TRAINZ

Welcome to the latest edition of the Trainz series, Trainz Simulator 2010: Engineer Edition (TS2010:EE).

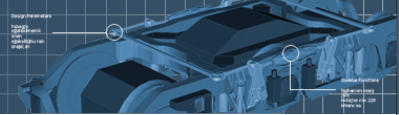
With this, the 2010 edition of Trainz Simulator, we have created the next step in the Trainz progression, with a brand new menu interface and many new updates and features. Whether you wish to drive the trains yourself, manage 'AI' operations of multiple trains, control industries or create your own Trainz world, TS2010:EE is the platform that will allow you to do this and more to bring your virtual railway to life.

The team at N3V Games wish to thank you for purchasing this evolutionary product, and we trust that you will enjoy not only what's in the box, but also the rapidly growing online Trainz community and wealth of free user created / 3rd party content that expands and enhances your experience. You can discover more about Trainz at

<http://www.railroadsimulator.com/>

COMMON TERMS USED IN THIS MANUAL

- Click - use the Left Mouse Button (LMB)
- Double-Click - clicking the LMB twice
- R-Click - use the Right Mouse Button (RMB)
- Mouse-over - move the cursor over an object and pause
- Drag - click and hold the LMB then drag the item
- Hotkey – press the key described to carry out the action



BASIC CONTROLS

KP = numpad

| | | |
|---------|----------------|-----|
| W | Throttle Up | KP8 |
| X | Throttle Down | KP2 |
| S | Throttle Idle | KP5 |
| Q | Brake Release | KP9 |
| A | Brake Lap | KP6 |
| Z | Brake Apply | KP3 |
| F | Reverser Fwd | KP* |
| R | Reverser Bwd | KP/ |
| H | Horn | KP+ |
| B | Bell | KP- |
| L | Headlight | |
| Shift-L | Dimmer | |
| V | Toggle sanding | |
| P | Pause | |

CAMERA HOTKEYS

| | |
|---|-------------------|
| 1 | Internal CAB View |
| 2 | External View |
| 3 | Tracking View |
| 4 | Roaming View |

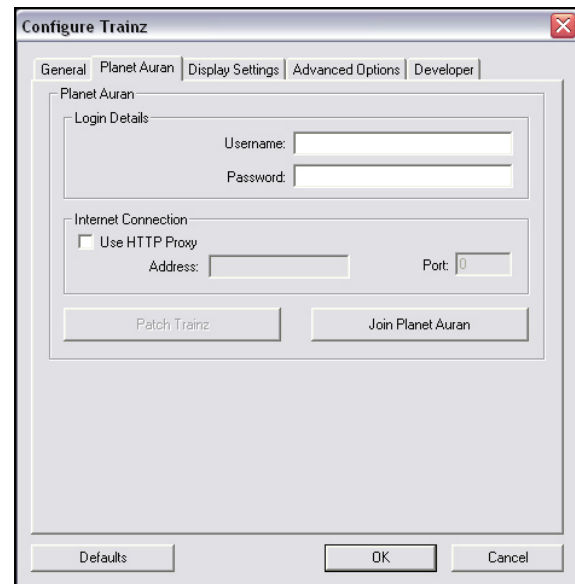
INTERFACE HOTKEYS

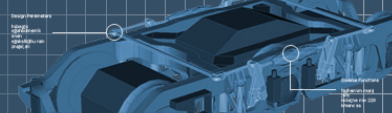
| | |
|----|-------------------------|
| F5 | Interface Toggle on/off |
| F6 | Driver Bar |
| F7 | Button Bar |
| F8 | Custom HUD |
| F9 | HUD Controls |

2 - GETTING STARTED

To get the most out of your Trainz experience, it's a good idea to do a little preparation first. Make sure your PC has up to date graphics drivers, clean your mouse and keyboard, grab the beverage of your choice, adjust your chair, and you'll be ready for a rail journey of a lifetime. Welcome to the world of Trainz.

Once you have installed Trainz click on the Trainz to start the Launcher. A hardware check will run automatically to verify if your computer is up to date and is capable of running Trainz. To get the most from your Trainz experience open the click the Options button to open the configuration screen. From here you can enter your Planet Auran profile details.





If you are new to Trainz click Join Planet Auran to create a Planet Auran profile. Although not compulsory, once you have a profile you can register your serial number and gain access to over 100,000 items available on the Download Station. Note you must be connected to the internet to register with Planet Auran.



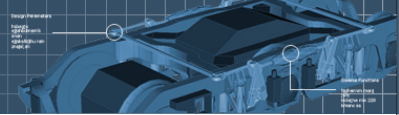
You can update or change these details by clicking on Options on the Trainz launcher at any time. Once these details are entered, click on OK to save them and click Start launch Trainz.

PERFORMANCE TWEAKS

If you are having issues with game performance on your machine, please try the tweaks listed below:

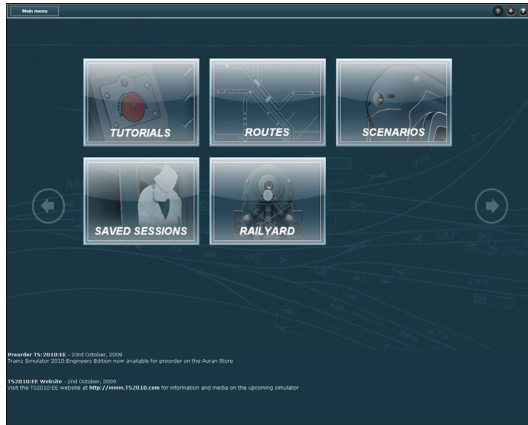
- **Draw Distance** (Trainz in-game option): Larger draw distances require significantly more CPU and GPU power. If you are having performance problems, try lowering the draw distance first.

- **Anti-Aliasing** (Trainz Launcher option; Video Driver Options): Disabling AA increases performance on low-end hardware but results in a significant reduction of visual quality. We recommend that you use the TS2010:EE anti-aliasing settings rather than attempting to override them with your video driver settings
- **Anisotropy** (Trainz in-game option): Anisotropy improves the crispness of distant objects and objects that are on an angle to the observer.
- **Compatibility mode** (Trainz in-game option): Switching on compatibility mode may improve compatibility of some older content, however this may also result in significantly lower frame rate and draw distance as well as reducing visual quality.
- **Virtual memory settings** (System options): Virtual memory is used when windows has used up all of the available RAM installed in your system. You can edit the virtual memory settings by going to windows control panel -> system -> Advanced Tab -> Settings in the performance section -> Advanced Tab -> and clicking change in the Virtual memory section. Select the Custom size radio button and change the Maximum size to at least 4092. Click OK on the various screens to return to windows.
- **“Enable hardware accelerated texture compression”** (CM settings - Miscellaneous): Enabled by default, this option can significantly reduce the time taken to install large content items. On some faulty video hardware/video driver combinations, this may result in corrupted textures. To fix this issue disable the option and reinstall the affected content items.



3 - MENU SYSTEM

TS2010:EE introduces a new menu system to the series merging Driver and Surveyor into an easy to use Routes menu item and including scope for adding more menu items onto the start page in the future.



ITRAINZ CHAT

To chat with other Trainz fans, click on the iTrainz Chat icon in the top right of the menu bar across the top of the screen. This opens the Chat Buddy List. Click on #trainz to open the general Trainz chat channel. Begin typing and press the Enter key to 'publish' your words for others to see.

You can create your own chat channels, add a Buddy and Ignore users. Ignore will stop you from seeing any comments from that person but they will still be able to see your comments.

Note: For iTrainz Chat to work, you are required to have your Planet Auran username and password entered in the main options screen accessed from the Launcher.

4 - TUTORIALS

In TS2010 we have added a separate module for Tutorials. This module features 4 introductory tutorials, each focused on a different aspect of train operation in the Driver system. The 4 tutorials in order are:

Tutorial 1 – Basic DCC Controls

Tutorial 2 – Advanced DCC Controls

Tutorial 3 – Basic CAB Controls

Tutorial 4 – Advance CAB Controls

To get started, Click on the first tutorial. This will bring up a description of the tutorial at the bottom of the screen. Once the tutorial has been selected, Click on the Play Tutorial button found at the bottom right corner of the screen. Trainz will now start running Tutorial 1, where you will be guided through all the basic controls that make up the TS2010:EE driving interface. Once you have completed Tutorial 1, go through to the next tutorials and discover more ways to control you trains.

Another new function in TS2010:EE is the achievements system which allows you to track your performance in the tutorials.

5 - ROUTES MODULE

The Routes Module provides access to both the driving area and the Surveyor area of Trainz. Using this module you can access the Quick Drive tool to simply place a train and go. You can also access the Surveyor tool to edit the existing routes and sessions or create your own.

DEFINITIONS

Route - Routes contain the 'world' components such as terrain, buildings, track, trees and trackside objects.

Session - Sessions contain the 'variable' aspects such as locos, rolling stock, time of day, weather and other Rules.



6 - DRIVER

To drive a session first select a route from the list and click Sessions, you can also double-click the route name. Once you are in the sessions submenu select which session you wish to drive and click Drive Session to launch.

Note: When you have a route or session selected, information regarding the route and session is displayed in the central box beneath the main listing.



In Trainz you can also give commands to AI Drivers to carry out tasks such as delivering freight, coupling and decoupling and keeping to a passenger schedule.



Whilst in Driver you can use either your mouse or Hotkeys to drive. Experiment with different camera positions (Hotkeys **1-4**) or use the “[” or “]” keys to move between different camera views. In Internal View, hold RMB to rotate your view around the cab. In External View it rotates the camera around the currently selected vehicle. In Free Roam mode holding RMB will move the focal point around the map, similar to the camera controls in Surveyor.

Tracking camera (Hotkey **3**) selects the closest pre-placed camera. If there are no pre-placed cameras then it will change to External Tracking View by default.

7 - NAVIGATING THE DRIVER INTERFACE

There are many different ways of viewing the 3D world in TS2010:EE, as well as a map view that gives you a 2D top down view. You can zoom in and out, pan around, and change the camera focus point with each of these views.

Shown here is the Camera HUD Panel. The different camera view icons and their shortcut keys are listed below. Remember them well; you’ll be using them to explore the Trainz world.



CAB VIEW

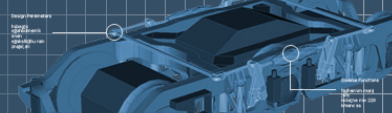


Firstly, make sure the view is focused on a locomotive (Click LMB on a locomotive to focus the view), then click LMB on the Cab View button (or use the “**1**” key). Your view is now from the driver’s seat of the cab. Hold the RMB and move the mouse to look around the cab and out of the windows (the cursor keys can also be used to look around). You can change your viewpoint within the cab by pressing the “[” and “]” keys. If the locomotive has a second cab, press ALT + C to switch between the cabs.

EXTERNAL VIEW



When you first start Driver, you will generally be in the External View with the scene focused on a particular locomotive (it will go to a default part of the map in Quick Drive). Use RMB + Drag to rotate and elevate the view (you can also use the cursor keys). While



in External View the locomotive will remain at the centre of the screen at all times. If you wish to get closer, you can zoom in and out with your mouse wheel or use the Page Up/Page Down keys on your keyboard.

If you Click LMB on one of the cars attached to the locomotive, the view changes so that the selected car now becomes the focus of the view. You can also press the “-” and “+” keys on the keyboard to select the next or previous car in the consist. To shift the focus to a different train simply Click LMB on the desired trains, or click on the consist icons in the 2D Map View.

TRACKING VIEWS



Click on the Tracking View icon and your view changes to the nearest pre-placed camera. There are two types of cameras, static and tracking. These cameras are placed in the 3D world in Surveyor mode. Static cameras will stay fixed in a direction, and allow the tracked object to move out of the frame. Tracking cameras are fixed in place, but pan with the tracked object, keeping it in the centre of the view. If there are no cameras within visual range of the tracked object, the view reverts back to the External View until a camera comes within range.

FREE ROAMING VIEW



The Free Roaming view is extremely flexible and operates in a similar fashion to navigating in the route editor (Surveyor). To move the camera focus point, simply Click RMB in the 3D world to where you want the new central focus point to be. The view will then smoothly move to the new focus point. You can use the cursor keys to rotate or change elevation. To zoom in and

out scroll the mouse wheel or press the Page Up/Page Down keys. By holding down RMB and moving the mouse you can continuously change the focus point, and hence the view point. By combining this mouse movement with the cursor keys and the zoom function, you will be able to roam around the route at will.

MAP VIEW (CTRL + M)



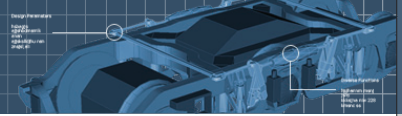
The icon for the Map View is at the bottom right of the screen, or you can use the CTRL + M shortcut key. You will find the Map View is useful for getting an overview of where your trains are in relation to the industries, the track configuration, plotting your train movements and checking turnout settings and signal states.

In the Map View you will see the position, length, and name of each Consist, the direction set for each turnout and important names for assets such as turnouts, industries and stations. Zoom in and out using the mouse wheel or the Page Up/Page Down keys.

The map follows the movement of the currently selected Consist. The currently selected Consist shows as green, and all other Consists show as gray on the map. Click on one of the gray Consists to centre the Map view on that Consist. Click RMB on a point on the map to centre the map view to a new location, losing focus on any particular consist.

You can also set the turnouts by clicking on them and seeing the direction arrows change. Also visible is the state of any signals on the route.

Exit the map screen by Clicking again on the Map View button, or pressing CTRL + M.



DCC THROTTLE CONTROL (W/X/S)



In DCC mode, a simple rotary dial controller is available below the Camera Selection Panel on the HUD. This dial controls the movement of the currently selected train and is analogous to a model railway DCC controller knob. Click LMB and drag it clockwise on the dial to

move forward. Dragging the dial so the arrow points upwards will stop the train. Dragging the dial anti-clockwise will move the train in reverse. Clicking LMB on a position of the dial will also move the dial to that location.

STOP (S)



To quickly reset the dial and bring the current consist to a halt, Click LMB on the Stop icon.

You can also use the “**W**” and “**X**” keys for forward and reverse controls and the “**S**” key for stop. If you are using the keyboard to control the throttle, you can refer to the position of the rotary dial on the HUD to see your current throttle setting.

LIGHTS (S)



To activate the headlights Click LMB on the Light button to the right of the throttle control, or press the “**L**” key on the keyboard. You can also dim the headlights by pressing Shift + L.

If a locomotive is fitted with flashing ditch lights, press the “**;**” key to activate them.

HORN (H)



To operate the horn, Click LMB on the Horn button to the right of the throttle control on the HUD. For long blasts of the horn, simply hold the “**H**” key down longer or Click LMB + Hold on the Horn button. Some horns may have a set length, and will play for the same duration each time.

BELL (B)

Toggle the Bell on or off by pressing the “**B**” key.

PANTOGRAPHS (KEYPAD 1)



Lastly, if your locomotive has pantographs, Click LMB on the Pantograph button on the right of the throttle to raise and lower them or press the “**Keypad 1**” key. If the locomotive has multiple pantographs subsequent key/button presses will raise them individually or together before cycling back to all down.



8 - CREATE A SIMPLE DRIVER SESSION

In the Main Menu, click on Routes. You are presented with a list of installed routes and each route has a number of sessions. From here you can edit an existing session or create a new session. To create a new session, double click on a route name in the list, then click Create Session. To edit a session, select the name in the Session column and click Edit Session.



Every Session must include at least one locomotive. To add a loco, click on the Trains tab (F7). A list of locos and rolling stock is displayed. You can scroll down the list or type a name into the name field. To select a loco, click on the loco name and the loco will appear in the small 3D preview window. L-Click on a piece of track in the 3D world to place the loco.

Repeat these steps to add rolling stock or other locos. You can also use the Move, Delete or Direction tools to change items once they have been placed in the world

To add a whole consist (train), click on Train Mode (Hotkey C) and choose a consist from the list. Make sure you have sufficient room on your track to add the consist.

You can also add session-specific rules which includes issuing Driver commands. Rules and commands are explained later in this manual. Once you have a number of trains on your track, click on QuickDrive (Ctrl + F2). You will be prompted to save and then name your session. Once you have saved you load into your newly created Driver session.

9 - SURVEYOR TUTORIAL

9.1 BUILDING YOUR WORLD

Whilst driving or operating locos is a big part of the Trainz Simulator experience, Surveyor is where the creative juices can flow. Surveyor is a toolset that is both fun to use and powerful enough to create your ultimate dream railroad.

Click on Routes, then click Create Route to open a new route. Enter a name for your route and select your desired map settings then you're ready to start.

The first thing to learn in Surveyor is how to move around the baseboard and control your camera. Mastering these two basic skills will make your time in Surveyor much more enjoyable.

BASEBOARD

In the middle of the baseboard is your Surveyor Compass. Move your mouse cursor to the right of the Compass and Click RMB. The compass will move to that position and the screen is re-centred on the compass. Click and hold RMB and move your mouse slowly towards the edge of the screen. You will notice the compass following the cursor as you move around the terrain. Learn to control the speed of the movement by moving the compass close to or away from the centre of the screen. Keep practicing these movements until you can easily control the direction and speed you wish to move in.

CAMERA

Use the arrow keys on your keyboard to rotate the camera around the compass. The left and right arrows rotate the camera. The up and down arrows change the elevation of the camera. Press the Page Up and Page Down keys to zoom in and out or use the scroll-wheel on your mouse.

When you zoom in close, you will be able to see the four directions (North, South, East, and West) marked at the bottom of the compass. This is helpful to stay orientated in your TS2010:EE world, positioning your rail system properly with respect to the rising and setting sun. Yes, on a clear day the sun does rise and set in your TS2010 world!

TIPS

- Spend some time using a combination of the mouse and keyboard commands that control the viewing pane in Surveyor. This is an important skill to develop and some time invested will reward you with effortless flitting around your map as you construct to rail empire.
- The Undo/Redo buttons are found on the top menu panel. Use them if you want to retrace your steps backwards and forwards respectively. You can also press Ctrl + Z on your keyboard to undo, or Ctrl + Y to redo.

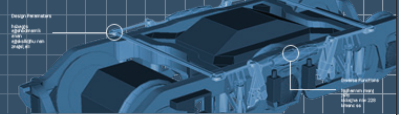
9.2 TOPOLOGY

Let's start by clicking on the Topology Tab (**F1**). It's the Tab at the top of the Tab Panel on the far right of the screen. When clicked on, the menu will pop out to the left.

Now Click the Height Up tool to activate it (each tool will have a tooltip when you move the cursor over the tool). Click LMB + hold on the radius dial, and drag it until it's dial is roughly at the 12 o'clock position. Do the same with the sensitivity dial. When you move the mouse cursor back onto the Surveyor map, it will change into a dotted circle.

Place the circle around the centre of your square baseboard and Click LMB + hold. The longer you hold the LMB the higher and bigger the hill becomes. Move the mouse around while holding LMB and you can create various peaks and ridges. Don't go overboard here as you'll want to leave some room for your track, not that mountain ranges have ever stopped a track laying engineer.





9.3 GROUND TEXTURING

When you are happy with your hill, Click LMB on the Painting Tab (F2) at the right of the screen.

The Topology menu will disappear and be replaced by the painting menu. Scroll down the texture palette until you find a texture you like. To select the radius of the texture effect Click LMB + hold on the Radius dial and move it until you are happy with the size of the painting circle. Then Click LMB to apply the texture to the terrain.

Select a couple of different textures and play with blending them (overlapping) and rotating them using the direction tool or the “[” or “]” keys. Select a texture with a directional pattern in it. Click LMB + H on a spot on your route and press the “[” or “]” keys repeatedly. You can also hold the “[” or “]” to rotate the texture whilst painting.

Change the size of the pattern (the scale of the texture) by using the Scale tool. Change the size of the area covered (the white circle) using the Radius tool or the “+” or “-” keys.

You can get some very artistic and realistic effects. Keep playing until you are happy with the result.

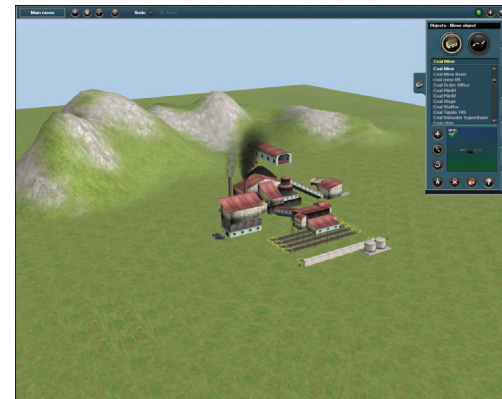


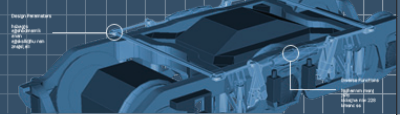
Now make sure that you are back to having only the mountain, nicely textured in the centre of the route. Use the Undo function to undo any extra texturing that you may have been playing with.

9.4 INDUSTRIES

Now, let’s place a couple of linked industries. First select the Object tab (F3) from the tab panel and select the Coal Mine object.

You will find this by typing ‘Coal Mine’ into the search bar at the top of the asset list. You can also use the Content Search Filter to locate items, described in chapter 14 of this manual. Make sure that you are in Add Object mode by Clicking LMB on the Add Object button. Then move the view to one side of your board and Click LMB on the map to place the Coal Mine. You can move and rotate the object by Clicking LMB on the Move and Rotate buttons respectively. To use these tools, Click LMB + H on the object that you wish to move/rotate, in this case the coal mine, and then move the mouse accordingly.





Next set the coal mine's properties by first Clicking LMB on the Edit Properties button (the "?" button) and then Click LMB on the Coal Mine. First let's give it a name. Do this by typing in "Lignite Coal Co" in the name box at the top of the properties window. We will set the rate of coal production to 200. Do this by Clicking LMB on the underlined default production rate and entering 200 into the pop up window. Similarly we will change the diesel consumption to a value of 0. Set the Start Amount for each to 0. Click LMB on the tick and we have defined the properties for our active Coal Mine.

Next we'll set up a coal-fired power station. As we did for the Coal Mine, select the Power Station. It is in the same list as you found the Coal Mine. Place it on the other side of the baseboard (and the mountain) from the Coal Mine. Move and rotate the Power Station as required to line up the tracks so they are parallel to the tracks of the coal mine. Set it's properties which in this case is only to name it to "High Power Co".

9.5 LAYING TRACK

Now we will link up these two industries via a simple oval loop. The goal is to link up the coal mine's loading track to the oval and run it around to the Power Station's coal unloading track. Go to the tab panel and select the Track tab (F4).

Now choose the track "Auran Track TS2009 Oak". Make sure you are in Add Track mode. Start laying tracks by Clicking LMB on the board where you want to start the track. You will notice a white circle associated with the track wherever you Click LMB on the board. These are called Spline Control Points. We will manipulate these points later to move the track either horizontally or vertically. These Spline Control Points are also attachment points for bridges, tunnels and other spline enabled objects.

The track is drawn between consecutive spline points. Click LMB on the map to add another spline point and the track will smooth itself out between the two points - a very useful feature. However, there are limits!

Attach one end of the track to one of the coal mine loading tracks (there are four) by first selecting the Add Track mode, and then clicking LMB on the spline point of the track you wish to attach it to. Now Click LMB in a number of spots



around the mountain to form a smooth curve. Remember to click on the end of the spline with the LMB so that your next track section is attached to the previous section. At the end of this curve, attach the track to the power station's track by clicking LMB on the end spline point of the power station's track. Do the same on the other side to form a continuous loop. You can also smooth out your track laying efforts by Click LMB on the Move tool button in the track menu and then Click LMB + H on any of the track spline points and move the mouse around, and watch as the track follows. Play with this until you are happy with your loop of track.

Just for fun, let's add a siding. Click LMB on the Add Track Button, and then click on a section of your existing loop of track. A new spline point appears and you can now Click LMB again, away from the loop and create your siding. Trainz will automatically add in a lever, which will allow you to change the direction of the junction.

9.6 LOCOMOTIVES, ROLLING STOCK AND CONSISTS

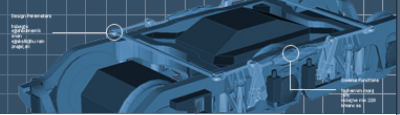
We will now place a consist (a 'train' of locomotives and rolling stock) on the track. Select the Trains Tab (F7) from the Tab Panel. Now scroll down and select a locomotive from the list of available items. Let's choose a CR GM Class locomotive. Once it is selected, Click LMB on any spot on the track to place the locomotive. The locomotive will appear on the track with arrows above it defining the ends of the consist and which direction will be forward when you drive it.

Next, select the black coal car called "TRS Coal Hopper" from your list of engines and rolling stock. Click LMB on the placed locomotive towards the back of the loco and the coal car will appear behind the locomotive. Keep on Clicking LMB on the

last car in the consist to add more coal cars. Stop when you have added 5 coal cars. You will now see a consist on the track.

Lets name the consist by first Clicking LMB on the Properties button and then Click LMB on the locomotive that is on the tracks. In the pop-up window, click on the existing name and type in "Coal Train" to replace it. Give it a running number of 32 by clicking on the text "no running number" and then typing 32 into the new window, and then click on the green tick to save the number.





9.7 ASSIGN A DRIVER

Our next challenge is to assign a driver to the Consist.

TIPS

- This is optional, as you may wish to drive your own trains in your route, but using Drivers adds a whole new dimension to TS2010:EE so we will do that next.
- If you save a session without entering any Rules, a default set of Rules is applied for you.

Move the mouse to the top of the screen to bring down the top toolbar menu, and Click on the Edit Session Rules icon (the button will have an image of a notepad on it) (CTRL+R).

This window is where the rules that define a session's behaviour are added and configured. As this is a new empty session, the 6 default rules are already included and configured so some minimal functionality is already available and the session can be run.

Click LMB on the 2nd rule, named "Driver Setup", so that it becomes highlighted in blue. Then Click LMB on the Edit button to open the properties window for that rule.

TIP

- In any of these windows, if you decide not to go through with the change, click on the red "X" to cancel your selections.

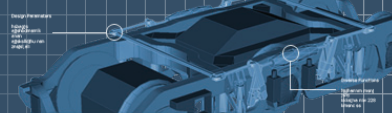
The Driver Setup Rule is responsible for assigning driver characters to trains for the session. It will automatically try to find every loco and have a driver character assigned to it already. In this case, you will see how a driver character has been assigned to the Coal Train locomotive that we placed earlier.



As this is a simple session without the need for complex driver attachments, the automatic assignment done by the rule is sufficient, but for the sake of configuring a rule, click on the driver character icon to bring up a list of drivers.

Choose any driver from the pop-up list and click on the green check (tick) to return back to the Driver Setup rule properties window. You will notice that the driver character icon has changed and that the driver you chose is now assigned to the locomotive.

Close the Driver Setup rule properties window by clicking LMB on the green check mark at the bottom right. Then click the Edit Session window with changes saved by clicking LMB on the green check near the bottom right corner.



10 - USING RULES

Rules are a very powerful way of expanding and customizing your Trainz experience. Based upon TrainzScript programming language, Rules provide non-programmers with capabilities to ‘program’ a variety of instructions and behaviors for Drivers, locos and even interactive industries.

Every Session has a number of default Rules pre-loaded. In Surveyor, click on the Edit Session Rules icon, then click on Start-up Options, then click Edit. Here you can change the Start-up settings for your Session such as weather, time of day and realism level. Click the checkmark to save your changes.



To allocate Drivers to various locos, click on Driver Set-up then Edit. You can also add Driver Commands for each Driver. R-Click on the small green arrow and choose a Command from the list. To add more Driver Commands to your list, edit the Driver Command Rule.

There are almost 100 Rules included and many more are available on the DLS. Rules allow you to add customized displays, speed rules, lighting, objectives, scoring systems, playing sounds and much more. It is even possible to create a whole scenario in a single Rule.

SAVE AND DRIVE

Once again move the mouse to the top menu and Click LMB on the ‘Main Menu’ button to pull down the main menu list. We will look into the main menu list later in this manual. Now Click LMB on the Save option to save your creation and make it available in the Routes list.

Tip

- Save your work in Surveyor regularly to ensure you don’t lose your work should the unforeseen happen. You can also use the Save As option in the menu to save different versions of your route.

Ideally, you will have previously learned to use the Driver mode either through the previous chapter of this manual or through the tutorial sessions. If not, this is a good time to do so. Once you have learned how, you can load “My First Layout” into Driver and experience the thrill of driving on a route that you have built from scratch!

Tip

- In TS2010:EE you can try out your new route and session simply by clicking on the 'Quick Drive' icon or by pressing CTRL + F2. This will transfer you directly into Driver mode. When you leave Driver mode, you will automatically return to Surveyor so that you can continue to work on your route having tried it out.

Well done! You have created your first Route by going down the steps of building the terrain, texturing it, placing objects, laying track, putting down consists, and assigning drivers. This has been a quick peek into the powerful capabilities of Surveyor, feel free to experiment within Surveyor and discover its flexibility.

11 - ENVIRONMENT MENU

LIGHTING

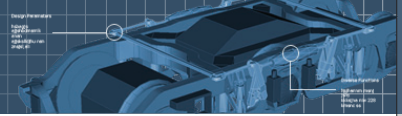
The Environment Options allow you to adjust various settings that affect the look and feel of the entire route that you are creating. In these settings you can change the skybox, weather, height of the snowline, date and lighting.

In order to access the environment settings L-Click on the Main Menu button and select Edit Environment....



The first tab that is open when you select Edit Environment... is the Lighting panel. This panel allows you to set the colors of the sky and water at various times throughout the day. To select a time of day L-Click on a color control point (the green dots surrounding the clock face), then select the portion of the sky in the skybox at the bottom (there are 3 sections to the sky signified by a white horizontal line) you can then adjust the red, green and blue hues for that section of sky and time of day. You may add your own color control points by L-Clicking the "+" icon and L-Clicking around the outer ring. There are also options to move and delete color control points.

By selecting the water area in the bottom right of the window you can adjust the hue of the water found in your route.



In order to preview your setup L-Click the Diurnal Cycle icon. This will start a cycle of the entire day using the settings you have specified.

SESSION DATE

The second tab, signified by the globe icon, is the Session Date panel. Choosing a date here controls the time of year for your session. Some scenery provides seasonal variation and will change appearance to reflect the time of year.

You can also change the hemisphere that your route is located in by selecting the add/move world origin button and clicking on the map to place it. Once placed you can L-Click edit world origin and change the exact location in the world.

WEATHER

The third and final tab controls the weather. In these options you can change the look of the sky by using the using the arrows next the sky's current name as well as change the weather and snow line.

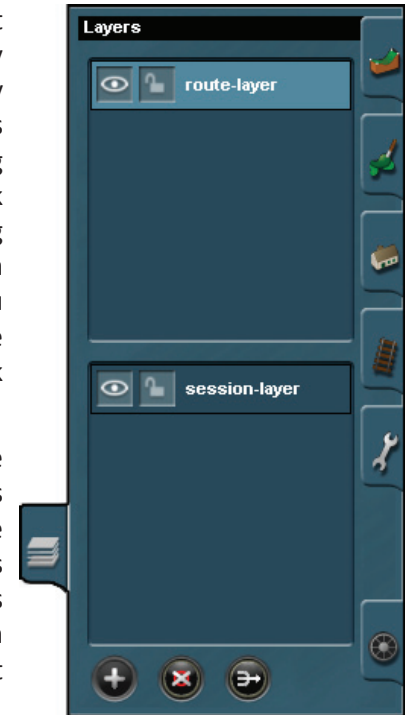
12 - LAYERS

Layers allow you to split design elements into easily manageable sections; they work in the same way as many graphical editing applications. You can lock layers so that anything associated with them cannot be edited and you can hide layers to make your route easier to work with.

Layers exist in either the route or a session. Layers applied to a route are available to all sessions for that route whereas layers applied to a session are only available for that session.

One of the advantages of using layers is the ability to set visible elements for a particular session, for example placing extra scenery or a side spur, which is specific to the session.

Note: Ground editing such as height, texture, water etc are separate from the layer system and cannot be affected by layers you create.



13 - FAVORITES

Favorites allows you to flag objects for easy listing in both the routes/sessions selection menus as well as in Surveyor.

THE ROUTES/SESSIONS MENU

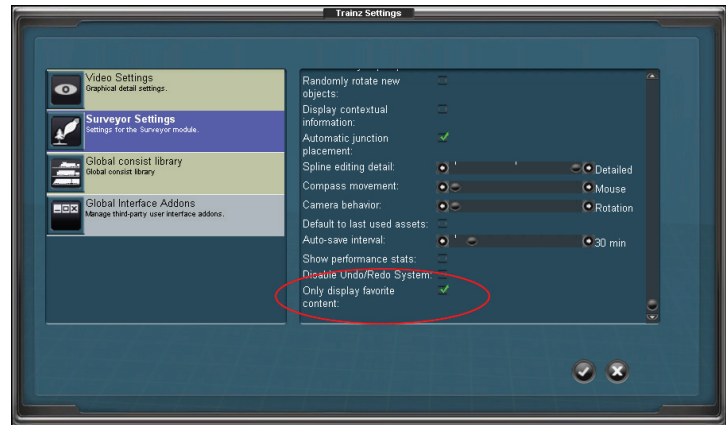
When entering the main menu for routes and sessions favorite items are highlighted by a gold star next to their title. You can filter the lists by clicking on the gold star at the top of the column. Only favorite items are shown when lit, while all items are shown when unlit.

SURVEYOR FAVORITES

Items such as locomotives, scenery objects, structures, industries etc may also be set or unset as a favorite item. By default, only favorite items are displayed in the Surveyor picklists.

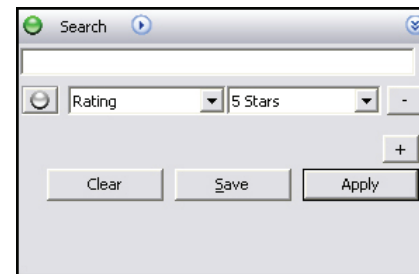
To temporarily reveal all items (both favorites and otherwise), you can modify the Content Search Filter to remove the 5-star rating criteria (see chapter 14).

To change the default state of the Surveyor Search Filter, you need to enter the main options menu by L-Clicking on the Main Menu button at the top left of the screen and then select Options from the dropdown menu. Once inside the options menu you will need to choose the Surveyor Settings section and find the “Only display favorite content” option at the bottom of the list. Unticking this option will prevent the 5-star rating criteria from being added to the Surveyor Search Filter by default (see screenshot on page 37).



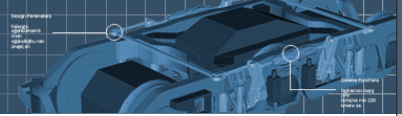
ADDING & REMOVING FAVORITES

In order to edit your favorites you will need to enter Content Manager by selecting “Content” from the Trainz launcher. In order to see all the current favorites you will need to run a search by selecting rating and then 5 stars and L-Clicking “Apply” as per the screenshot below:



To remove an item from your favorites list R-Click on an item, hover the mouse over rating and select 0 stars.

To mark an item as a favorite, perform the same steps as above but select 5 stars.



14 - CONTENT SEARCH FILTER

Your search can be refined using additional filter options. Click on the “+” and the Name filter appears. With the Trainz tab open, click in the Name entry field and type “C” and notice how the list shortens. Type “O” and this search is refined even further.

Click on “+” again to add a new filter. This time Asset Kuid filter appears in the Filter window (since after the default, the order is Alphabetical). Click on Asset Kuid to open a drop down menu. Scroll through the list and click on Category. This brings up a new dropdown list of the available categories with the default option being Routes. Click on Routes to show the list of sub-categories.

If you are missing items from your list, click on Clear to reset the filters.

To close the Search Filter click on the Content Search Filter icon (Ctrl + Shift + F) once more.



15 - SETTINGS

To access the game settings L-Click on the Main Menu then select Options from the dropdown list.

VIDEO SETTINGS

The video settings allow you to adjust the visual quality of the simulator:

- **Maximum Draw Distance:** Set how far into the distance objects are drawn. Higher values will increase the work your computer will have to do and the lower the game performance.
- **Scenery Detail:** Adjust the visual quality of scenery objects.
- **Texture Detail:** Adjust the detail level of textures throughout the game. Higher values use more RAM and may reduce game performance.
- **Anisotropy:** Lower values result in a smoother, sometimes blurry scene. Higher values improve the crispness of distant objects and objects that are on an angle to the observer. Anisotropy may reduce performance on low-end video cards.
- **Train Detail:** Adjust the detail level of Train objects such as locos, consists, wagons etc
- **Good Weather Fog:** Controls the density of the distance-fog effect during fine weather conditions.
- **Bad Weather Fog:** Controls the density of the distance-fog effect during rainy or snowy conditions.
- **Gamma:** Adjust the depth of blacks and whites, lowering the gamma will make the simulator appear darker, increasing will make it lighter.

- **Auto-hide the menubar:** Ticking this option will cause the top menubar to slide out of view when not in use. Move your mouse to the top of the screen to make the menubar visible again.
- **Enable compatibility mode:** Having compatibility mode ticked may help when using content built for older versions of the Trainz Simulator, however it will reduce game performance, draw distance, and visual quality. It is recommended to leave this option switched off except when you have a specific need to active it.

SURVEYOR SETTINGS

Within this option area you can find the settings for Surveyor, notable options are:

- **Auto-save interval:** Adjust this slider to increase or decrease the time span between auto-saves while working in Surveyor.
- **Only display favorite content:** Ticking this option will cause the Surveyor Content Filter to only show items marked as favorites by default. If you wish to view the entire list of all items by default then you should un-tick this option.

GLOBAL CONSIST LIBRARY

Allows you to create, edit and delete consists for later use in QuickDrive.

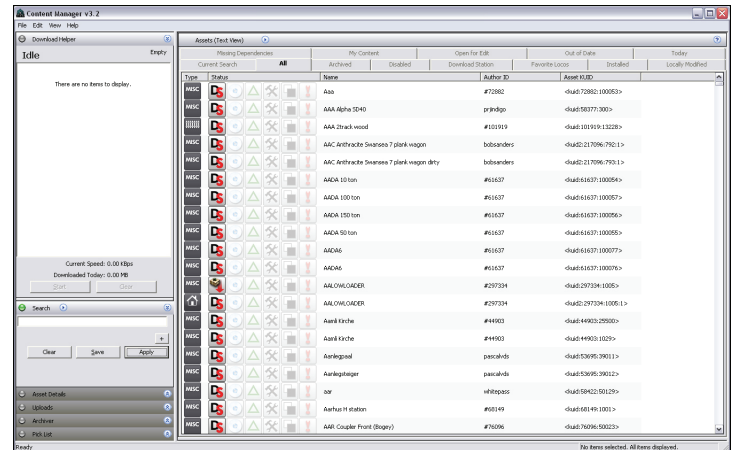
GLOBAL INTERFACE ADDONS

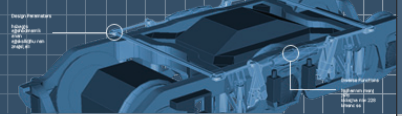
Allows you to activate or deactivate interface add-ons such as the iTrainz chat interface.

16 - MANAGING YOUR CONTENT

Content Manager V2.0 (CM2) is a very handy tool that helps you find, filter and manage your Trainz content; both what is installed on your hard drive and also what is on the Trainz Download Station. It also helps content creators edit content and check for errors. Detailed help is included in CM2 under the Help menu and tutorials will be available through Trainz Online.

Open Content Manager V2.0 by clicking on the Content option on the Trainz Launcher. You will be prompted to enter your Planet Auran Username or to create one if you haven't already registered. By registering your Trainz Serial Number in your Planet Auran profile you will be able to search and download from the Trainz Download Station.





OVERVIEW

CM2 displays a selection of assets in the main window. Clicking on the tabs at the top of the window will change which selection is displayed. 'Installed' shows all local (i.e. on your PC) content whilst 'Download Station' shows everything on the Trainz Download Station.

Note: On start-up it may take a few minutes to populate the Download Station listing.

R-Click on any item to display the various options available to you such as Open for Edit or Download. You can't edit non-local items and can only download items from the Trainz Download Station.

Along the left hand side are a number of Tools such as Download Helper and Search. Click on the double arrow to open and close these windows. You can resize or scroll up and down within each window. Remember to close unused windows to give yourself more workspace. Entries are saved whilst a window is closed.

Under File/Settings you can set preferences, add your Planet Auran details, check your First Class Ticket status, delete or reset filters. Under File you will also find options to Import, Repair and Launch Trainz.

SEARCHING AND FILTERING

Typing in the Keyword field will display all content that matches the characters typed. You can further refine the Search by clicking on the + icon and choosing entries from the drop down box.

For example:

- Click on the Installed tab.
- Type BR in the keyword field and click Apply.
- The number of items selected is displayed on the bottom of the window.
- Next click on + and then click on the down arrow next to Name.
- Choose Category and a new drop down menu appears.
- The default Category is Routes.
- Click on the down arrow next to Routes and choose Train Vehicle.
- Click on the + icon to bring up another filter option.
- Name is the default option added.
- Type in Class and you now have a list of locomotives with the name Class and also BR somewhere in the title.

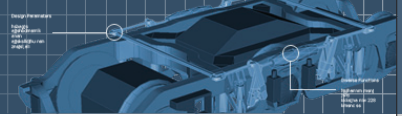
Note: This list includes BR HST Class which would not show in the list if you simply used Name = BR Class.

You can save various searches. The last 4 searches are saved automatically in each session. Saved searches also have a new tab added at the top of the Asset window.

DOWNLOADING

Click on the Download Station tab (or under search choose Location = Download Station). Search for an item you wish to download. L-Click to select the item or use Ctrl-A to select all items in a list. Hold Ctrl and L-Click to select several items from a list.

Once selected, drag the items onto the Download Helper window (or R-Click and choose Download). CM2 searches for dependencies for that item and displays an ">" arrow to indicate dependencies are available. Items that are already



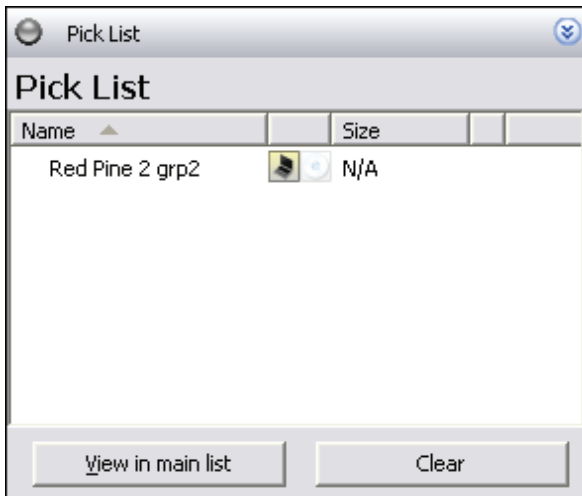
installed are not included in this list. This system allows you to build a large database of installed assets and removes the need to re-download the same items over and over again. Click Start to begin downloading. The progress is shown in the Helper window.

SORTING AND COLUMNS

If you have a long list of items in the main Asset window, click on the headings to sort by that column. Click again to reverse the sort order. You can also add new column headings by R-Clicking on a column and checking a new option.

USING THE PICK LIST

You can build a picklist by dragging items into the Picklist Tool window. Create multiple searches and drag the resultant items onto the picklist. The items in your picklist are shown in Surveyor in the Content Search Filter window. Of course only local (downloaded) items can be placed in Surveyor.



VIEWING DEPENDENCIES

Select an item and R-Click then choose View Dependencies. This lists all dependencies and a summary of any missing or faulty items. Click on View in Main List to show all dependencies. Remember that the original asset is not included in this list.

OPENING FOR EDIT

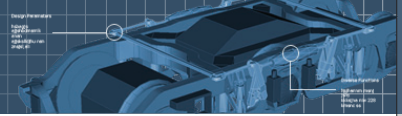
To edit an item, you must first get “access” to the item. Select the item and R-Click to bring up the options menu. Choose Edit then Click Open for Edit or use Ctrl-E. Remember that most the built-in content does not ship with the source art files. This keeps installation and download size smaller but built-in items may show an error after re-committing.

COMMITTING CONTENT

After importing content you will need to commit it prior to running Trainz.

This process effectively adds the item to the Trainz database and during this process CM2 will perform certain actions such as compressing textures and error checking. These actions will help improve the quality of Trainz content over time.

To commit an item or group of items, make a selection the n R-Click to bring up the options menu. Choose Edit Commit or use Ctrl-M.



REPAIRING THE DATABASE

If Content Manager crashes, it may need to repair the database. This process can take many hours if you have a lot of content installed. We strongly suggest that you keep a backup set of all your added content. These crashes are generally caused by faulty content. It is likely that an item that crashes CM2 will crash it again if you attempt the same process.

HAVING FUN

Want to have some fun? Try pressing Ctrl + Alt + Shift + P on a new map, stand back and watch (click on the map and press esc to stop). Also try Ctrl + Alt + Shift + Z in a map with road traffic or Ctrl + Alt + A for a spectacular effect.

17 - KEYBOARD CONTROLS

KP = Number Pad

Some controls will not work with this Help window open.

Capital letters represent the letter to press (no need to press the Shift key.)

A comma (,) means there is more than one option. Choose either option.

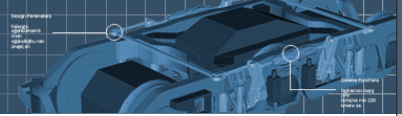
Shift X means hold the shift key down and press the X key.

DCC MODE

| | |
|---------------------------------|---------------|
| Down | X, COMMA |
| Forward | W, FULLSTOP |
| Stop | S, SLASH |
| Handbrake (if throttle at idle) | A, APOSTROPHE |

CAB MODE

| | |
|-------------------------|-----------------|
| Brake Release | Q, KP9, KPPGUP |
| Brake Lap | Z, KP6, KPRIGHT |
| Brake Application | A, KP3, KPPGDN |
| Emergency Brake | PAUSE |
| Independent Brake | E, KP4, KPLEFT |
| Independent Brake Bail | D, KP0, KPINS |
| Throttle Up | W, KP8, KPUP |
| Throttle Down | X, KP2, KPDN |
| Throttle Idle | S, KP5, KPCLEAR |
| Reverser Handle Forward | F, KPSTAR |



| | |
|--------------------------|-----------------|
| Reverser Handle Backward | R, KP SLASH |
| Dynamic Brake Toggle | C, KP7, KP HOME |

STEAM CONTROLS

| | |
|----------------|------------------------|
| Shovel Coal | SPACE |
| Coalman Wave | SHIFT SPACE |
| Fans | SHIFT F |
| Regulator Up | W, FULLSTOP, KP8, KPUP |
| Regulator Down | S, SLASH, KP2, KP DN |
| Reverser Up | F, KP STAR |
| Reverser Down | R, KP SLASH |
| Injector Up | I |
| Injector Down | O |
| Blower Up | N |
| Blower Down | SHIFT N |

ALL LOCOS

| | |
|-------------------------------------|------------------|
| Lights | L |
| Lights | SHIFT L |
| Toggle on/off Flashing Ditch lights | ; (semi-colon) |
| Pantograph | KP1, KP END, END |
| Horn | H, KP PLUS |
| Sand | V, KP MINUS |
| Bell | B |

INTERFACE DISPLAY OPTIONS

| | |
|-----------------------------------|----|
| Help | F1 |
| Hide / Display All | F5 |
| Hide / Display Drivers and Orders | F6 |
| Hide / Display Driver Button Bar | F7 |
| Hide / Display Custom HUD | F8 |
| Hide / Display Driver HUD | F9 |

CAMERA MOVEMENTS

| | |
|--------------------------------|-------------------------------|
| Up | UP ARROW |
| Down | DOWN ARROW |
| Left | LEFT ARROW |
| Right | RIGHT ARROW |
| Zoom In | PAGEUP (OR MOUSEWHEEL) |
| Zoom Out | PAGEDOWN (OR MOUSEWHEEL) |
| Forward Along Consist | PLUS (on top row, not Numpad) |
| Forward Backward Along Consist | MINUS |
| Internal | 1 |
| External | 2 |
| Tracking | 3 |
| Free Roaming | 4 |
| Driver 1 | CTRL 1 |
| Driver 2 | CTRL 2 |
| Driver 3 | CTRL 3 |



| | |
|----------|--------|
| DRIVER 4 | CTRL 4 |
| DRIVER 5 | CTRL 5 |
| DRIVER 6 | CTRL 6 |
| DRIVER 7 | CTRL 7 |

CAB CAMERA CONTROLS

| | |
|--------------------|--------------------------|
| PREVIOUS VIEW | [|
| NEXT VIEW |] |
| PREVIOUS VIEW FAST | CTRL [|
| NEXT VIEW FAST | CTRL] |
| ZOOM IN | PAGEUP (OR MOUSEWHEEL) |
| ZOOM OUT | PAGEDOWN (OR MOUSEWHEEL) |

OTHER

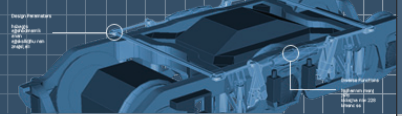
| | |
|---------------------------------|--------|
| Metric Speed Display | G |
| Decouple | CTRL D |
| Train Reverse Heading | ALT C |
| Display Work Orders (Scenarios) | K |
| Objective Window (scenarios) | ENTER |
| Switch Forward Junction | J |
| Switch Rear Junction | CTRL J |
| hud_help_toggle | CTRL H |
| Reset Tripmeter | T |

MAP VIEW

| | |
|------------------|-------|
| Background | ALT B |
| Gradients | ALT G |
| Junctions | ALT J |
| Signals | ALT S |
| Triggers | ALT T |
| Trackmarks | ALT M |
| Industries | ALT I |
| Named Objects | ALT N |
| Objects | ALT O |
| Consists | ALT C |
| Trackside Labels | ALT L |

GENERAL

| | |
|-------------------------------------|-----------|
| Close | ESCAPE |
| Find Object | CTRL F |
| Map View | M, CTRL M |
| Pause | P |
| Save | CTRL S |
| Load | CTRL L |
| Display Performance Tuning Dialogue | CTRL T |



18 - CREDITS

N3V GAMES TRAINZ DEVELOPMENT TEAM

Director: Graham Edelsten

Lead Programmer: Chris Bergmann

Programmer: Terry Palmer

Programmer: James Moody

Programmer: Steve Halliwell

Artist: Rob Shaw

Lead QA: Gareth Pavlich

QA: James Giles

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Graphic Artist: Madeleine Beekman

Operations: Mike Crossman

Web Lead: Lionel Thomas

CS and Community Assistant: Zec Murphy

Admin/HR Support: Chris Green

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We would like to offer a special Thank you to our content creators, without whom we would not have a product to release:

Avery Drexel

Uwe Metzner

Port Ogden and Northern, Harbor Master, Downtown Traction

Phil Skene

CN Holly Subdivision, CSX Saginaw, Conrail Lincoln Secondary, Detroit Connecting Railroad

Chris Paciocco

ECML

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Graham

Garth

Jeff

Oliver

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David Clark

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Dave Nexus "Nexusdj"

Paul May "Paulzmay"

Martin Poole "Rumour3"

Anthony Simmons "Francelinetony"

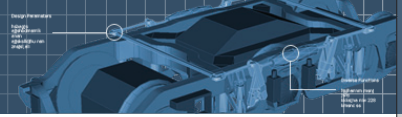
Rob Thoburn "Pacific 7"

Tom Cowan "Blackfour"

James Nelhams "JN114"

Jan "Jankvis"

Ben Dorsey "Bendorsey"



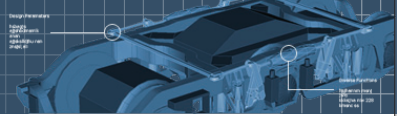
ALPHA TESTING

Thanks to the TrainzDev community for their assistance during development of the features, tools and content pipeline.

BETA TESTING

Thanks to the hundreds of testers who participated in Beta testing and helped us make this the best ever version of Trainz.

NOTES



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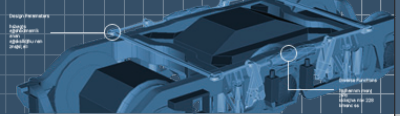
NOTES

Lined writing area for page 56, consisting of 20 horizontal lines.

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Lined writing area for page 57, consisting of 20 horizontal lines.

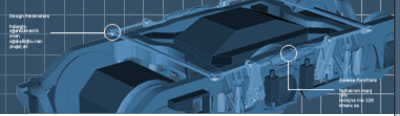


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