

**Ladies and Gentleman,
Dear model railroaders,**

Thank you for buying, the easy to use software for layout planning.

WinTrack was developed by Ing. Büro Schneider, Eislingen, Germany. If you have questions or you need help, contact us via mail:

usa@wintrack.de

This manual is a basic information about the software WinTrack and its use. In a number of Tutorials we show you the first steps to use WinTrack. Please read this first then contact us. If you've tips or suggestions please contact us:

IBS Ing.-Büro Schneider, Kolpingstraße 21, 73054 Eislingen, Germany

With kind regards

Ing. Büro Schneider

... and keep in mind:

Model railroading is fun

The original CD ROM of WinTrack has an onboard copy protection. Out of this reason any copy will be different from the original.

To check the authorisation of the user, the program ask in defined intervals for the original CD. This happens when you start WinTrack. You've to put the CD ROM in your CD device. If WinTrack isn't able to identify an original CD you can use WinTrack only in the Demo mode. This causes never to rent the CD Rom and keep it in an ready to hand place.

Updated: 07/2007

In some cases the help context implemented in the program are newer then the explanation donated in this manual. In case of doubt it's better to use the help text then this manual. In the software you'll reach these with the F1 button or with ? You can reach this in the dialogue also by using the F1 button on the help button. While moving through the menus you'll reach help also with the F1 button.

At this time the explanation you reach with the F1 button is only available in German language.

Introduction and installation

What is WinTrack able to do?

WinTrack is created to assist you to easily plan your layout or a track plan. It offers you the possibilities of the easy to use Windows 95/98/2000/NT/XP/Vista* surface.

WinTrack V8.0 offers the following functions

- Creation of your dream layout/track plan up to an area of 50 x 50 meters (Windows XP* or higher; 15 x 15 meters up to Windows 98) with all the major European and US American track systems in the scales from Z to G. You can also create a display interlocking machine using HEKI or neutral symbols.
- The number of usable tracks and symbols is only dependent on the size of your main memory.
- Additional design options by signals, track-side buildings, tunnel portals, structures, trees, free hand lines, altitude readings or e.g. text details.
- Catenary planning.
- Creation of parts list, inventory management and assessment of demand.
- Expansion of the symbol library with symbols of your own.
- Calculation of gradients.
- Calculation of ribs.
- Support when planning modules.
- 3D view of the complete track plan.
- Display of backgrounds in the 3D view.
- For the construction the track planning software offers numerous functions which let become the planning work as easy as pie.

These are for example:

- Direct choice of track with a Track selection window which can be positioned everywhere on the screen.
- Precise drawing precision which is not achieved by conventional planning helps.
- Various editing functions.
- Reduced size reproduction/extension of the track plan.
- Connecting two track ends with suitable straight and turned tracks automatically.
- Comfortable processing of complex track connections (macros).
- Track plan construction and planning in up to 99 layers.
- Easy flex track planning by specification of the track course or direct input of the desired angle and radius.
- Display and orientation of the item numbers.
- Dimensioning of the layouts base in any thinkable shape.
- Simultaneous processing of several plans in several windows.
- Variable printing options, incl. print preview.
- Various camera positions, which are saveable in the 3D view.
- Context sensitive help function.

For whom is the track planning software WinTrack imaginary?

For everyone who wants to easily create his dream layout on the computer.

Requirements on the computer system

So that the track planning software **WinTrack** is operational on your computer system, it should be equipped as follows:

- computer with a pentium compatible processor,
recommended: min. 500 MHz,
recommended for 3D view: min. 1000 MHz
- Windows 95/98/2000/NT/XP/Vista*
- CD drive
- hard disk with approx. 11 MB of a vacant memory (for the installation); for the 3D view min. 200 MB of a vacant memory are necessary.

- main memory with min. 16 MB for 3D view min. 128 MB
- VGA graphics card and corresponding monitor, Resolution of min. 800 x600 recommended
- Microsoft* compatible mouse (mouse wheel recommendable).

Installation on the hard disk

For the installation of **WinTrack** you should be in the desktop of Windows 98/NT/2000/XP/Vista* be.

You click on the desktop on the left below on **start** and vote then **execute?** In the dialog then seeming enter the following according to the name of your CD drive, please:

[drive letter]: setup80

e.g: *D:setup80*

Then follow the instructions of the set-up programme. After completion of the installation process the program group **WinTrack** should have joined newly. You can call **WinTrack** or its help file now as used by other Windows programmes. The help file includes this manual essentially, is, however, more up-to-date. If there should therefore be differences between the online help file and the printed manual, the documentation has to be preferred to the manual in the help file.

During the work with **WinTrack**, however, you can have your suitable help text displayed any time by pressing the F1 button, too. This is particularly helpful while you are moving with the cursor keys by the numerous menus. You can receive an explanation of the command just dialled by pressing the F1 button here.

At this time the explanation you reach with the F1 button is only available in German language.

Indication for the deinstallation: If you liked to remove **WinTrack** from your hard disk, you simply click on the corresponding symbol in the program group **WinTrack**.

Part 2: First steps, Tutorial

Introduction to the planning with WinTrack

Note: To be sure the first Start to **WinTrack**, is successful you should be familiar with the operation of of Windows* as well as its elements. **No** introduction to the basic operation of programmes for Windows* will be given.

First start of WinTrack

You start **WinTrack** from the start menu or the desktop as used by other Windows* programmes. At the start five important areas can be recognized on the screen:

1. On top the title bar shows the names of the programme (that is **WinTrack**) and the names of the current track plan. Under this the menu bar from which you can call all orders which are at your disposal for the track plan processing.
2. Under this the **function bar** from where you can call the most important and most frequent orders directly.
3. In the middle of the screen is shown an empty track plan window at the programme start. Several track plan windows also can be opened here.
4. **WinTrack** shows the layer bar and the status line at the lower end of the screen. In the layer bar you can switch on or off layers or access the layer dialog while different information is announced at the **status line**.
5. **WinTrack** shows the **track selection window** on the left side. Here this one is shown to available tracks or symbols in the invited library. The **track selection window** can be moved arbitrarily. Move the mouse on the (empty) title bar of the track selection window, push the left mouse button and then move the window at a depressed mouse button to the desired position to this.
The **track selection window** can be make visible with **view** menu with the order **track selection window** from this or be removed or be minimised by a mouse click to the cross on the right above in the window.

So that you can work with **WinTrack** independently fast it shall be now tried to explain you the functions and possibilities of WinTrack with the following exercises gradually. It will then be possible for you to prepare your first track plans itself without knowing all possibilities of the programme. In the course of the time by looking up


specifically in the reference part or about the on-line help, you then can get to know the functions which are still being missing and passing on.

Exercise 1: The first track plan

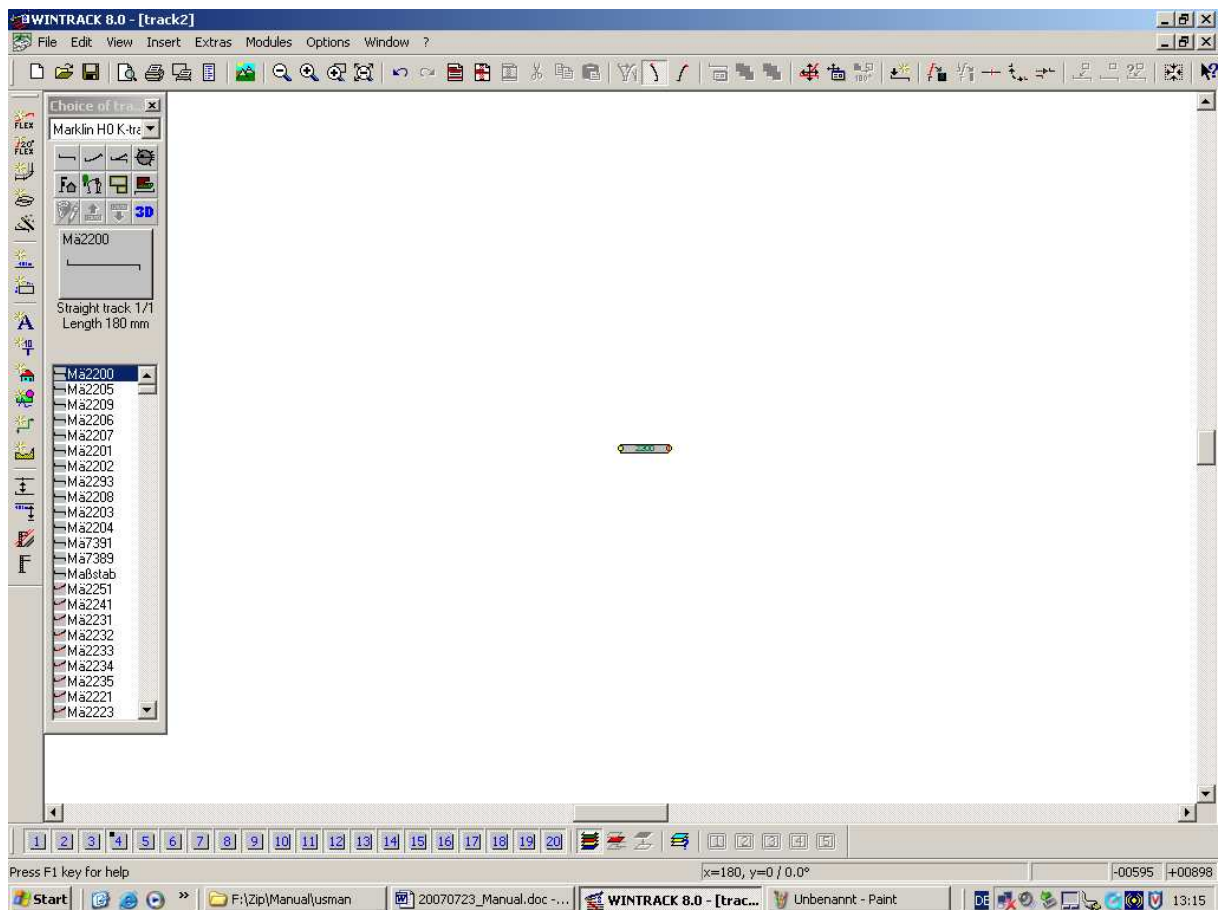
The first track

When you start the programme for the first time, the Märklin K tracks are shown in the **track selection window**. We also will start our track plan with this track with this system (you're to load other track systems with **options menu** with the command **symbol files**).

To insert the first track, you have to make the following steps:

1. Click in the **track selection window** on the symbol *straight track*  in the left upper corner. Through this the first straight track piece Mä2200 is marked and drawn in the planning area.
2. By selecting the planning area or by double-clicks of the item number (in the list) the track Mä2200 is taken in the track plan now.

The track Mä2200 should appear in the middle of the track plan window now. The right track handle must stand out from the track and the background. In addition, the item number should be recognizable.




To reach a good contrast, changes could be necessary in the colour attitudes. Select in **options menu** the command **screen** to do this.

Further tracks

To attach another two tracks Mä2200 you click further twice on the symbol field in the **track selection window** (do not push too fast!!) . The tracks will be added to the current track handle or to the current **track end**.

A fault?


If you have attached a wrong track, there are several possibilities of removing it:

1. By pushing the delete key the track, which is connected to the current track end, is removed again, (the track plan window must be active to this.)
2. By the order **remove** from this **edit menu**.
3. By selecting the symbol for the order **remove**  in the **function bar**.
4. In general every order can be made undone by clicking on **undo** from this **edit menu** or by pushing the button Ctrl+ Z (it must be the track plan window actively).

Turned tracks

In the next step we want to attach two turned tracks Mä2221. We push the symbol turned track (the second symbol above in the track choice window) to this so that the turned tracks are displayed. By double-click or by calling of this track and clicking in the symbol field one track Mä2221 is attached on the track plan. As wished, this track makes a bend to the left. The second bend should go to the right, though. To this the track must be turned after attaching.


This can be reached as follows:


1. By pressing the button D (to this must the track plan window be active) once.
2. By the order **turn** from the **menu edit**.
3. **Shifting**  in the **function bar** by selecting the symbol for the order once.

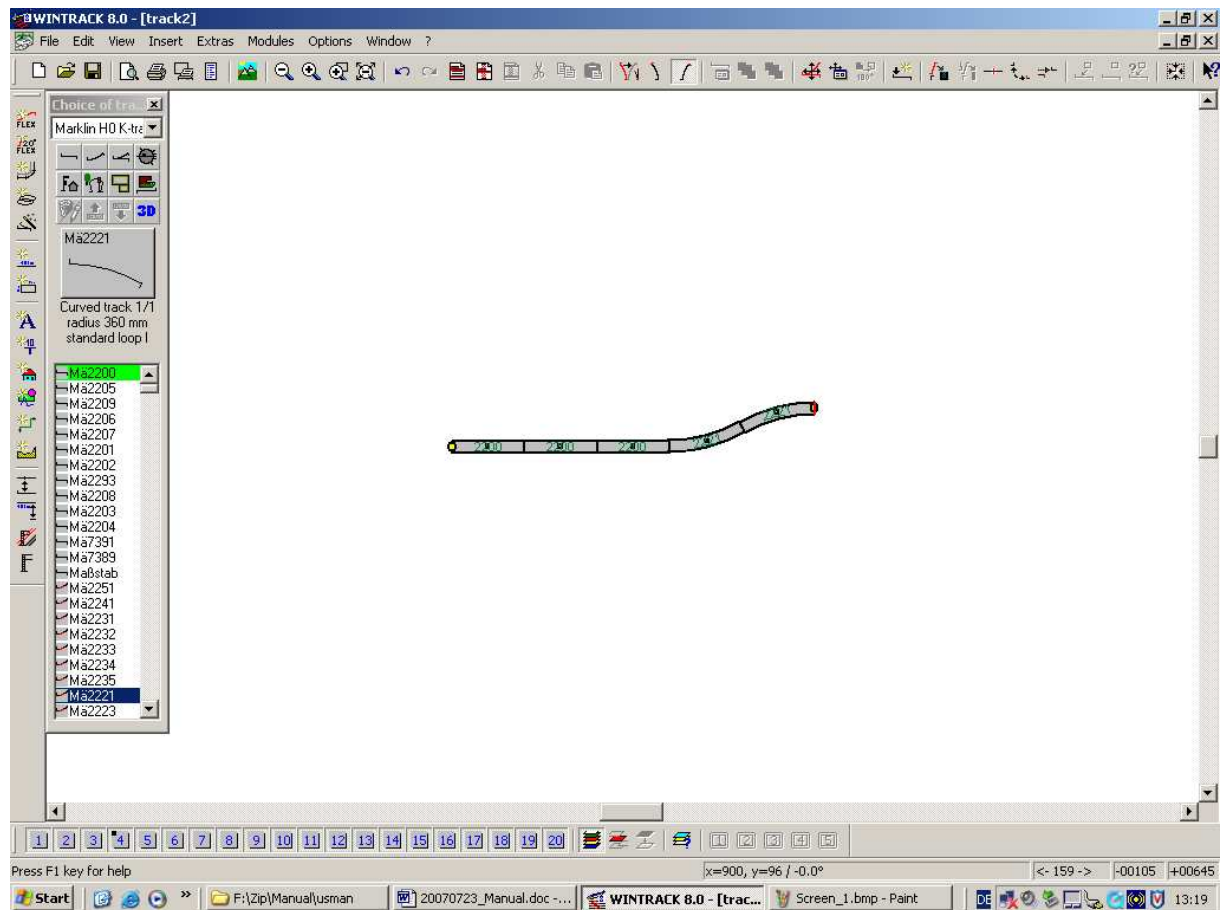
Other representation

To be able to work better the track plan it should be presented in extended display mode.


This can be processed in the following ways:

1. By pushing this one buttons Alt and + (or + only).
 2. By the order **zoom in** from this **view menu**.
 3. By selecting the symbol for the order **zoom in**  in the **function bar**.
- Note: The order **zoom out** endures a reduced representation.

In the **function bar** the corresponding symbol **zoom out**  is at the disposal.



If the track plan should be displayed now no longer completely, the screen clipping can be moved. There are several possibilities also for it:

1. Moving by clicking on the elements of the **scroll bars**.
2. By the order **followed** from the **view menu**.
3. By selecting the symbol for the order **follow**  in the **function bar**. Through this the current track end is moved to the centre.

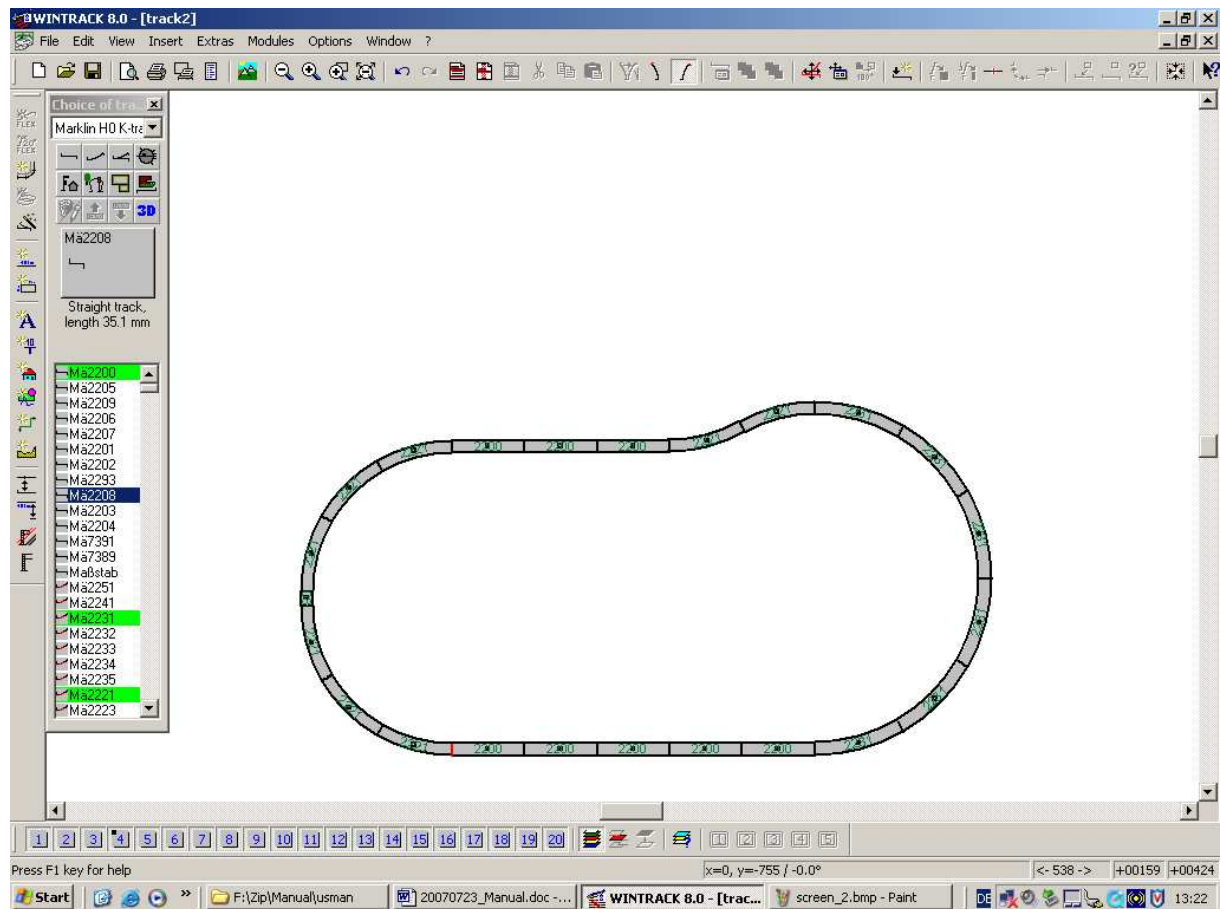
You can try out the mentioned possibilities but none of the functions is getting needed (dependent on dissolution and graphics card) normally now.

We build further

The tracks transferred till now shall be completed by a semicircle now. To this six turned tracks Mä2231 must be attached as an on the right bend.


Completion of the first track plan

To lock the first simple track plan, the following tracks should be attached: 5 x Mä2200, 3 x Mä2221 to the right, 1 x Mä2208, 3 x Mä2221 to the right.



All tracks are joined together visually with that to a baggy oval and the track plan would be actually ready. But for the software there is no connection between the first track and the track attached last which is not possible at the practical construction so that further tracks could be attached at these tracks. This open connection (open track end) is indicated by the yellow point.

To also inform the software that there is a firm connection at the practical construction, you should use one of the following actions:

1. By the order **track ends connect/disconnect** from this **edit menu**.
2. By selecting the symbol for the order **track ends connect/disconnect**  in the **function bar**.

Note: You should always take care that tracks which would be connected to each other at the practical construction show a union also at the track planning with **WinTrack**. If this is not the case, it's possible that when inserting or removing tracks not move remove correctly like connected tracks at which this connection is missing. It is most simply seen to recognize open track ends on the index card variously if open **show track ends** the option in the dialog (order screen in this, options menu) is activated. Then you describe namely like in the exercise, the open indicated by a thick yellow point track end?

Saving track plan

For the later further processing (among others in exercise 2) the track plan can be saved now with the command **save as** from this **file menu**.

Printing track plan

The track plan can now be printed using the order **set print, side view** and **page** with the help of the commands in **this file menu**.

Exercise 2: Turnouts and more ...


Loading track plan

The 2nd exercise touches down on the track plan prepared in exercise 1. This therefore should if not happened yet **open** with the command **file menu** be loaded from it so that it is announced at the field of work now.

Inserting a turnout


Since an oval is alone relatively boring, a turnout shall be inserted. In place of the first bow track to be more precise on the bottom left. This track Mä2221 shall replaced by a curved turnout Mä2269 (old: Mä2267R. To remove the bend track, it must be dialled by a mouse click first (the complete track should be displayed in another colour than the remaining tracks now).


It can be removed the following ways now:

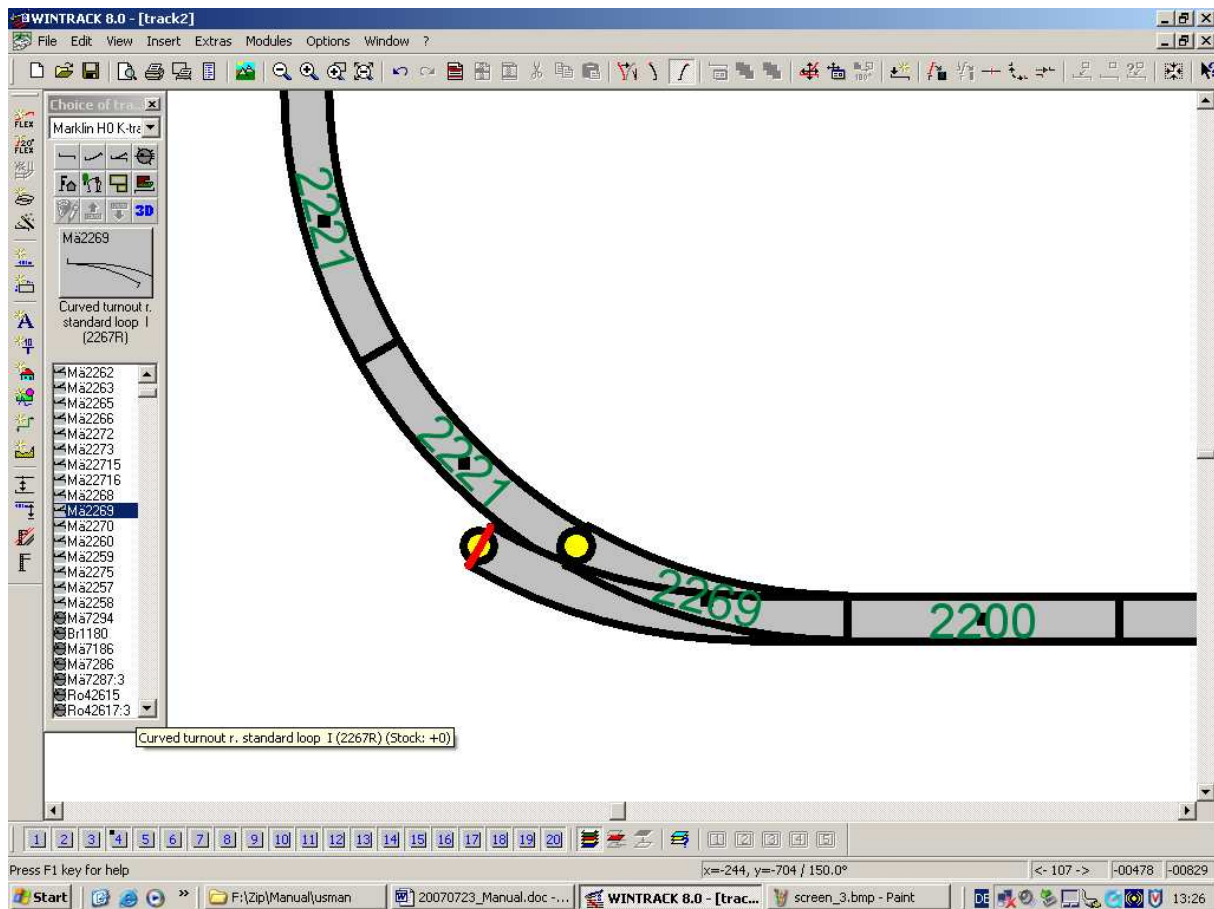
1. By pushing the delete key (to this must the track plan window be active).
2. By the order **remove** from this **edit menu**.
3. By selecting the symbol for the order **remove**  in the **function bar**.

The desired turnout can be inserted now. To select a turnout, the available turnouts must be displayed at **the track selection window**. The first turnout is displayed in the **track selection window** if you select the symbol *turnout (beside the symbol for bed track)*. Insert the turnout Mä2269 now. Since we would like to have the turnout in another direction, we must turn it.

This can be do this as follows:

1. By pressing the button D (to this must the track plan window be active).
2. By the order **turn** from **menu edit**.
3. **Shifting**  in the **function bar** by selecting the symbol for the order.

After the result looks visually excellent now it may not be forgotten that the turnout should not be connected with the other tracks only visually. To do this you've chose the order **connect track** ends from the **edit menu** or the order **connect/disconnect track**  ends in the **function bar**.






Marking, copying and inserting

Of course also whole track connections can be copied or copied and inserted in another one from a track plan within a track plan apart from the construction of your track plan with single tracks. **File menu** also see the commands **loading macro** and **saving macro** from this have to not complex track plants built up for example once (e.g. hidden staging yards, shops, roundhouses) be built up once more in every track plan outline through this but be able to be inserted about the intermediate file (). In our simple example merely a semicircle shall be copied, though.

It is to proceed as follows:

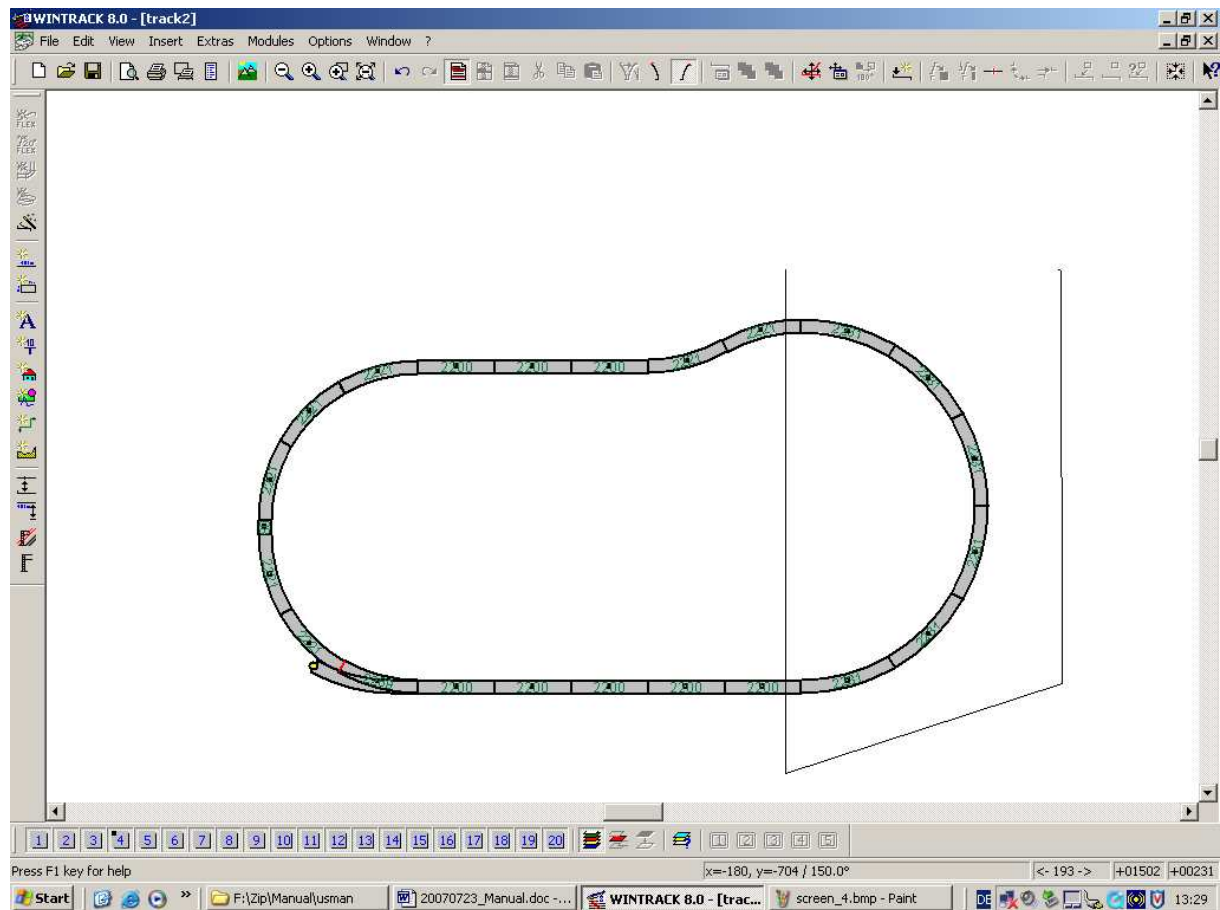
1. Marking tracks:

There are different possibilities for marking the tracks. You have noticed, that the mouse pointer can take different


forms (, , ). During your previous work perhaps you've that depending on whether you are with the mouse pointer nearby an (open) track end or at the handle of a track, the mouse pointer takes a certain form and by a mouse click would become a track end or a track be marked. If the mouse pointer has none of these forms (but the standard form), then a marking rectangle can be spread out, so a rectangle will be drawn. The mouse must be pushed and be moved at a depressed mouse button to this so that a rectangle is drawn. All tracks will be highlighted, where the handle is in the rectangle (Try it !!!) after letting the mouse off! More often not all tracks can be marked by a simple rectangle. There is another possibility for it which shall be discussed followingly:

You mark the tracks with the help of the order **mark tracks** from **Edit menu** or this **mark tracks**  symbol from the **function bar**.

Afterwards this is done you can set point with the mouse, by pushing the left mouse button, of a polygon which enclose the tracks you want to copy. If all desired tracks and symbols are enclosed by the Polygon, you must complete this with one double-click on the left mouse button.



2. Copying tracks:

The highlighted tracks can now be copied with the order **copy** or the symbol for the order **copy**  from the **function bar** to the clipboard.

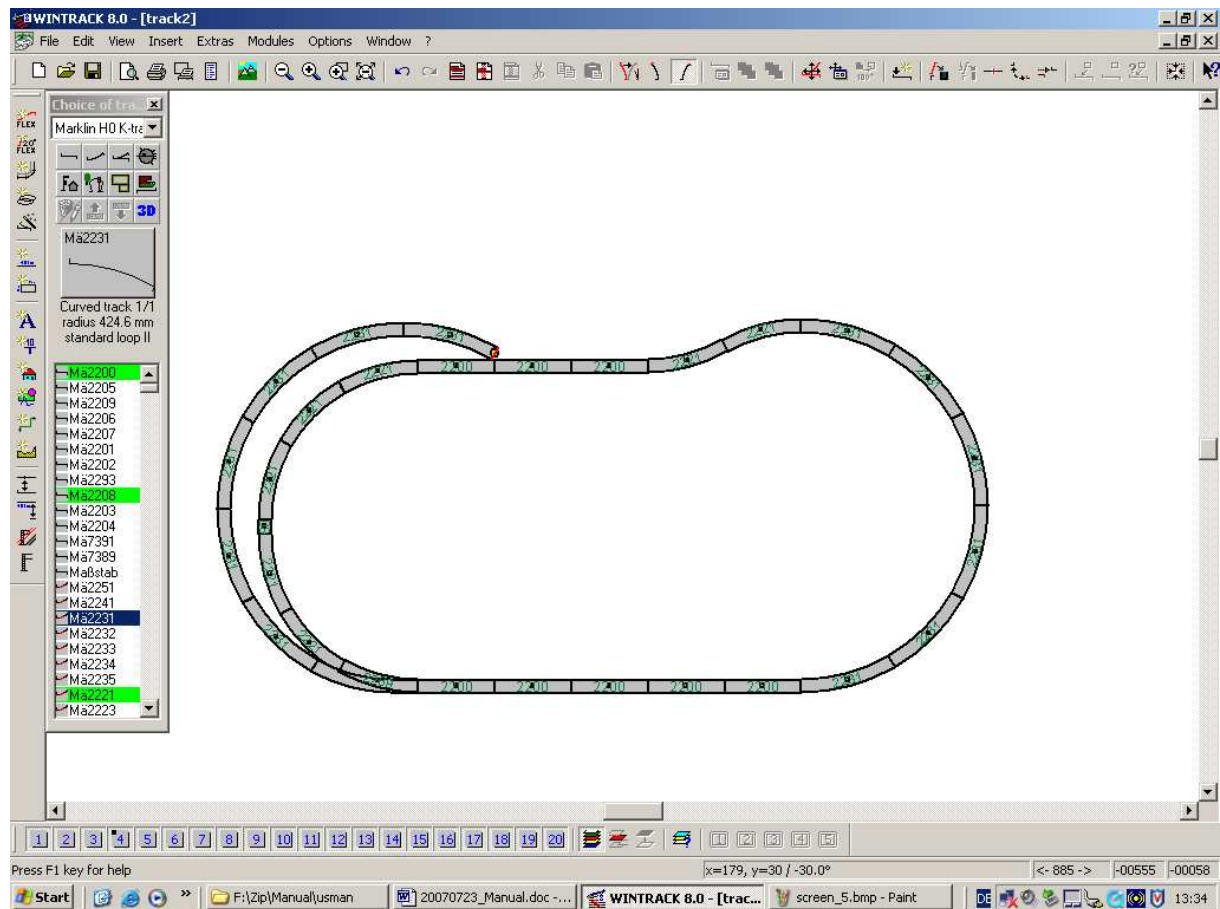
3. Insert tracks:

For inserting the tracks from the clipboard the end of the track on which you want to insert must be actual. You should therefore click the still open track end of the curved turnout with the mouse now. Now you can insert the tracks with the order **insert** from the **menu Edit** or with the symbol for the order **insert**




from the **function bar**.

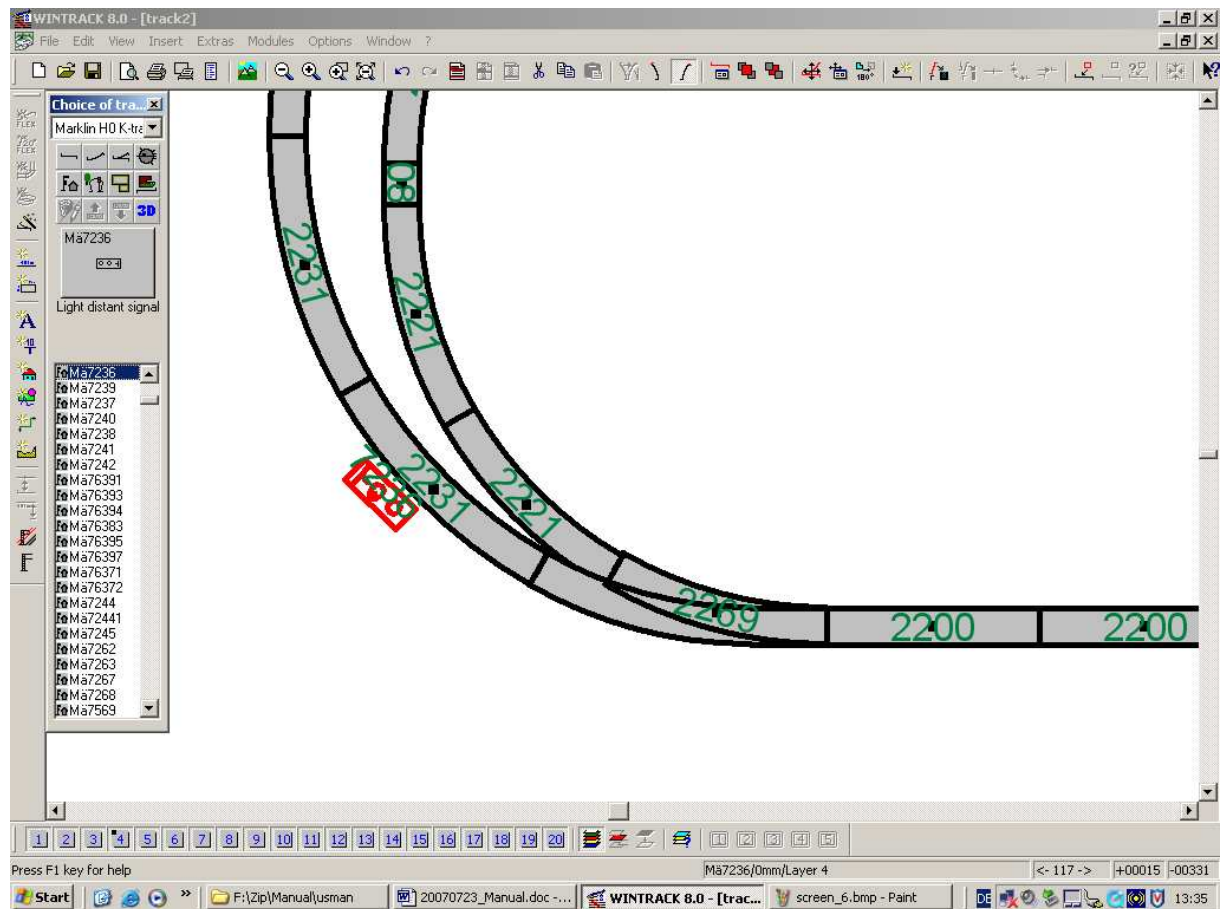
The tracks out of the clipboard are drawn in the track plan now. If the position is correct, you confirm inserting take with **insert**.



Inserting a signal

Inserting around additional design elements such as signals or trees we must call the track (at the "Handle rectangle", "Handle") or a track handle (track end), to which the element shall be aligned with. As an example we select the track Mä2231 besides the curved turnout at the Handle and insert the signal Mä7236. To receive the

signals in the **track selection window**, we select the symbol *design elements*  in the **track selection window**. After inserting we have the possibility, with the mouse or the order **move tracks/symbols** from the **edit menu** to place the signal differently or to remove the item number.



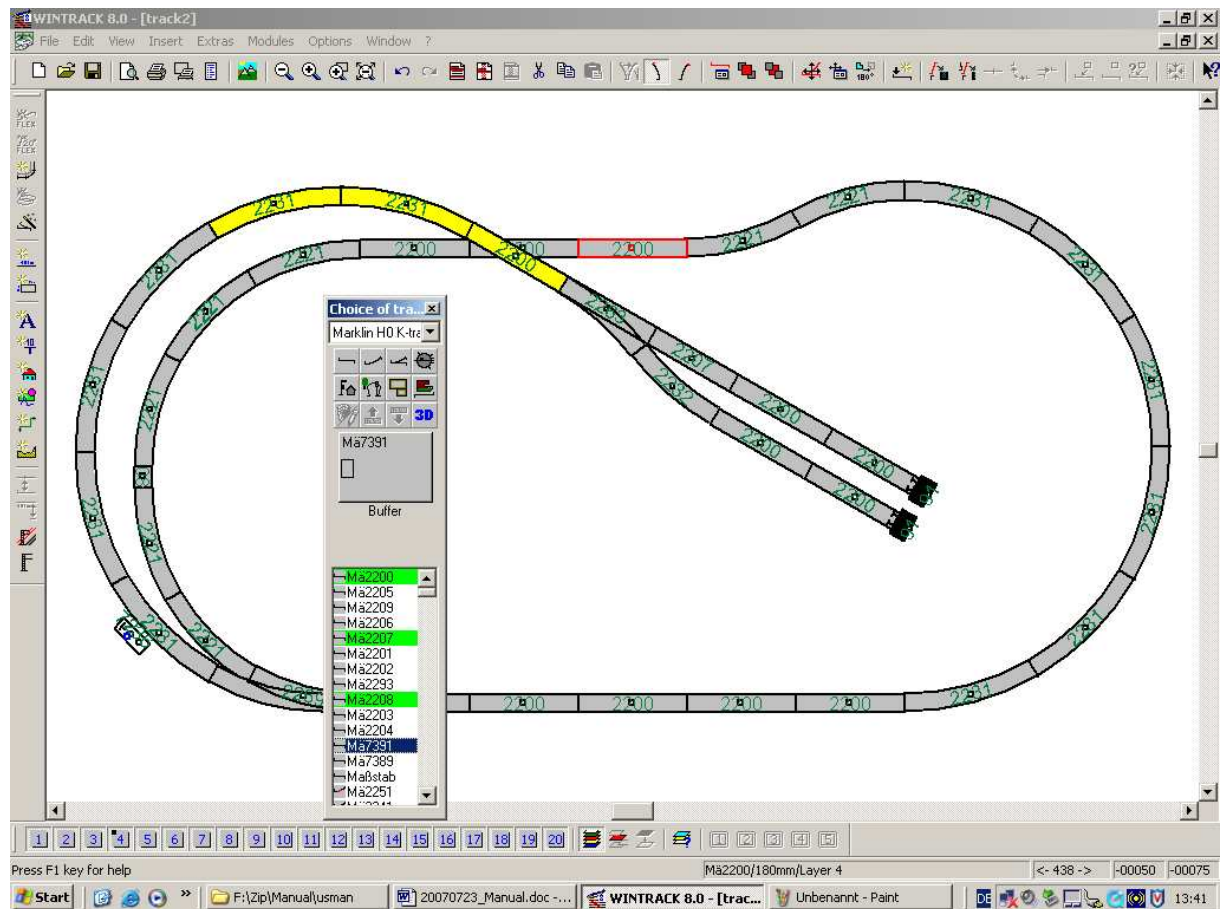
Including sidings and tunnels

Without great problems it should be possible to attach a turnout and two sidings after an additional track Mä2200 with the knowledge attained up till now at the free end.

After that the tracks which underrun the oval shall be represented as a tunnel way.

You must select any track which shall be part of the tunnel way and then dial the command **display** from **menu edit**. You can choose the desired display mode with help the option's **tunnel way** here.

Note: Instead of working on every track one by one you can also change the display mode of all tracks for the tunnel way after the marking with the help of the command **mark tracks** from **menu Edit** or the symbol for the command **mark tracks** from **the function bar** (see above) with one single change.



Look back at exercise 2


After completion of the exercise 2 whose result you also should be stored you have got to know the basic mode of operation of **WinTrack** now. You should be able to prepare a simple track plan which contains all essential elements, like tracks, additional symbols (signals, trees etc.), and different display mode variants now. An important element which reduces every model railroader is still missing, though: the available place. You therefore go in exercise 3 into the track plan processing at a predefined base.

Exercise 3: Planning on a predefined base

The base plate

This exercise does not build on any track plan prepared already why we need an empty track plan window.

This can be produced as follows:

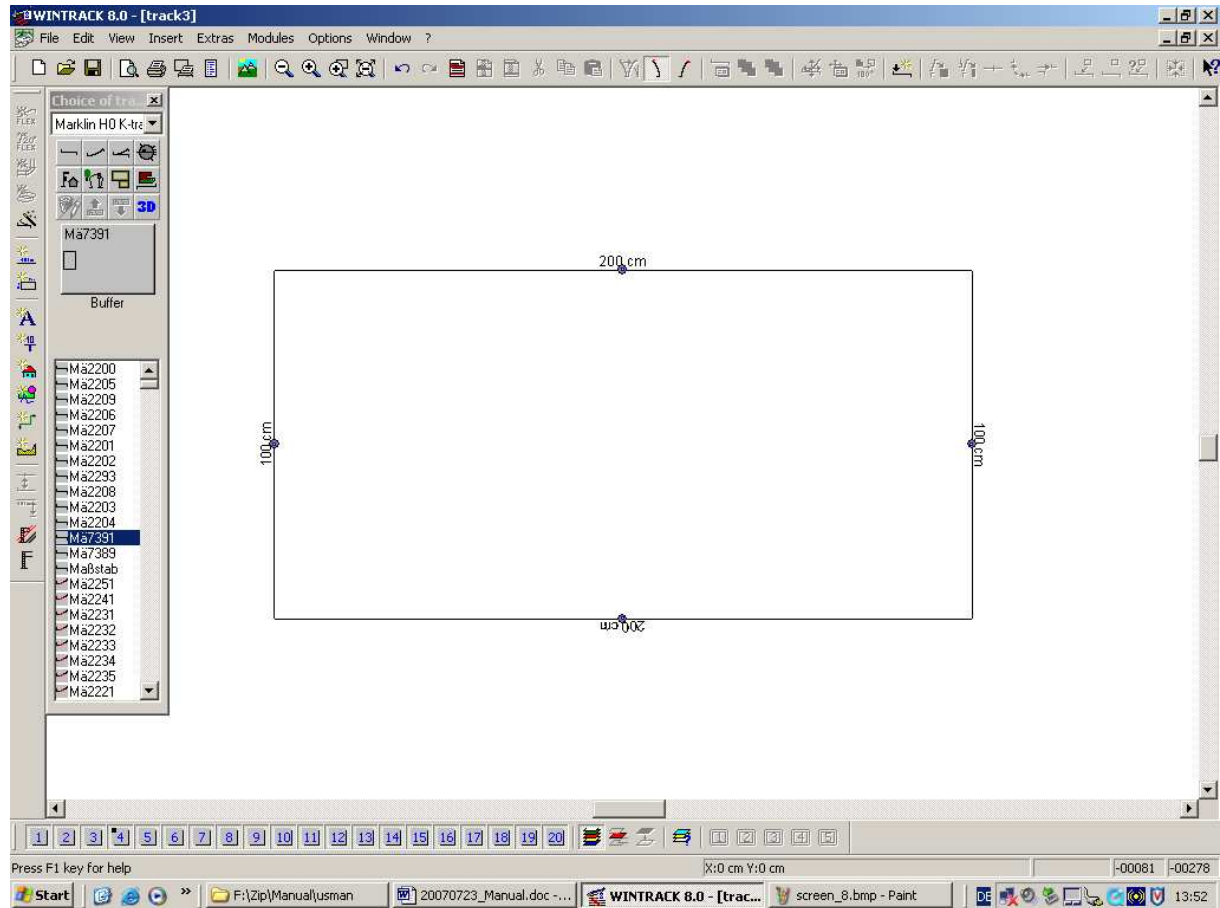
1. By the command **new** from the **file menu**.
2. By selecting the symbol for the command **new**  in the **function bar**.

A base plate shall be marked with the measures of 2.0 m x 1.0 m now. There are two possibilities for it:

1. With the command **base plate** from the **menu insert**. A simple rectangular base plate can be produced with the desired measures with that very fast.
2. With the command **plate edge** from the **menu insert**. A single plate edge can be produced with that, with this command through what special plate forms can be inserted.

Instead the first method is much faster we choose the second method to learn this way of constructing a base plate. The mouse pointer takes the form of a cross when moving over the field of work now. By pushing the left

mouse button you can determine the initial point of the first plate edge (this should lie someplace on the left above.) Then move the mouse to the right. The extension of the plate edge is shown at it in the **status line**. You move the mouse pointer up to X:200 cm Y:0 cm is shown. Then push the mouse button once more. You move the mouse X: 0 cm Y: 100 cm to below to and push the mouse button now. Then to the left until: X :200 cm Y: 0 cm and finally up to the initial point, where through one be able to end marking the plate edge.



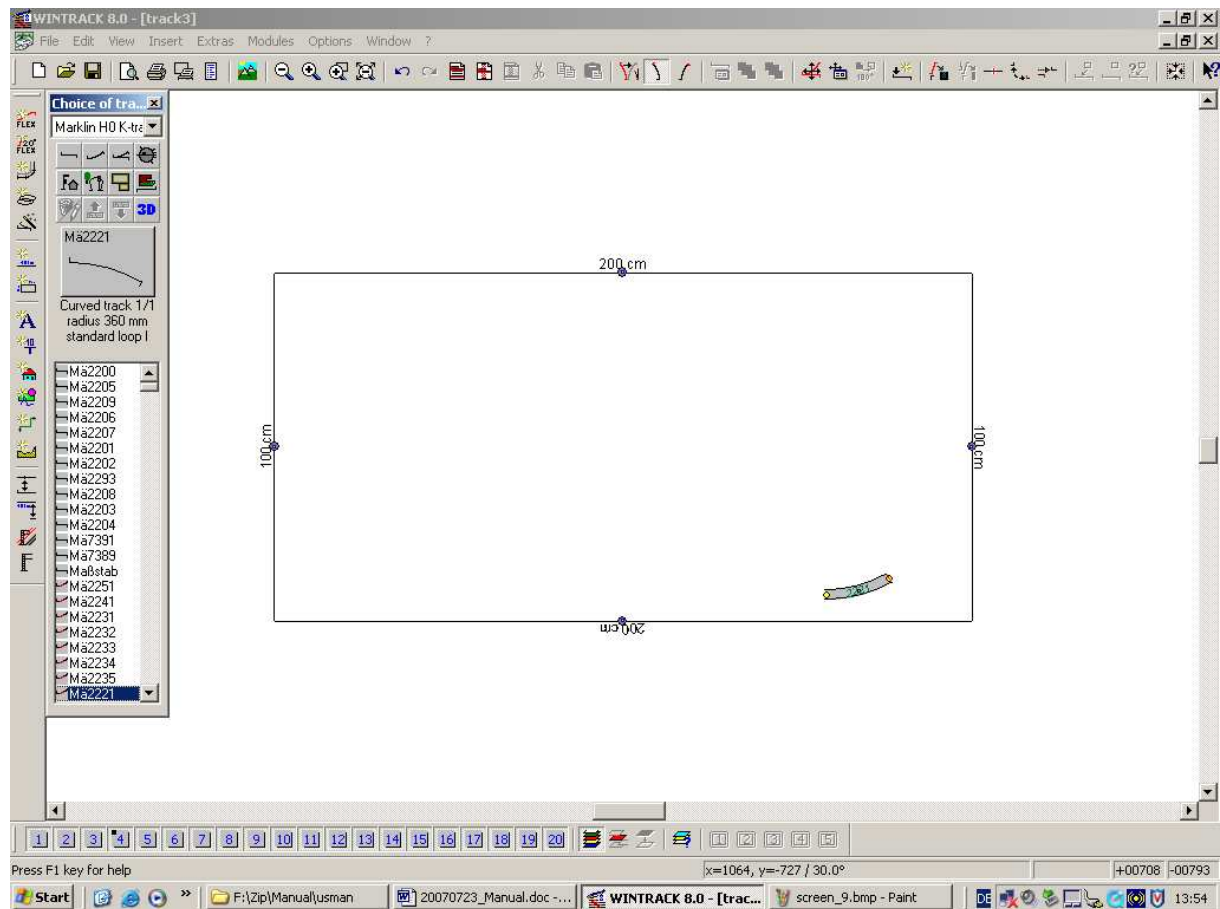
Positioning the first track

If the first track still was put automatically to the middle at an empty field of work, the initial position and direction must be set at the existence of a base plate.

You select the desired track (here to this in the list in the track selection window: Mä2221) and then the command **new start** from menu **Edit**.

The mouse pointer takes the form of an arrow when moving over the field of work with a track piece now. By pushing the left mouse button the initial point can be provided. Choose the initial point approximately so that in the right lower corner of the base plate an semi circle to the left could find place.

WinTrack then shows the **dialog New start** in which you enter the start angle and you can as well correct the starting position once again. Simply confirm the details without correction.



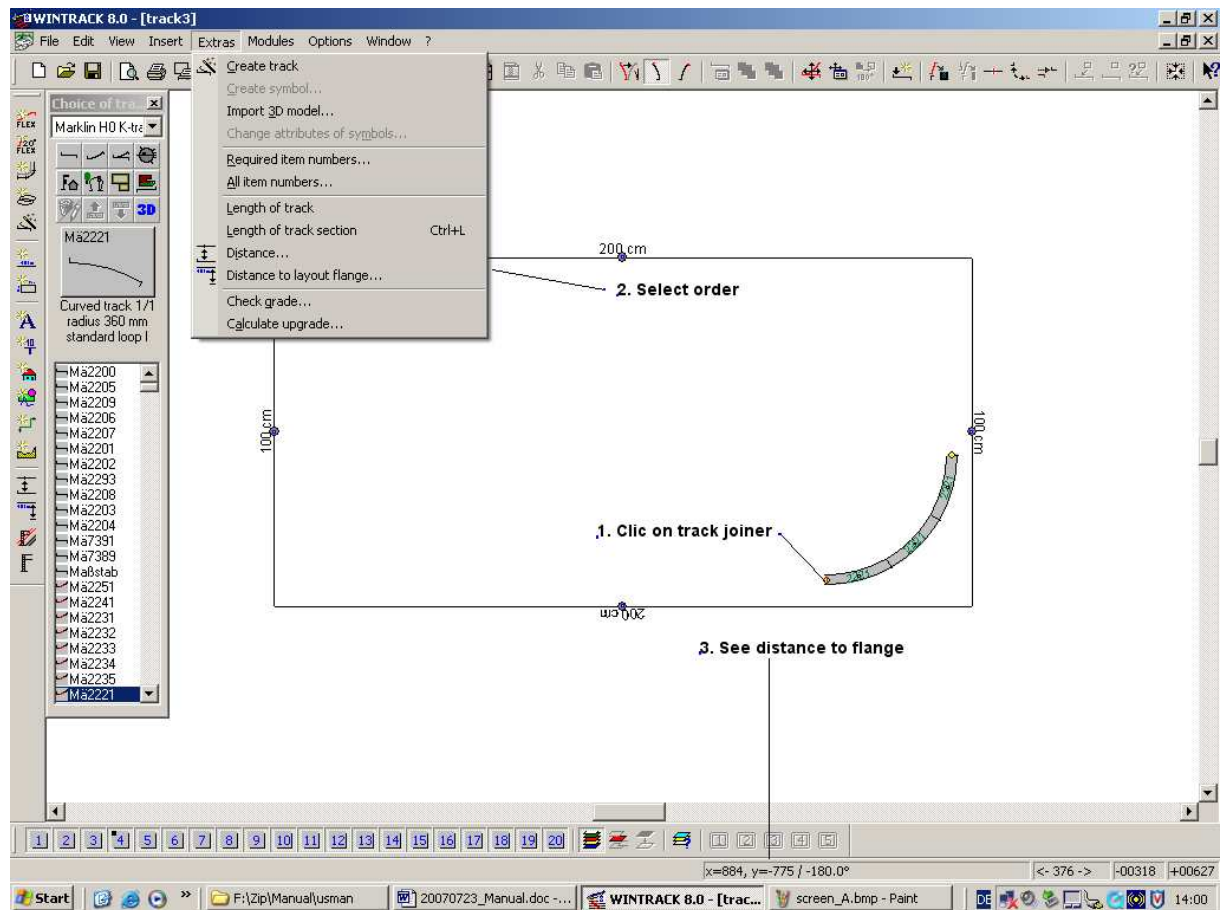
Still attach another two curved tracks now.

Optimal place usage

Normally the choice for the starting point doesn't utilize optimal the place you can use or tracks are out of the plate limits. In any case you should look to move the tracks in the lower right edge of the plate.

To this the following measures are needed:

1. The desired distance of middle of the track to plate edge (e.g. 40 mm).
2. The short-term distance of the middle of the track of the undermost track to the lower plate edge.
Select the left open track end to this first. Then select the command **distance plate edge in the menu Extras**. The short-term distance (e.g. 51.9 mm) is displayed in the **status line** now (provided that the status line is not concealed by the track selection window).
3. The short-term distance of the middle of the track of the topmost track to the right plate edge.
Proceed analogously to 2. (Distance e.g. 142 mm).



Through this the following is the result:

1. The track plan must be moved by $51.9 \text{ mm} - 11.9 \text{ mm} = 40 \text{ mm}$ to below.
2. The track plan must be moved by $142 \text{ mm} - 102 \text{ mm} = 40 \text{ mm}$ to the right.

Choose the command **scroll tracks** from the menu **Edit**. The **dialog move symbols/track plan** should be seen in which you should make the following petitions: depending on calculated moving e.g. X, direction: **102**, Y, direction: **-12** (petition of integer numbers!)

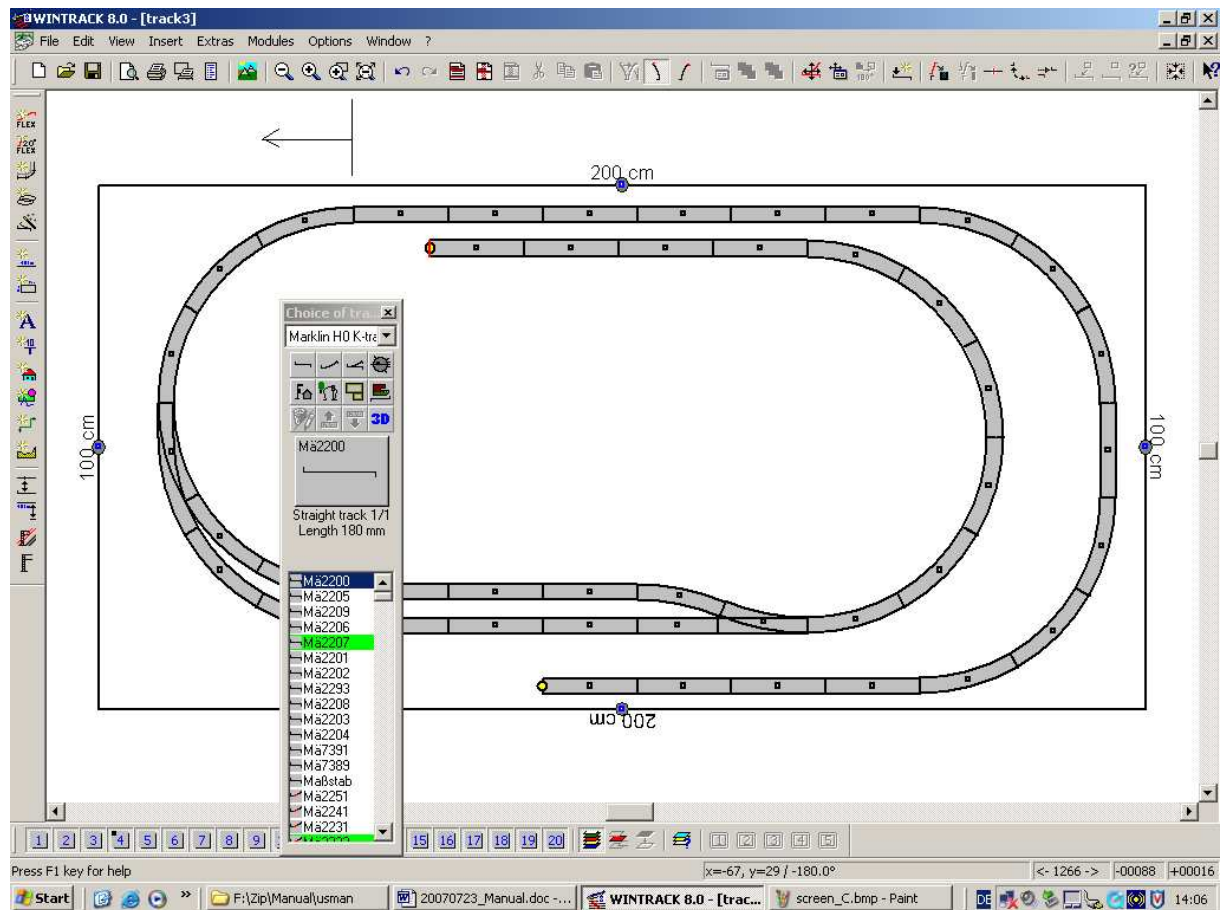
All tracks are relatively moved to the plate edges around the entered values now so that the bow should be exactly located in the plate corner now.

Development to the double oval

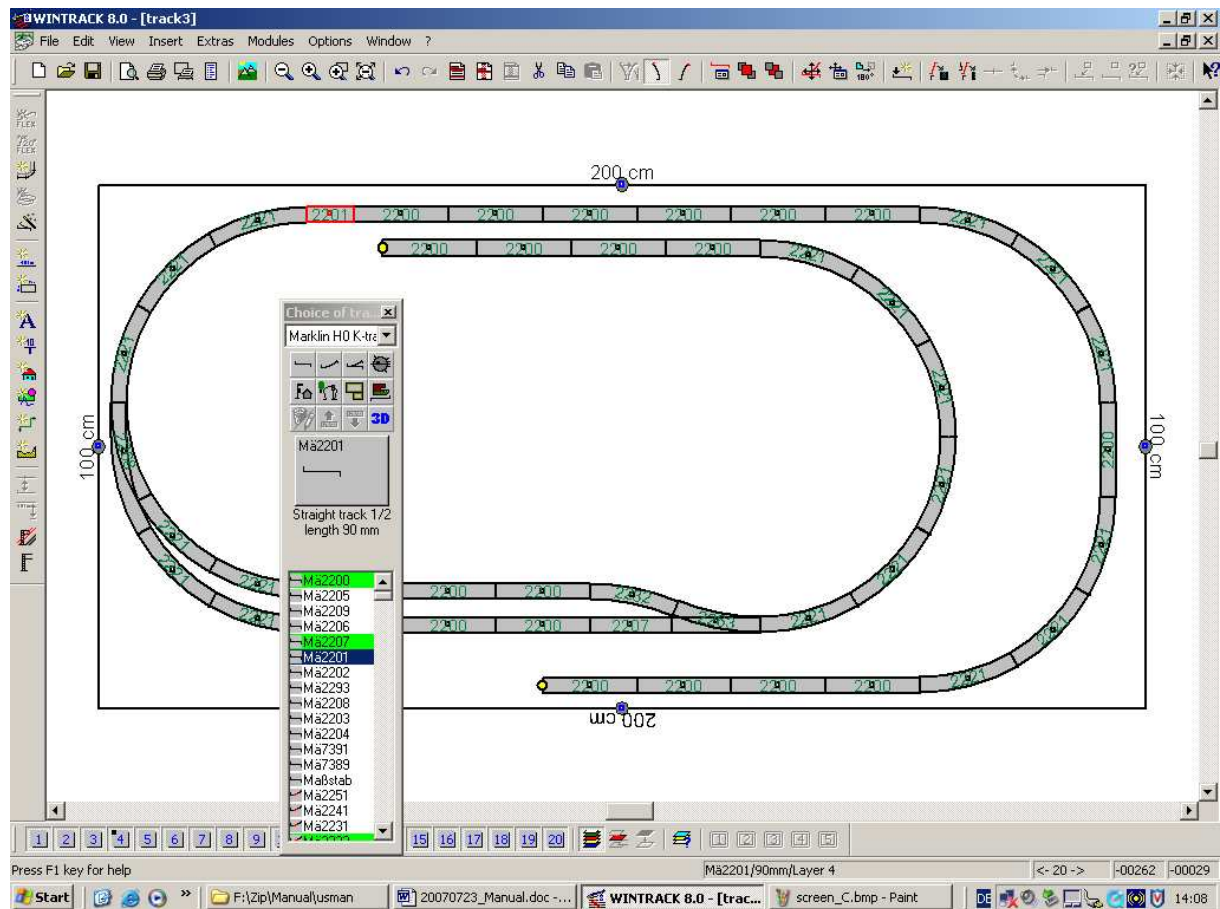
Please expand the track plan independently further which shall contain a double oval with a station. Please orientate yourself at the next picture.

Inserting between two tracks

In the case –shown in the following picture – that you realize that you'll waste space to the left plate edge, you can prolong the line while inserting a straight track into the upper straight line.



To this you select the track joiners of the two tracks between which a track shall be inserted. Please note that the new track shall be inserted by the track joiner on the left. At first proceed as usual: Selecting and inserting the track (e.g. Mä2201) with **the track selection window**. In a dialog you are asked now what shall be moved. Watch the plan to this and choose the corresponding button. The connected tracks are then moved correspondingly.



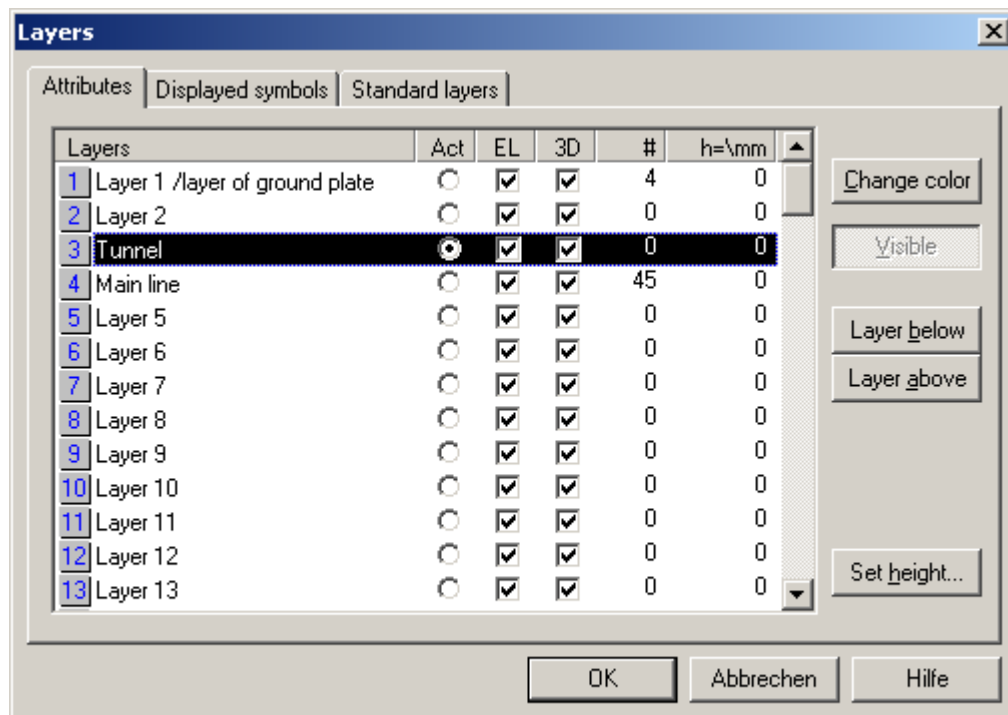
You could as well remove tracks (if necessary) and let the connected tracks move up automatically. The track to be removed (not the track joiner !!) must be dialled and a following action be executed to this:

1. The command **remove & moving up** from menu **Edit**.
2. Selecting the symbol for the command **remove & moving up** in the **function bar**.

Planning in several layers

At our planning it could make sense to put the tracks in another layer which go through under the station now. This has the advantage that, later, can be selected without problems if layers shall simultaneously or only one of the two layers or everyone should be drawn. Every level can one by one be looked at and continued to work on through this without the tracks of the respectively other level being able to have an disturbing effect on the planning work.


To this call with the **command layers** in the **Display menu** the **dialogue layers**. There you should change the names of the levels to the better clarity first (Select the choosen line in the list; click once again, then the name is alterable): Layer 3-> tunnels, layer 4-> main line. Then you select the layer **3** (tunnel) and change the colour. Before you close the dialog at the end with **OK** again, you still click in the 3rd line of (layer **tunnels**) in the column **currently (cur)** to make the "tunnel level" the current level.

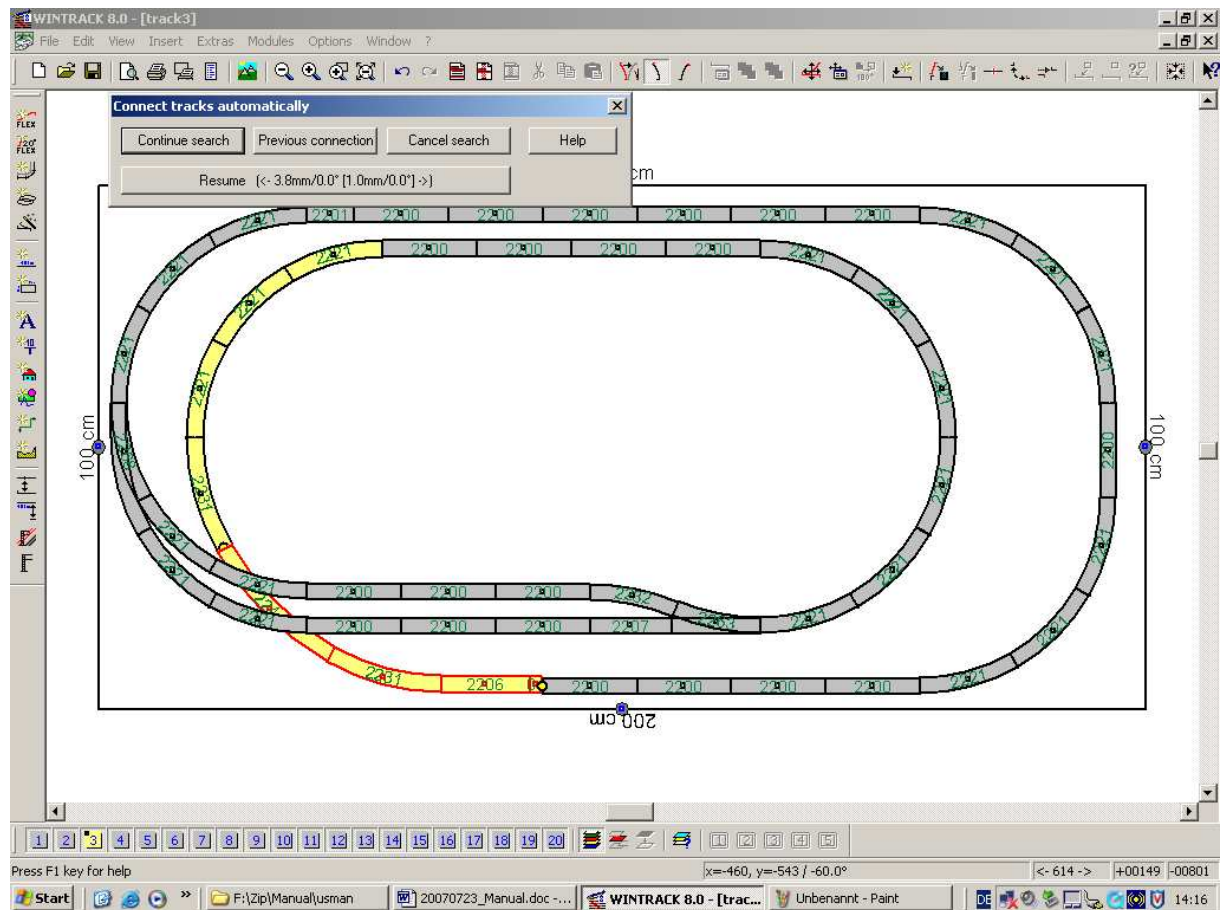


If you select the open track end at the inner oval (or also every other track joiner) now, in the **status line** the name of the current track layer (here: **Tunnel**) shown. This means that all tracks added in the following are put to the layer **tunnel**. If, on the other hand, you select a track, the layer of this track is displayed in **the status line**. Attach three curved tracks Mä2221 to the left at the mentioned track end now.

Connecting automatically

We are leaving the rest of the work to the track planning software **WinTrack** now. We proceed for it as follows:

1. Choose the command **Connect tracks automatically** from the **menu Edit** or clic on the symbol **Connect tracks automatically**  in the **function bar**. The mouse cursor changes to an arrow with two not connected tracks now.
2. Select the still open track end at the lower plate edge now. You select in the dialogue **connect tracks automatically** the option then *S form not allowed* best and click then on **continue search**. **WinTrack** tries now to find a connection.
3. After **WinTrack** has found a connection you'll be informed. If you are not satisfied with this connection, you choose **search continue**. If you are content, then you press **accept connection**.

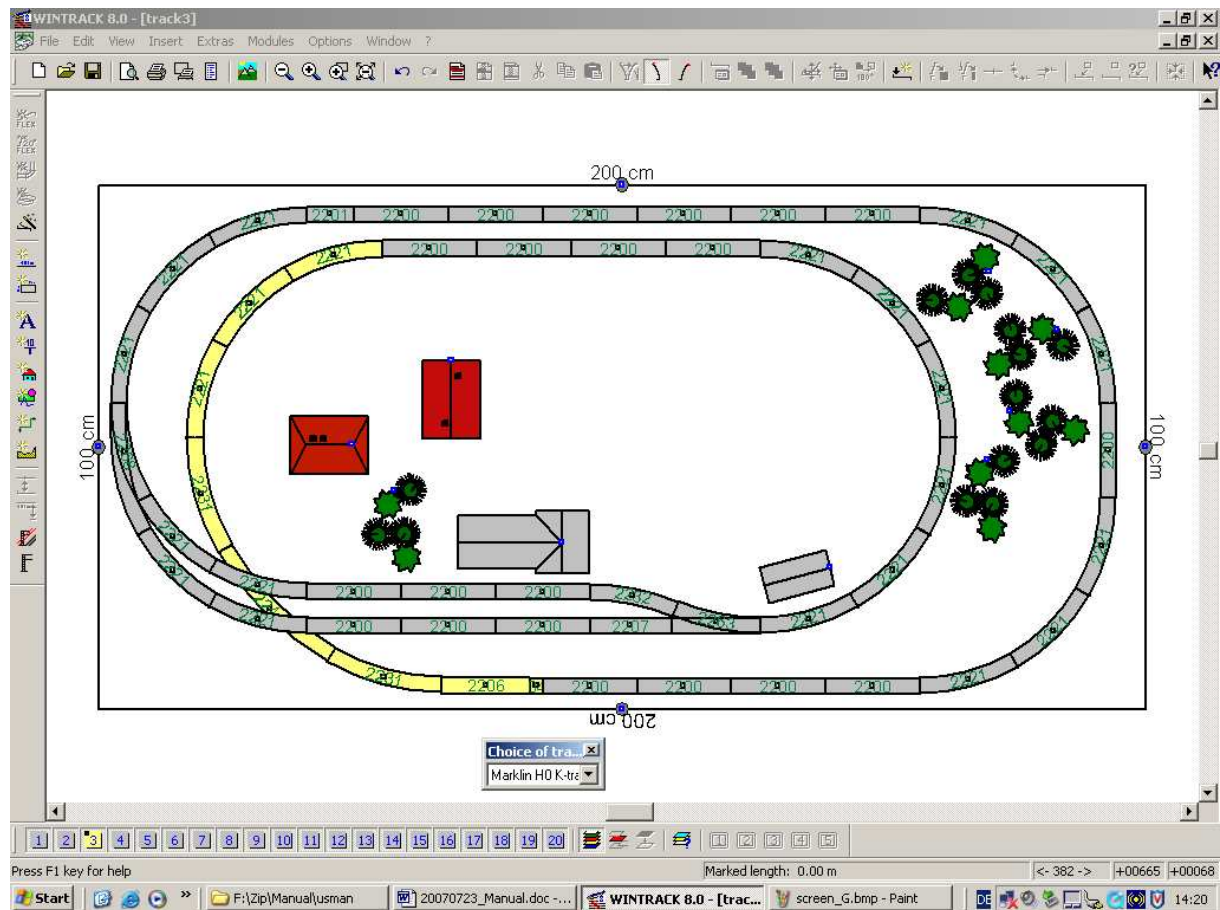


Note: If **WinTrack** should not be able to find any connection, you should start the search from the other open track end.

With the help of the **dialogue layers** you can display the layers one by one now. To this you select the *visible layers* there. However, note that in any case **WinTrack** displays the *current layer*.

Display

You still can in conclusion now a little formally get active and give your track plan the finishing touch. You could insert tunnel portals, trees and building (**menu insert** from the track list or with the command building from this).



Exercise 4: Preparing track plan for the 3D view

In this exercise the track plan prepared in exercise 3 shall be edited so, that now the 3D view gives a good presentation of the later plant.

Requirements on the track plan

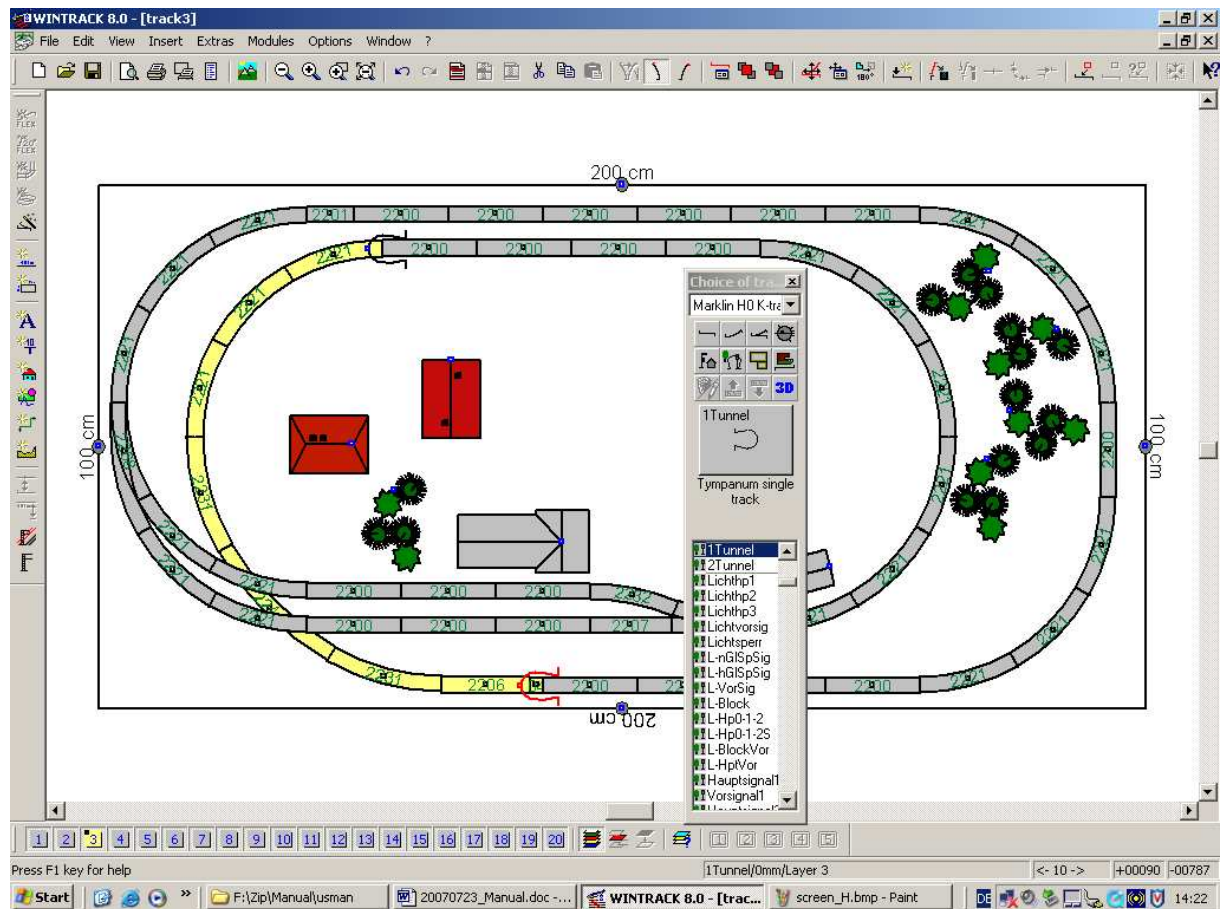
In principle, the 3D view can be called upon for every plan without a special processing. If the plan has track marked-out routes which partly lie about each other, though, a special processing is inevitable to get a correct 3D view. Track plans without one above the other lying track marked-out routes offer an acceptable 3D view also without special processing.

Also for our track plan (oval2.tra) the 3D view can be called (you simply try it out when you have not already done it). You will notice now that all tracks lie in a level and coincidences which may not be so therefore appear, though.

To get a correct 3D view, the height (3D profile) of all tracks must at least be fixed. The index cards **3D** and **3D profile** serve in the **dialogue display** whose application is explained now. Moreover still being able to get an optimal 3D view be contour lines which fix the form of the landscape between the track marked-out routes inserted.

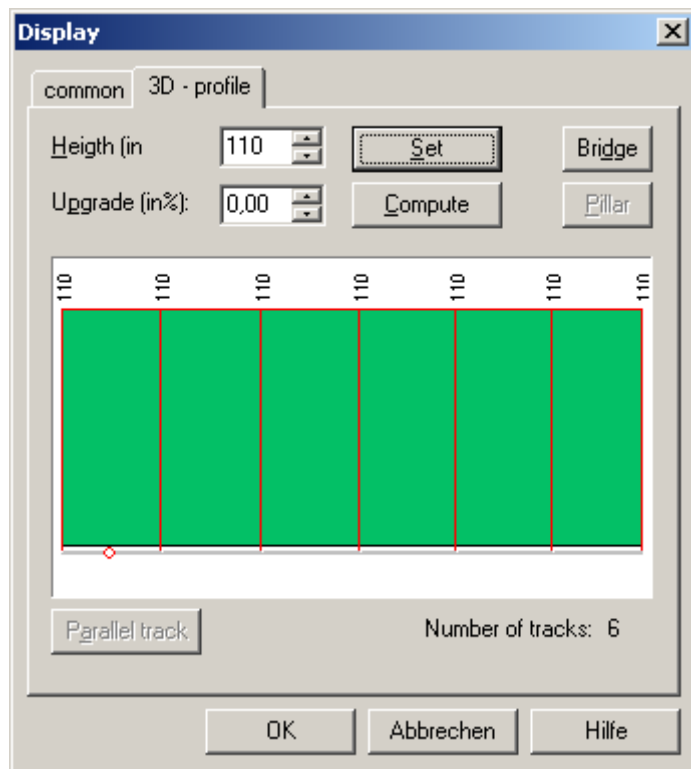
Input of the 3D profile

If it was still no matter at the 2 dimensional planning how a tunnel way was indicated, it is inevitable for the 3D view also to provide tracks of tunnel ways with the corresponding quality. For our plan this means that the tracks of the *tunnel* way, this one till now in one, extra layer were transferred (with the layer colour orange), tunnels must be covered with the attribute *tunnel line*. To this you mark all tracks affected by it (tracks between the two tunnel portals) and choose the command **display** from the menu **Edit** then. Choose the option *tunnel* and close the dialog again.



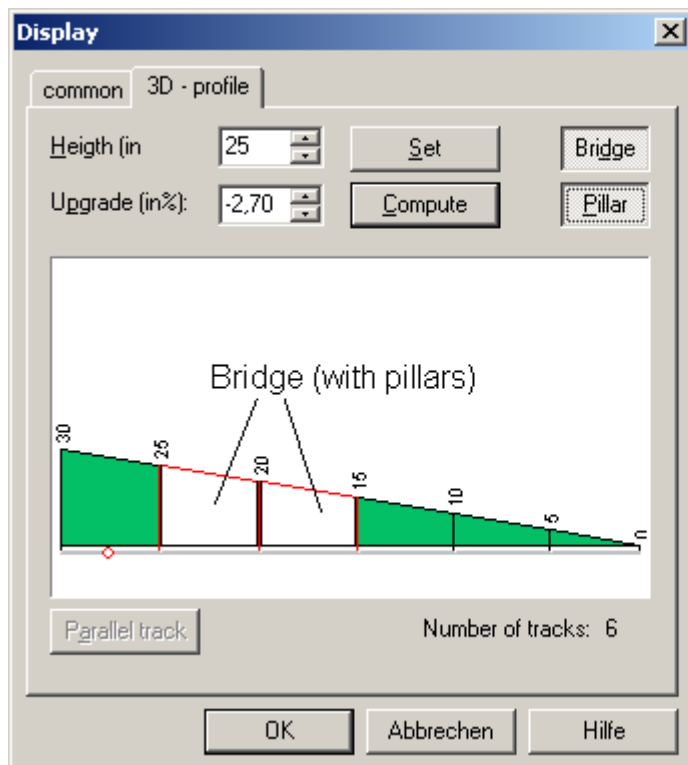
The height of all tracks must be entered now. This most simply goes with the index card **3D profile** in the **dialogue display**. With this index card the height course of the tracks between two turnouts (or turntable or transfer table) or a predefined section can respectively be fixed. Turnouts or track elements which do not have exactly two track ends (turntables etc.) get their height of the track marked-out routes connected to them or can be entered separately.

We stride but now enough the theory, to the deed: We start with the two track marked-out routes in the station. With a double click on a any track (handle of the track) the **dialogue display** will be opened. Please choose the track Mä2232 at the side of Mä2263 (old: Mä2261R). As expected, at first the index card **generally** is displayed in the dialogue (you could carry out changes for the selected track there). Change to the index card **3D profile** now. All tracks between the turnouts Mä2263 and Mä2268 (old: Mä2267L) and the height of the track joiners were displayed (these tracks are highlighted in the track plan now). Of course the height is 0 till now. The selected track is marked with a circle in the 2D view. To put all tracks on a height of 110 mm now, you enter these values into the entry field **height**. If the input has been carried out with the keyboard, you've to submit this with **set** to resume the input.



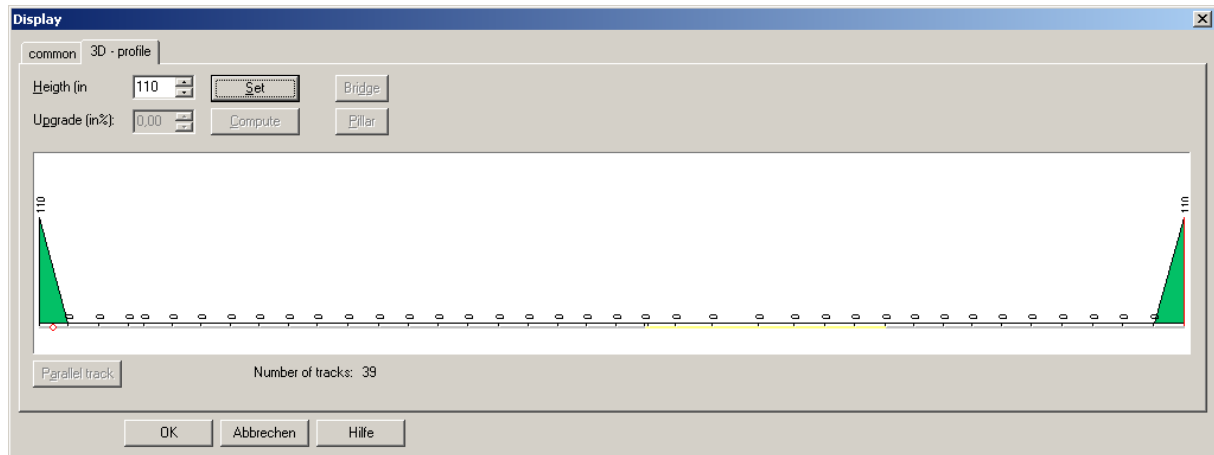
The profile is therefore fixed for this track section and the dialogue can be closed with OK. In the track plan no change is to recognize at first. To make the fixed heights visibly in the track plan, please choose the command **3D heights** from the **menu view**. The fixed height is displayed at every track joiner now (the display mode of the heights can be fixed on the index card's **3D heights** in *the dialog screen*).

As you will state, the height is 110 (mm) at the track joiners of the tracks of this marked-out route and the sides connected with that. You fix now the heights for the other station track the same way (double-click on a track, **set** on the index card **3D profile**).



It will be a little more difficult now to fix the heights of the remaining track marked-out route. Difficult therefore, because the track marked-out route is on the one hand very long and on the other hand because the height of the tracks is different.

After you've opened the **dialog display**, please choose the track Mä2200 beside the upper tunnel portal on the right. The index card 3D profile then looks as follows:



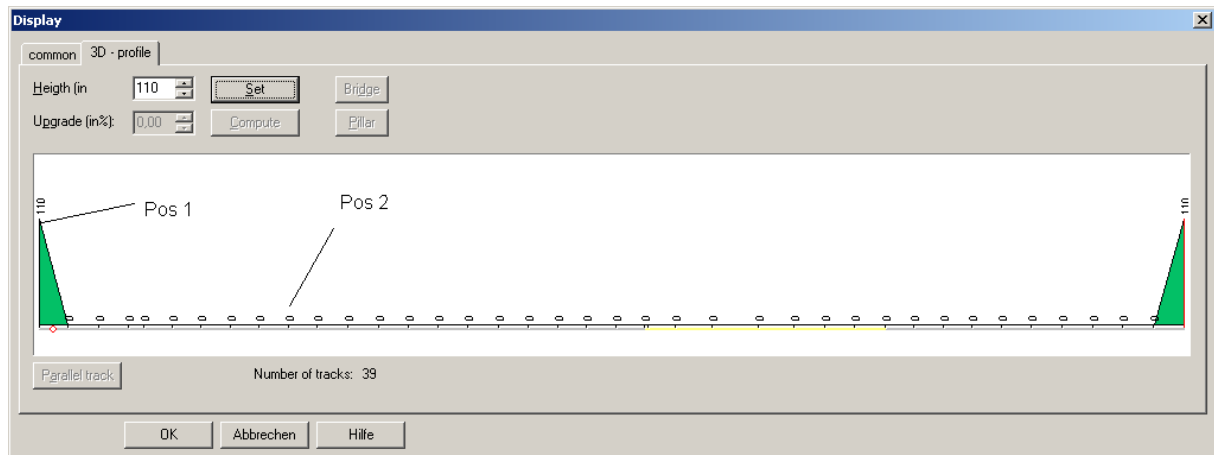
The heights are except for the beginning (turnout Mä2268 is connected) and the end (turnout Mä2263 is connected) on 0 now.

It admittedly is not always easy to imagine the course of the track plan in the 3D profile. But the following measures shall make this easier:

- The selected track is marked with a circle (in the 3D profile and during the indication of the 3D profile also in the track plan; Moving the dialogue is possible any time!)
- The track end which is further on the left in the track plan is also on the left in the 3D profile,
- Tunnel ways are dottedly labelled,
- All tracks are drawn with your respective layer colour.

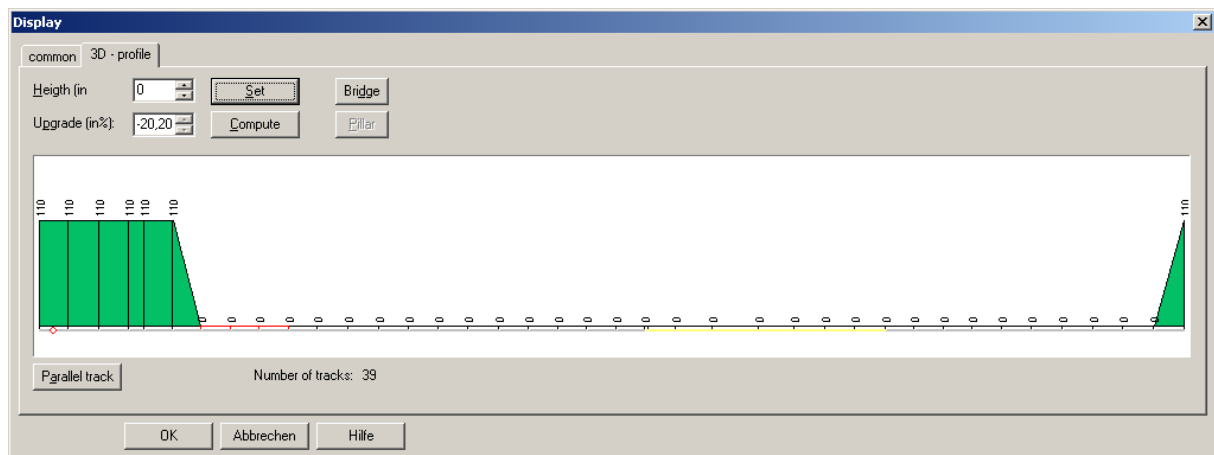
The profile is fixed in sections now: after the turnout 2268, at first the height shall remain on 110 mm. To this this section must be marked as follows in the profile window:

At first you push the mouse button at the first track joiner on the left (Pos.1), keep the mouse button pushed down and move the mouse pointer to the track joiner who lies at the end of this section (Pos.2) and let the mouse button off there. This section should be marked red now (see picture:)

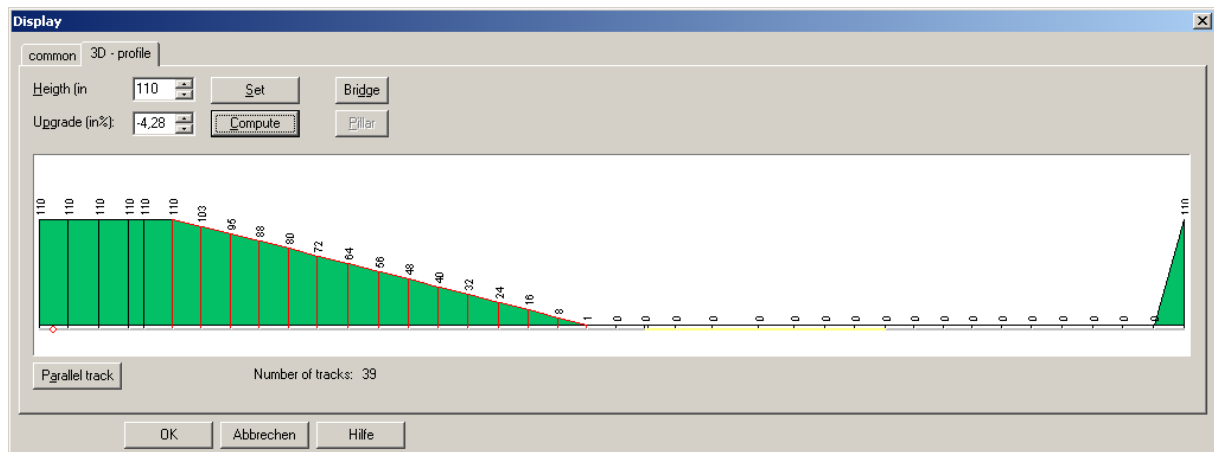


Since the desired value of 110 already is in the entry field **height** you limit this value about the button **set** for the complete section.

Mark the section from Pos.2 analogously until the beginning of the tunnel way now. Is important that the marking starts at the last track joiner who was already put on a height of 110. The entry field **gradient** then shows the value -4, 01 (otherwise 0, 00).



By pressing the button **compute** (not **set** !!!) now the height decreases up to the tunnel way evenly until 0.




During the tunnel way the height shall remain on 0 and then rise up for 110 again. To this you mark all tracks in the 3D profile beginning at the end of the tunnel way (naturally including the last track joiner who stands on 110) and then the button **compute** again. The profile is fixed completely now and the dialog can be closed with **OK**.

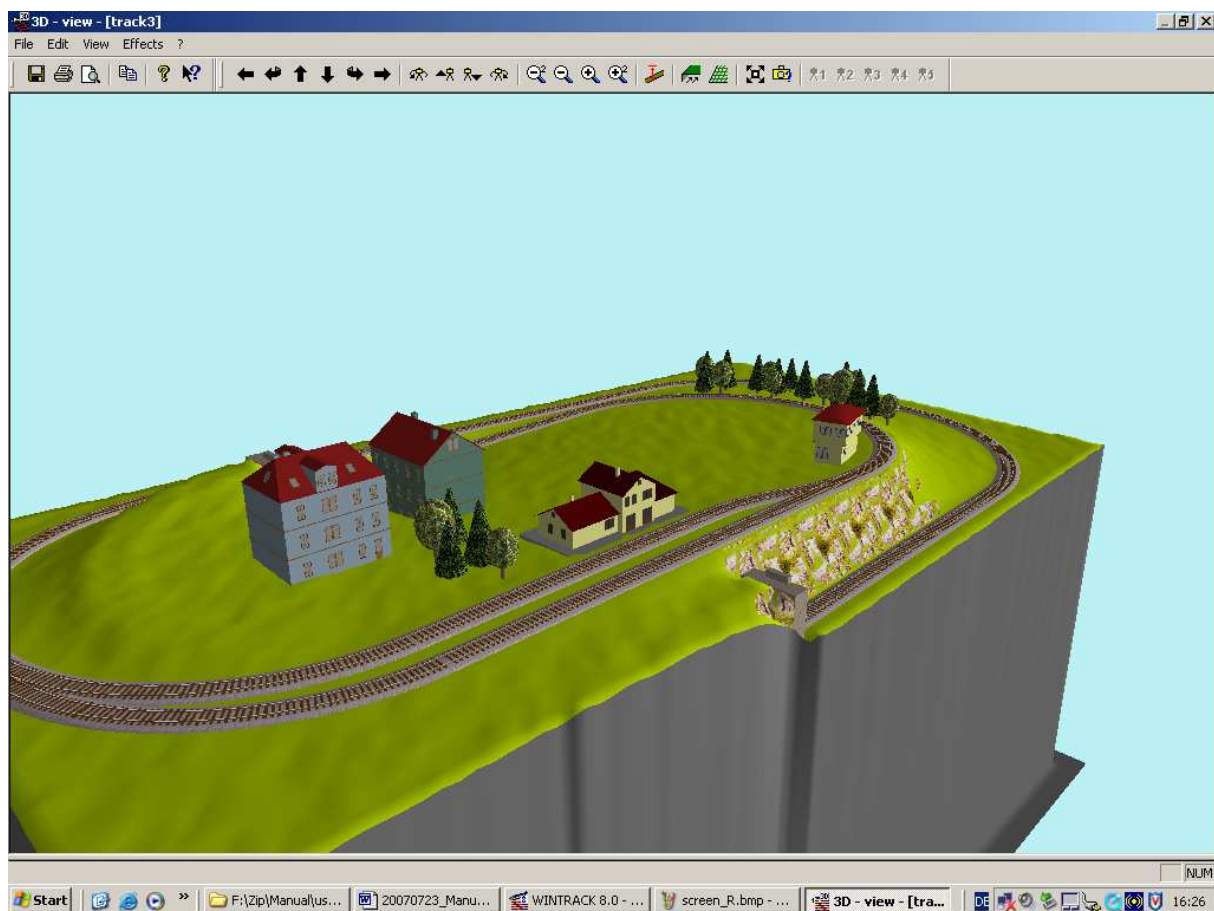
You should have fixed all heights now so that the 3D view can be called?

The first 3D view

To get the first 3D view you choose the command **3D view** from the **view menu** or the corresponding

symbol  from the function bar.

The 3D view should look as follows after you've opened it:

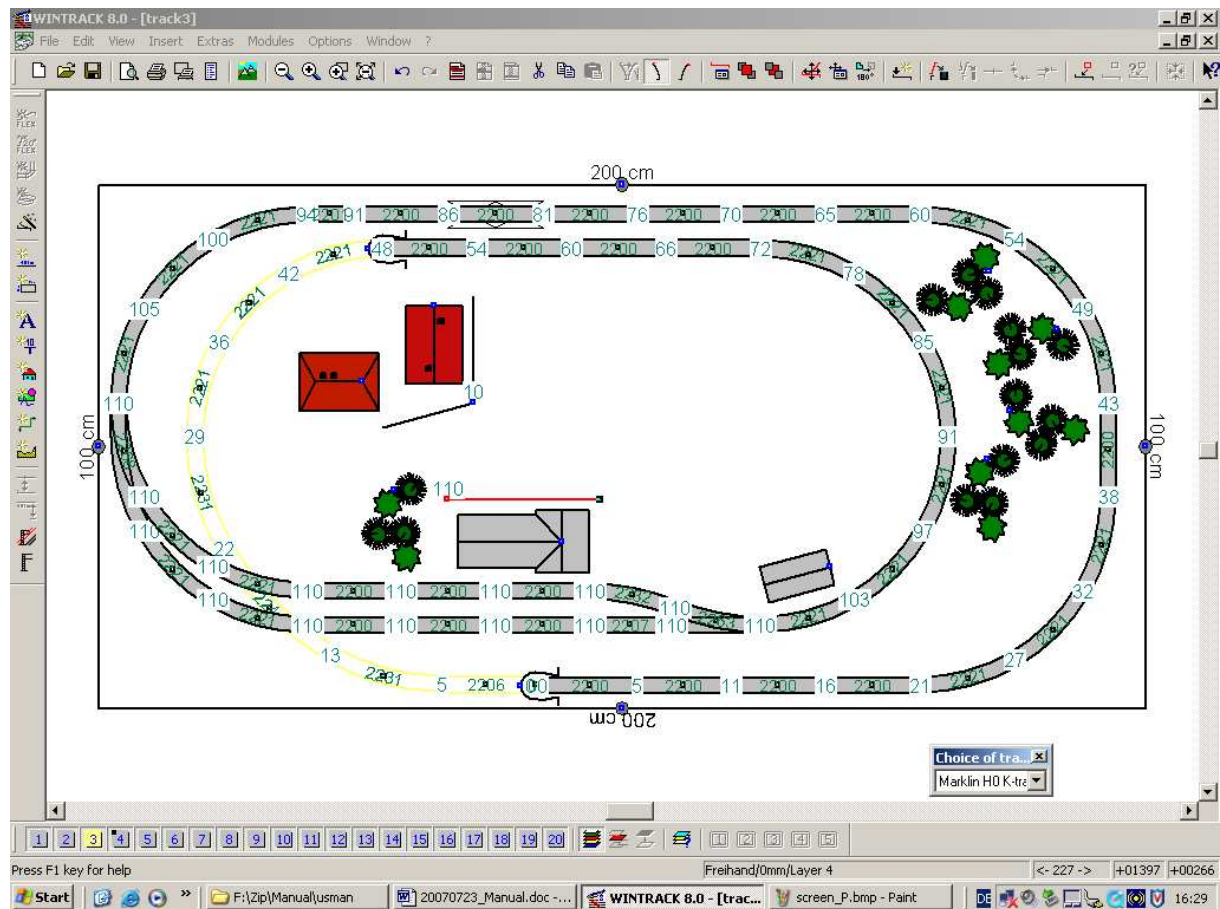


Optimizing the 3D view

After you have moved in the 3D view and have got to know the operation a little, I would like to draw your attention to different things.

You have for certain remarked very soon that the houses partly "sink" in the landscape. This lies that the landscape does not show the same level by your natural form on all sides of a house. To prevent "sinking" you must take care that the difference in altitude is around a house not too large (it is optimal of course if no difference in altitude is available).

To this a free hand line to which a certain height is then assigned can be inserted. The free hand line then becomes a "contour line". The "contour line" is inserted in the track plan (in the 3D view no changes can be made). You select it the command free hand line from this insert menu and insert a straight line above the depot structure. In the **dialogue display** you then choose the index card **3D**. You select the option *free hand line as a height line* and put the height on 110 mm. After closing the dialogue the altitude is drawn with the height 110 now.



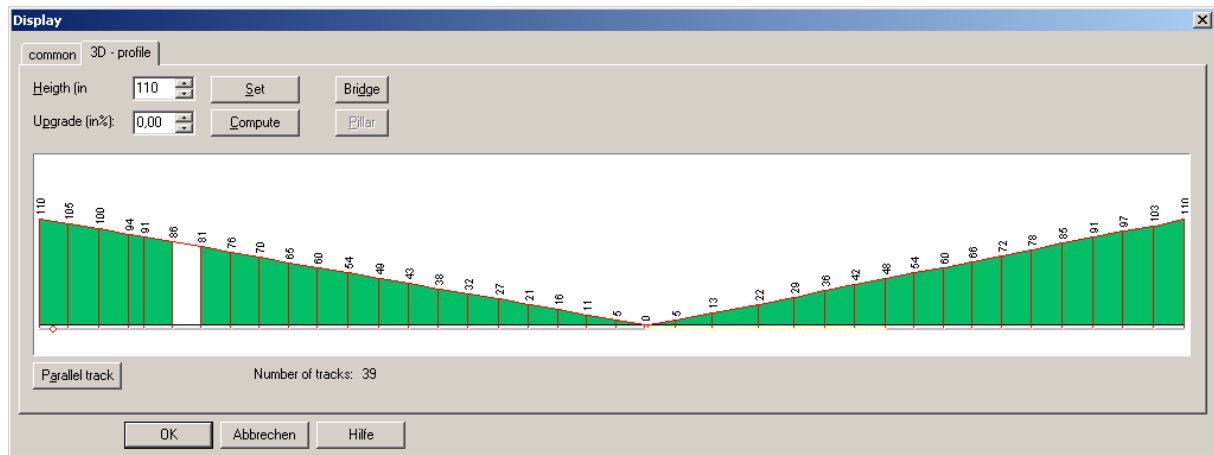
If you call the 3D view now, the depot is displayed optimally.

The display of the other structures can be optimized or mountains or wider elevations marked by inserting further altitude settings.

Inserting bridges

The bridges and ramp symbols which are inserted in the track plan from the track selection window are useable only for the 2 dimensional track plans. To define a bridge which is taken into account in the 3D view, you proceed as follows:

You double-click, on the track which shall lead over a bridge (in our track plan the second Mä2200 on the right besides Mä2201 at the upper plate edge). In the **dialogue display** you then choose the index card **3D profile**. Mark these tracks in the 3D profile exactly like described above (indicated by the circle). You click the button **bridge** now. If you define a longer bridge, you also can add pillars (button **pillar**).



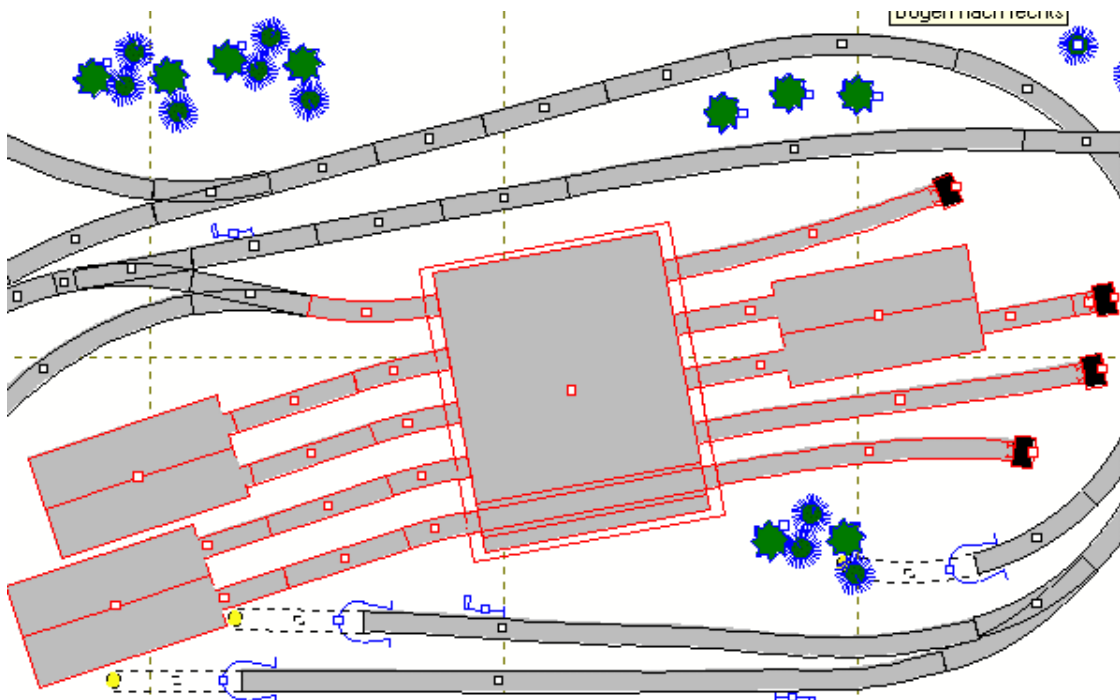
If you want then still to fix the height standard below the bridge, you still put there a height line one (height 0). The result is visible on the left edge of the following 3D view:

Notes and tips for an optimal 3D view

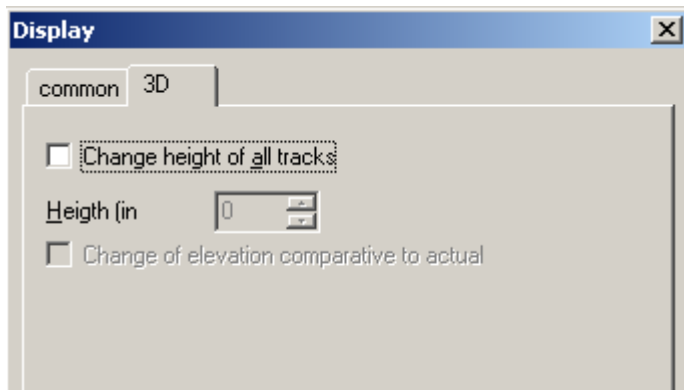
Although most work is done by the software, you also must carry out some additional input so that the track plan turns into the desired 3D view. The basic things were already explained in the exercise 4. Furthermore even further notes and tips shall be given on an optimal 3D view followingly:

- For fixing the height there is another possibility in the index card **3D profile** of the **dialogue display**, it is recommend these of groups of turnouts in stations and enine shops primarily if all tracks shall lie on the same level besides fixing the track heights with the help. Because short track sections are interrupted by turnouts or turntables etc. again and again, fixing the profile for the many short track sections can be quite laborious so.

You mark all this tracks which shall be put on the same level (e.g. with the command **mark tracks**).

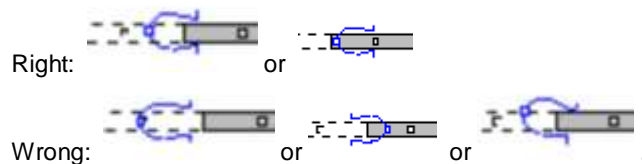


Call the command **display** with the **dialogue display** now. The index card **3D profile** is not available now. For this choose the card **3D** (whenever more than a track or a turnout is highlighted, the card **3D** is available).

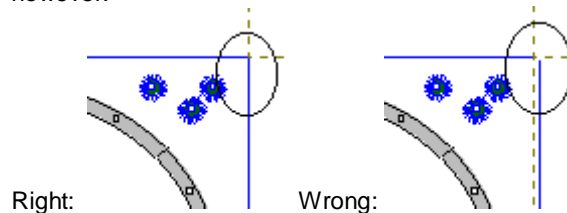


You activate the option *change height of all highlighted tracks*. Now you can enter the height desired for these tracks into the input field and close the dialogue again.

- Tunnel ways which start or do not end with a tunnel portal, or these the tunnel portal was put wrongly, be completed by a rock face: the tunnel portal must at least put and correctly be partly lined up in front of the tunnel.



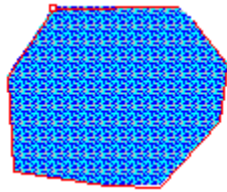
- Plate edges are not mandatorily necessary for the 3D view. If a plant shows plate edges, then the plant is "covered". The plate edges then should attach also exactly to each other to avoid faults in the 3D view, however.



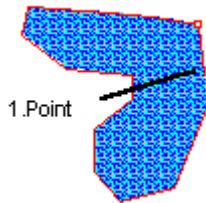
Note: If the plate edges are missing, the 3D view is open on the sides and you can look under the cover (with the **crosscut mode** this is possible also with plate edges). The plant is always rectangular without plate edges.

Plate edges which were misused being able to have an disturbing effect on the 3D view. The 3D view will as well be faultily if tracks or symbols go beyond the plate edges.

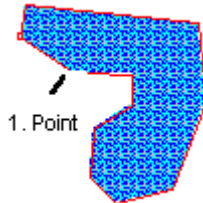
- If you have drawn only a part of the track plan till now and then call the 3D view, the landscape is calculated only in the surroundings of the already marked tracks. The remaining part is displayed only correctly if tracks also were "transferred" there. Your ready track plan contains much landscape, height lines have if necessary to be marked in the vacancies so that the landscape can be calculated.
- It must be taken into account at full *free hand lines* which were provided with the option's free hand line as a *height line* that only convex Polygone are always drawn correctly in the 3D view. It must be ensured at other Polygons that the first point of the Polygons can reach all broader points without coincidence of a line.



Right, it's convex:



Right:



Wrong:

- Not all symbols of the track plan are drawn in the 3D view. In principle, transformers, controllers, control boxes, decoders, bridges (see exercise 4), cables, markings and selfmade symbols, are not drawn.
- Only for the tracks a height must be fixed. For all other symbols the height arises from the landscape.
- Rock structures are inserted automatically.

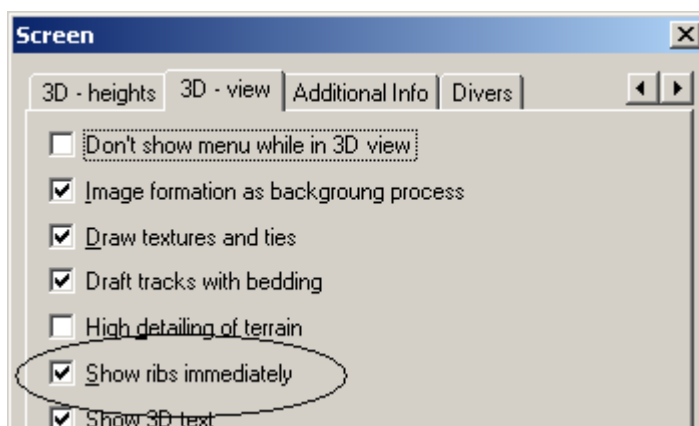
Working with ribs

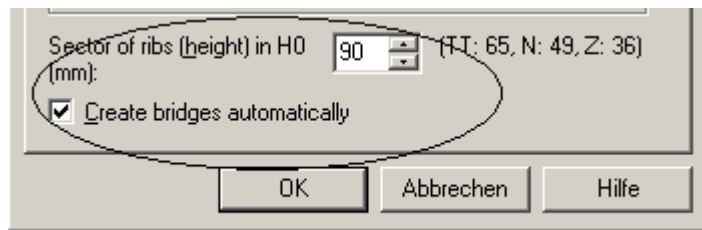
Nowadays the erection of a model railroad plant by using open frame and ribs is favoured by most model railroaders. Although the manner of the construction requires a better and more effortful planning, deciding the construction in simplified terms, however.

To take a large portion of these planning and groundworks for the model railroaders, the ribs are calculated automatically and printed on request of scale 1:1 now of **WinTrack**.

Ribs with WinTrack

Spanen can be inserted (**menu Insert| Rib**) and in the 3D view be calculated and 1:1 are printed. In **the menu options| screen** are additional options on the index card **3D view**.

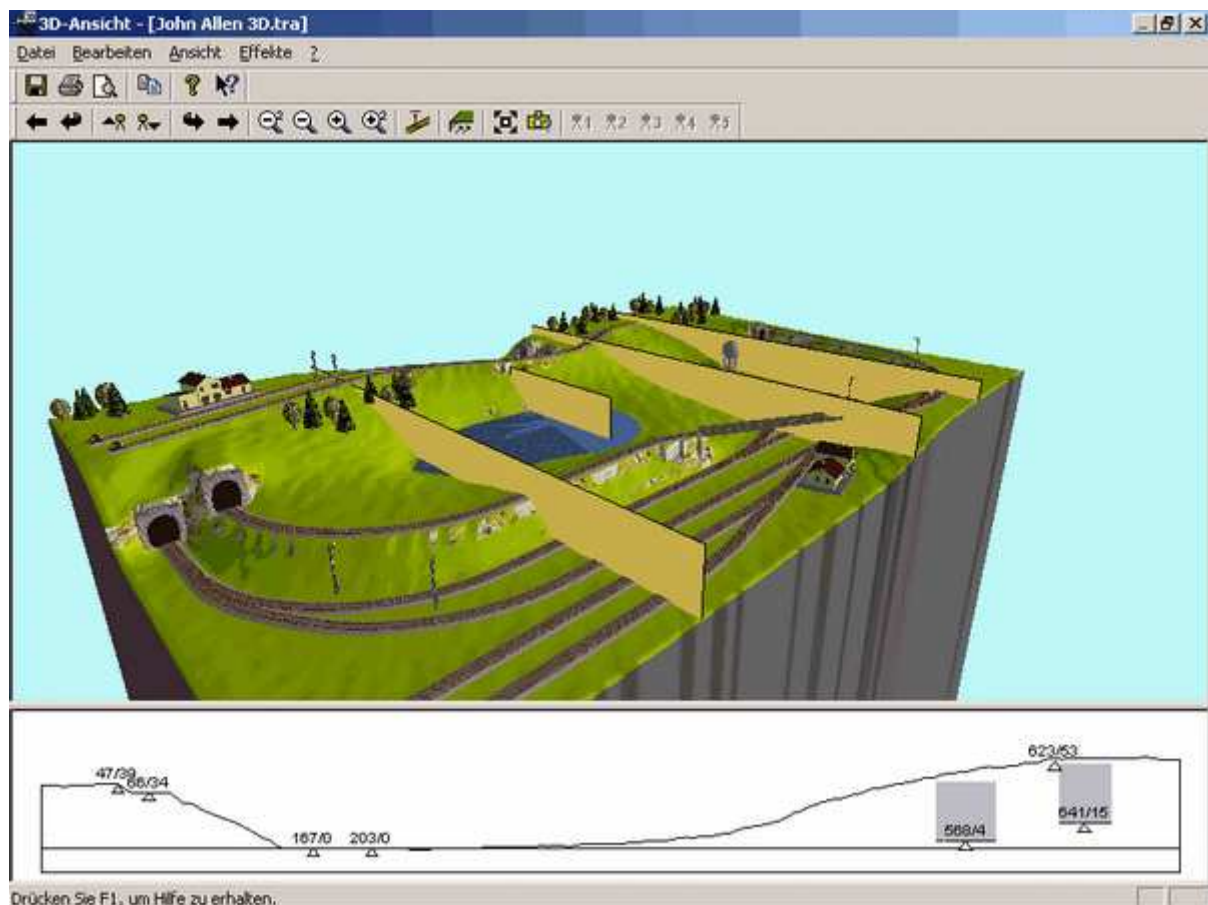




The option *Show ribs immediately* fixes if the ribs are shown when the 3D view is opened. The input field *trackbed width* (on the index card **symbols**) and *rib cutout* are not in mind exclusively for the ribs. With them, however, is also charged to the width and height of the necklines which are necessary for the track marked-out routes in ribs.

In the 3D view the shape of the ribs is not represented exactly but only the position marked. In the 3D view the ribs can be displayed or hidden with **the menu view| ribs**.

It gets interesting now: by selecting a rib in the 3D view the window split and the exact form of the rib is calculated and displayed.



By selecting further ribs these are calculated and displayed respectively. The window of the ribs can by drop with the mouse or by a click be closed on no ribs are shown in the 3D window again. If a rib is displayed, this can be printed in 1:1. The **menu items file | page view** and **file| print** serve for it. The page layout for the print out of ribs can be fixed via **file| page setup (ribs)**. A dimensioning of the ribs can be added-on under **view | Options | ribs**. The planned landscape course can therefore simply be transferred to ribs, what strongly simplifies the landscaping. The height profile of the track marked-out routes is also taken on and makes the construction of the marked-out routes easier considerably.