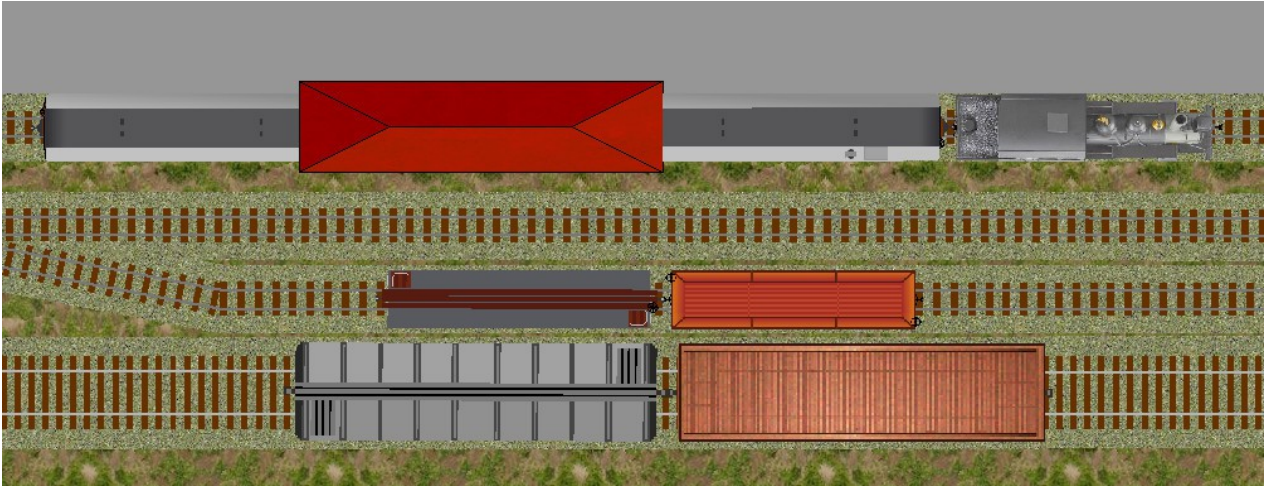


## Basic Introduction to the Enhanced Graphics and Scenery Toolkit of TrainPlayer v6.2

### OVERVIEW & INTRODUCTION TO TRAINPLAYER 6.2

TrainPlayer 6.2 is all about enhanced graphics performance and now includes a much improved Scenery Toolkit. The improved display performance in Run mode does not change the interface but you only have to zoom in close onto your layout to see the improvements.



Although you can still export your scenery to a single background image if you wish, this is no longer necessary and the individual scenery objects can now be updated and moved around on your layout with no significant effect on operating performance. This makes your virtual layout just as flexible as a real life model railroad and you can change backgrounds, buildings, roof textures and colors at any time. If you move a piece of track you can also move or replace the adjacent scenery. This has all been achieved by Jim with only minimal changes to the interface. There are some changes to the order in which objects are rendered on screen when running your layout, minor changes to the view menu and toolbar, and some significant changes to the Scenery toolbar and its associated dialogs and context menus. There is also a new type of vector scenery object which can be embedded in the layout file. These new vector scenery objects can be drawn using the existing rectangle, ellipse and polyline tools, they can be painted and repainted with solid color or bitmap textures, and best of all, the finished objects can now be saved to your personal scenery library to be reused or modified for use on other layouts.

### THE REVISED DRAWING ORDER

Each scenery object is placed on the layout in one of three possible layers:

**Background.** Objects placed in the Background layer are drawn on top of any saved background image but below the roadbed (ground cover, rivers etc.).

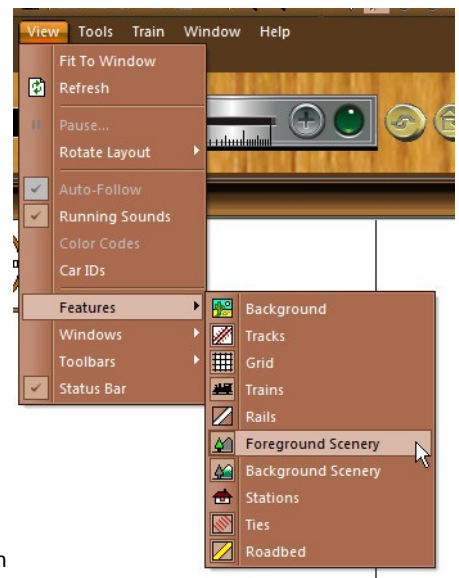
**Foreground.** Objects placed in the Foreground layer are drawn on top of the roadbed and ties but below the rails (great for grade crossings, ashpits etc.).

**Foreground (hiding track and trains).** Foreground objects flagged to Hide Track and Trains are drawn on top of everything else (great for road overbridges and engine sheds). These provide a clean cut off point so that it is no longer necessary to make cut off boxes with tunnel track to hide the trains (but you can do so if you wish). To facilitate Ops the station and industry boxes are drawn on top of everything else (including HTT flagged items).

The individual scenery objects can still be stacked or overlapped with adjacent objects, and their positions can easily be reordered within their particular layer.

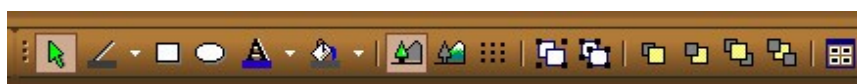


The View Toolbar has one new button so that you can now toggle the foreground and background on and off independently in the same way as you can show or hide a saved background image. The View Features Menu also allows the scenery layers to be toggled on and off individually, using either method you can display either layer, both layers or neither.



### CHANGES TO THE SCENERY TOOLBAR

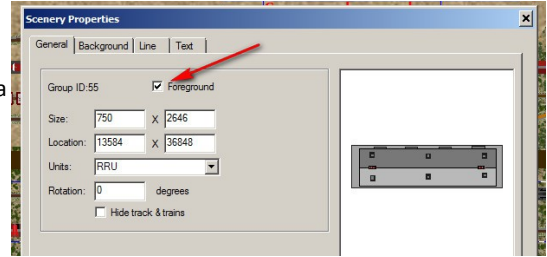
At first glance the changes to the Scenery Toolbar may not be immediately apparent but if you study this carefully you will see a new Paint Bucket tool, a New Scenery Grid tool, and three new drop down arrows against the Paint Bucket tool, Text tool and Line Drawing tool.



The drop down arrows are used to access the dialogs to change the default settings for these tools and their function will be explained later.

There are also two new tools in the "Send to" section of the toolbar. In addition to "Bring to Front" and "Send to Back", you now have buttons for "Bring Forward" and "Send Backward". These adjust the position of the object within its layer by one step up or down the stack of overlapping images as appropriate.

It's important to note that "Bring to Front" and "Send to Back" only refers to moving the object position within the selected layer (foreground or background), it does not refer to moving an object into a different layer. To move an object to a different layer we must change its properties by ticking or unticking the Foreground check box. Unticking this box will move the object into the background (below the roadbed). Occasionally changing layers in this way this will cause the object to obstruct the view of another object, if so this can be adjusted using the new "Bring Forward" or "Send Backward" toolbar buttons.

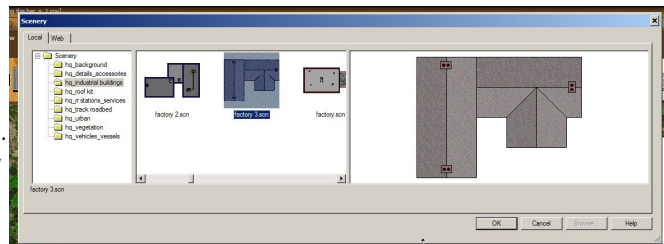


In the following sections we will explain each of the scenery tools in a little detail.

## SELECTING & PLACING A SCENERY OBJECT FROM THE SCENERY LIBRARY ONTO YOUR LAYOUT

TrainPlayer 6.2 is supplied with a new library of high quality images, most of these are vector based images which become embedded in the layout when used. The library also includes a comprehensive set of textures suitable for tiling as ground cover. All of these images are supplied with the TrainPlayer 6.2 installer.

The new folders all carry the hq\_ prefix to distinguish them from the original library. In most cases we would recommend only using the better quality images from the new hq\_ folders but for backwards compatibility some users may wish to retain their original library tree. While most of the new images are vector based to ensure top quality at high zoom levels, there are still several bitmap files in the collection for background textures, trees and other vegetation etc. (i.e. Objects not compatible with the vector drawing method).



To access the Scenery Library we use the Scenery Chooser button which can be found on the Scenery Toolbar, one click on this button will open the above dialog which enables us to browse and select a suitable object and drag it from the center pane onto your layout. The Scenery Chooser dialog can then be closed, or alternatively left open while you work to make it easier to select the next image.

If you examine the file names in the chooser dialog you will see that the new vector graphics use the extension SCN. When you choose one of these SCeNery files a copy of the instructions used to draw the image is embedded within your layout, so if you share your layouts with other users they don't need to have a separate copy of this image available. However if the SCN file includes a reference to a bitmap texture the user will need a copy of the texture available in his scenery folder. For this reason we recommend that you try to use textures from the supplied set as much as possible. If you prefer to use the legacy bitmap images you are still able to do so but the difference in quality is so marked that we think everyone will want to use the SCN files from the hq\_ folders.

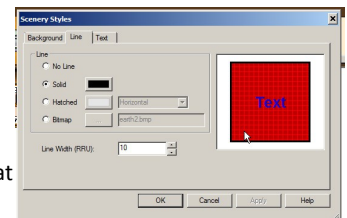
Once the image has been positioned on your layout you can adjust its size or angle of rotation using the yellow drag handles, you can right click to flip it vertically or horizontally. You can also ungroup the image to modify or remove some of its components, for new users these actions are all covered in the TrainPlayer Help documentation.

*Note: When resizing a composite grouped object we recommend holding down the shift key to maintain the original proportions, otherwise some component slippage can occur because of the changing angles. If this occurs you can use the Edit>Undo option or Ctrl Z to back out of the change.*

## CHANGING THE DEFAULT SETTINGS FOR THE DRAWING TOOLS

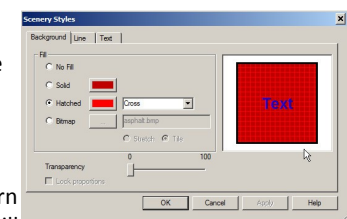
As highlighted previously there are three tools on the toolbar that now have a drop down arrow alongside them. This is used to set the default style for the tool (i.e. the style that will be used the next time you use that tool). Prior to this innovation of Jim's it was necessary to take a very long winded route through the Layout Preferences menu to change these values.

So to change the default style setting for the Line Tool we click the arrow alongside the tool to open this dialog (right). Experienced users will recognize this as a similar dialog to the Scenery Properties, but the clue is in the heading Scenery Styles.



This dialog can be set to the Default style that will be used the next time you draw a line, whether this is a simple polyline or the containing line for a rectangle, circle or polygon. You will see that the line can be omitted altogether (invisible) on the edges of rectangles etc. Or you can use any solid color. For thicker lines you can use a hatched pattern or even a bitmap image. Please experiment with this setting and draw a few lines or rectangles onto a blank canvas to get an idea of the effects you can produce. You can use this drop arrow at any time to change the color and style that will be used on the next line or object that you intend to draw.

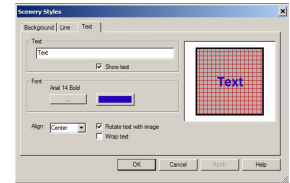
We change the default setting for the background in a similar manner using the drop arrow on the Paint Bucket tool, this opens the Scenery Styles dialog for the Background. Here we can select between No Fill, Solid Color, Hatched Pattern or a Bitmap. Note that for a hatched pattern we need to set the solid color background in addition to the color for the hatching. The style set here will be used to fill all subsequent rectangles, ellipses and polygons that we draw. We can of course still change the values after drawing the object by adjusting the settings in the object's own properties dialog.



The Paint Bucket tool is much more powerful than this as we shall see shortly when we discuss repainting existing objects.



The default settings for the Text Tool can be changed in a similar manner to the Line and Paint Bucket tools. Click the drop arrow alongside the Text tool to open the Styles dialog for new text objects and adjust the values for the font style, size, color and alignment.



## CREATING & SAVING A NEW SCENERY OBJECT USING THE SCENERY GRID

First find a convenient corner of your layout to use as a scratchpad, alternatively open a new blank layout or save a blank layout specifically for use as a scratchpad when drawing new scenery objects. Zoom in close to view only about 2ft x 1ft of your layout on the screen.



Now click the Scenery Grid button on your Scenery Toolbar to fill your screen with a grid of equidistant dots which will be used to ensure accurate alignment as you draw your new image.

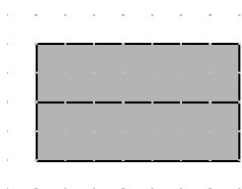
First we visit the drop arrow alongside the line tool and set this to Solid, then select the color Black and set a line width of 3 rru.

Next we visit the drop arrow alongside the Paint Bucket tool and set this to Solid and select a light gray color.

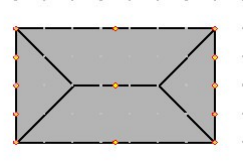


Next select the Line tool and draw two triangles as per the example, just connecting the dots. Note: If your first triangle has curved angles right click on it, select Smoothing, then untick Auto-Smooth. Then right click the triangle again, select Smoothing and select Unsmooth All. We want sharp angles on triangles for a roof shape but that will not always be the case.

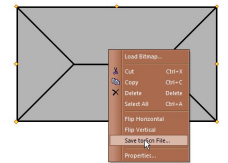
Sticking with the line tool, draw two matching rectangles on the same page using the grid as per this example. *Note: We use the line tool and not the rectangle tool because rectangles will not match exactly to the triangular polygons when we join up the components. This is because the bordering line on a rectangle is completely enclosed by its defined size whereas the line on a polygon has its center on the grid.* Update: Rectangles can now be aligned with polygons when using the Scenery Grid.



Now drag the four shapes together to form this shape (left), note that initially the triangles have disappeared underneath the rectangles, this is because on this occasion we deliberately drew them first to demonstrate the stacking of the components. To correct this we need to highlight the two rectangles (click in the center of one and shift click the other) then when both are highlighted click on the "Send to Back" button to see the full image (as shown on the right).



Click away from the object on a blank piece of background to clear the selection, click on the Scenery Grid icon to dispose of the background dots. Select the rectangle tool and add a chimney. Select the Scenery arrow tool, draw a box around the whole object and click the Group button to make this into a single object. Right click the object and select "Save to SCN file ..." to save a copy of this "wonderful" creation to disk (on second thoughts don't bother as there are plenty of better images in the library already :-). The "Save as ..." dialog will open in the Scenery Tree leaving you to choose a folder and allocate a name to your image.



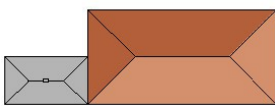
## RECOLORING EXISTING SCENERY OBJECTS ON YOUR LAYOUT

We've now done dot to dot drawing, does anybody fancy a bit of coloring in?

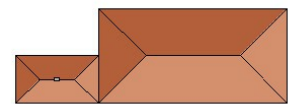
If you still have the layout open from the preceding exercise, let's add another image to the mix.



Go to the Scenery Chooser if you can remember where it is and look in the hq\_roof kit folder for an SCN file named "pitched g1" Drag it into place alongside your new image so that you have something that looks a bit like this.



Now we are going to find out a bit more about the power of the Paint Bucket tool. First look at the drop down dialog alongside the line tool to ensure you are still set to Black and 3 rru thickness. Then switch to the Paint Bucket Tool and hover your mouse over the darker portion of the larger roof section you have just loaded. With the cursor hovering over this color just press and hold your Shift Key. You will see the cursor change from a Paint Bucket to an Eye Dropper. When you release your shift key the color under the Eye Dropper will have been added to your Bucket. Now move your Bucket cursor over the left hand triangle of the gray roof and click, repeat this for the top section of the gray roof. Now return to the larger roof and hover over the lighter shade in the bottom segment. Press and release your shift key to pick up the color. Move back to the two remaining gray segments of the small roof and click once in each of them to apply the color so that you now have two matching roofs.



If you alter the Background fill values in Scenery Styles from the drop menu on the Paint Bucket Tool so as to use a bitmap fill in place of solid color, you can also paint this bitmap into the segments of any of your grouped scenery objects.(but be aware that you can't pick up a bitmap with the eye dropper, only a single color from within it).

*Note: To use the Paint Bucket to fill only a component part of a grouped image the image must NOT be selected or highlighted. To fill all components of a grouped image with the same color or bitmap then the whole image (or multiple images) MUST be selected and highlighted.*

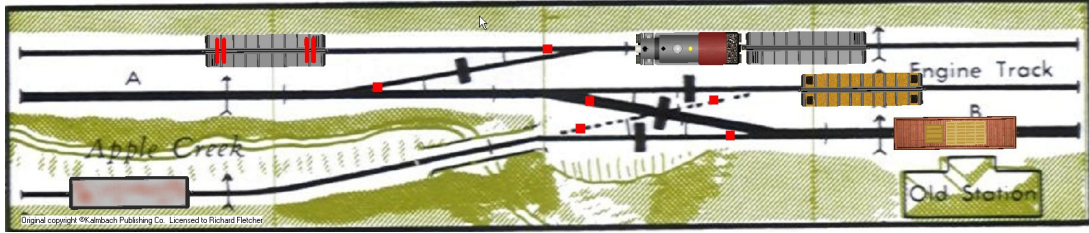
## MODIFYING EXISTING LINES WITH THE PAINT BUCKET TOOL

In addition to painting fill color onto solid objects such as rectangles, ellipses and polygons, the Paint Bucket tool can be used to apply the current default line style (color and thickness) to other lines that were previously drawn onto the layout. When used for this purpose the color that is applied to the modified line is the color depicted in the line style dialog, not the color stored in the paint bucket.

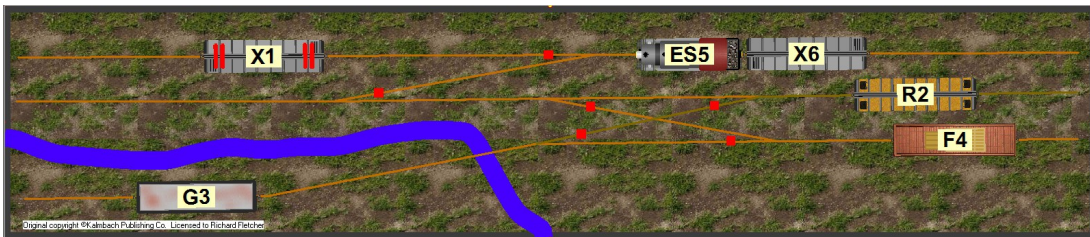
So if you have a Black line of 3 rru thickness on your layout, you can quickly modify this to say 50 rru Blue by changing the values in the line style drop down box, switching to the Paint Bucket and just clicking on however many Line objects you want to change to the new value.

## A ROUGH & READY LITTLE PROJECT YOU CAN WORK THROUGH FOR YOURSELF

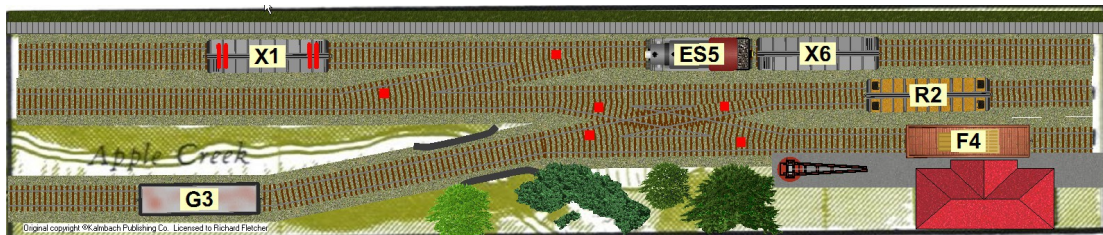
Let's add some new Scenery to L07 Apple Creek Junction which can be found in the Layouts101 folder.



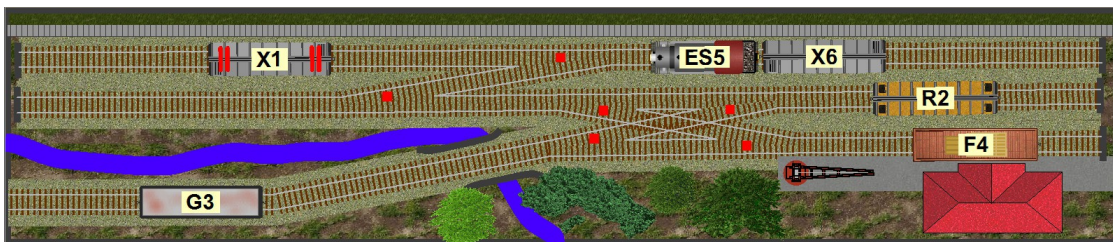
1. First we draw the creek using the polyline tool. Set the Scenery Tool to Background as we want the creek below the track level. Drop the arrow alongside the Line tool and select a Blue solid color and a line thickness of 80 rru, then draw the first segment of the polyline, right click this segment and click smoothing, then ensure that the Auto-Smooth setting is switched on. Complete the drawing of the creek over the top of the background image.
2. Next, we visit the drop down box on the Line tool and set a line thickness of 30 rru with a dark gray color. Then open the Fill Style from the drop down box on the Paint Bucket tool, set this to Bitmap and select a bitmap for the background. We used "grass patches 1.bmp"
3. Still working in the Background Layer, draw a rectangle covering the whole layout, this uses the 30 rru dark gray border and is filled with the "grass patches 1" image. It obliterates the creek we added in step 1. To fix this just click the "Send Backward" button and Hey Presto.



4. The Background is finished but we need to hide it so that we can see what we are doing when working on the Foreground. Click the right hand scenery icon in the View toolbar to hide the background, click the left hand scenery icon in the Scenery toolbar to change the work area to the foreground and we should be back with our tpg image of the original background.
5. Click the Scenery Chooser icon, open the hq\_roof kit folder and select a suitable starter image for the Old Station building. Drag this into position and adjust the size handles to make it fit. Select an image for the gable, right click to flip it vertically and resize it to fit the roof. Return to the Scenery chooser window and position a crane to the left of the station building (you don't have to but I wanted to).
6. Set the View Toolbar to display the Roadbed, Ties and Rails (but not the Track). Set the Line style to No Fill in the drop menu. Set the Paint Bucket to bitmap and select asphalt.bmp, draw a rectangular platform over the crane and building, and then "Send to Back".
7. Draw a long thin rectangle behind the roadbed at the top of the image and choose a bitmap for the embankment. Reset the line style to 3 rru solid black, reset the Paint Bucket to light grey, then set a black hatched vertical pattern and draw another long thin rectangle over the front of the embankment to form a retaining wall along the edge of the roadbed.
8. Reset the line style to 30 rru Black and add a couple of bridge abutments with the line tool where the track crosses the creek. Open the Scenery Chooser and add a few trees from the hq\_vegetation folder. The background is still hidden but the image should look like this.



9. Add a few filled rectangles to represent bumper/buffer stops, change the rail color, re-enable the view of the Background, go to File>Properties>Advanced and delete the reference to the original background image. Save your 30 minute Masterpiece.



10. Finished? Nah, how about changing the line props to an 80 rru wide bitmap, selecting either the water 3 or water 4 image from the Scenery Chooser and using the Paint Bucket to replace the solid block of color in the creek? The scenery is never finished with TP 6.2.

Document compiled from information supplied by Jim Dill during the Trainplayer 6.2 development phase.

Richard Fletcher, August 2015, updated October 2015