

Converting a Star Pattern into a VisualWRAP Script

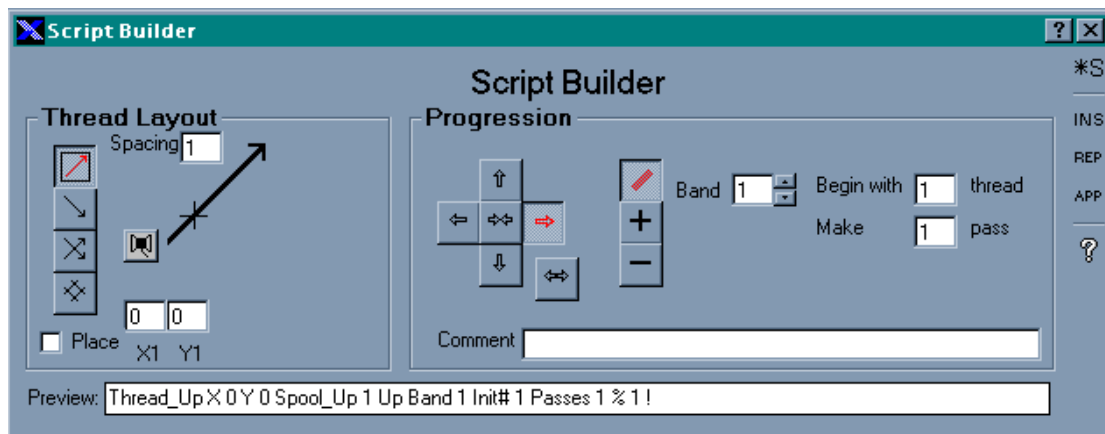
The aim of this tutorial is to create a VisualWRAP script that generates pattern Number 10 in Clemens “*Custom Rod Thread Art*”.

This pattern consists of an inner box moving inwards, and an outer box moving outwards. The tricky bit is the thread ratios – for every one thread wrapped in, four threads are wrapped out.

The pattern will be wrapped in two sections: one section will be the pattern, and another section will be the background.

Creating the Script

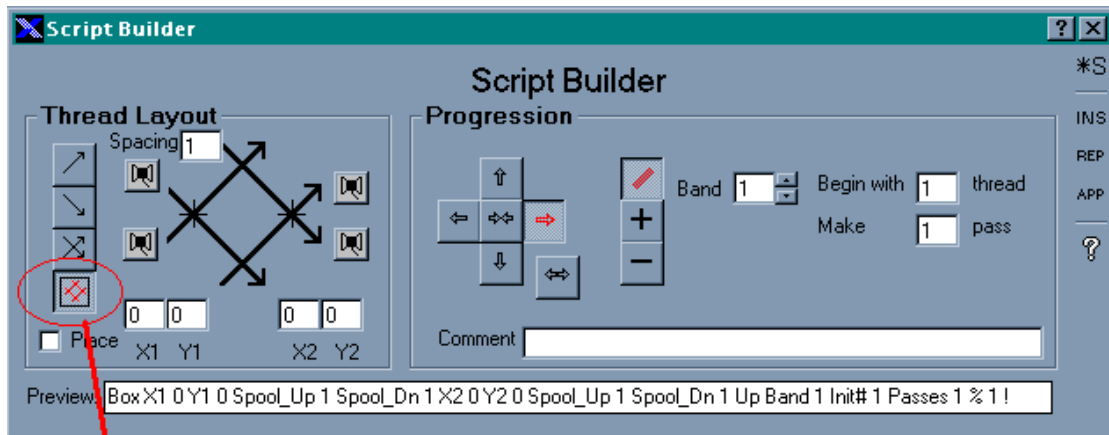
Start up VisualWRAP. You should have blank Flat View and Script windows. Launch the Script Builder by clicking on the “Builder” button just above the Pattern Script window. The following should appear:



What we are about to do is to set up scripts for the two boxes. We do this one at a time, and after setting up each one we add it to the current script. When finished we will end up with the full script for the pattern.

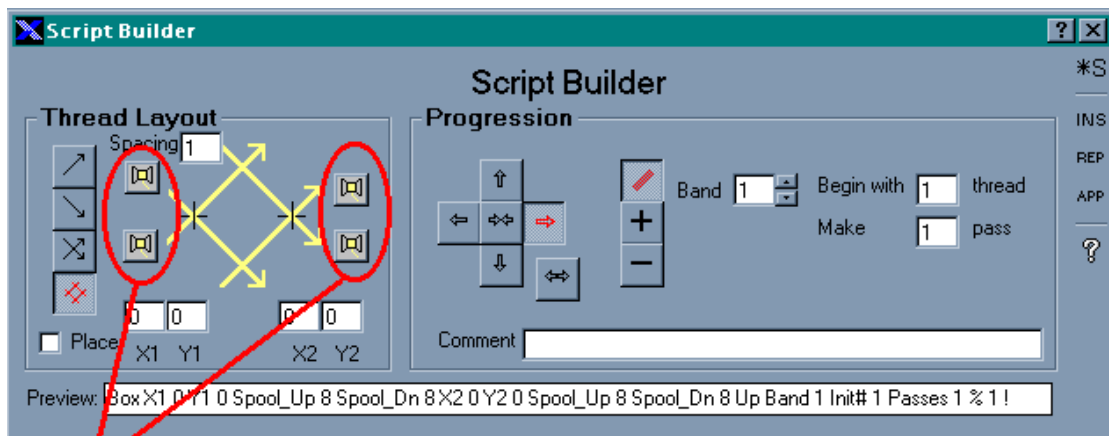
Step 1 – Set Up the Inner Box

The easiest thing to do is to move through each option on the Script Builder form, moving from left to right. The first option is the layout type. We are setting up the inner box, so we choose the Box layout. The Script Builder should now look like this:



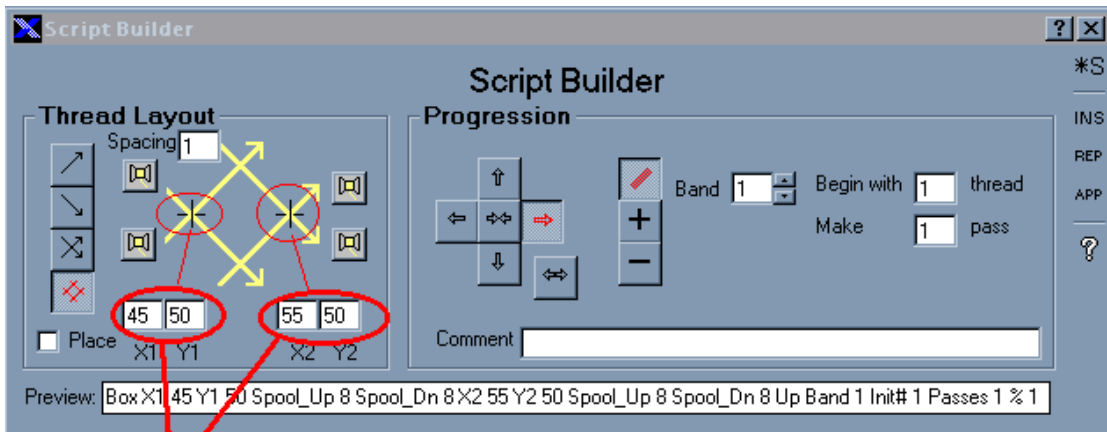
Select a box layout

Now we need to select thread colours for the box. To do this, click on each of the spool icons then pick a colour from the drop down box that appears. Choose a light colour, such as yellow.



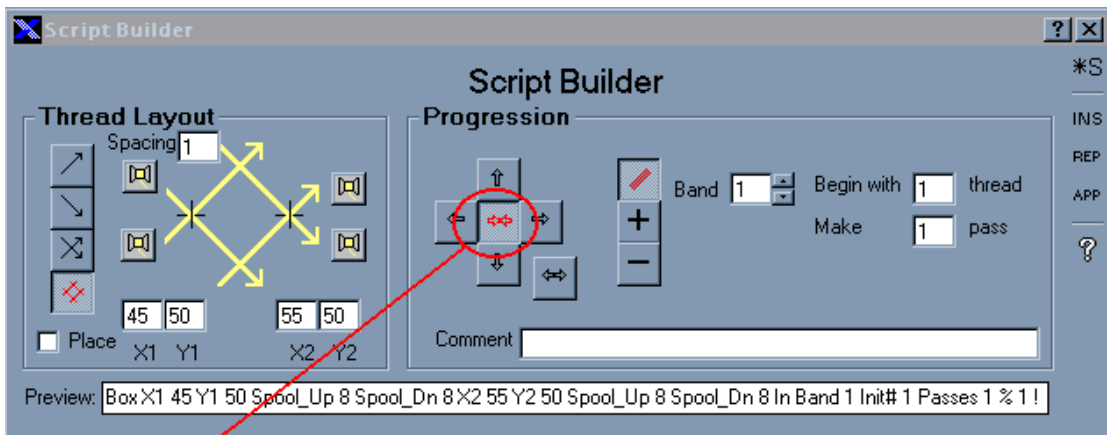
Pick a thread colour by clicking on the spool icons

Next step, tell VisualWRAP where the box should be placed. We specify two points when positioning a box: the left-hand starting point and the right-hand starting point. The thing to remember is that the pattern window (at its smallest) is 100 long by 100 high. The units are imaginary – they don't directly relate to thread size. We want the star to appear in the middle of the pattern window, so we'll choose co-ordinates either side of the centre. The centre is (50,50). Let's have the left-hand starting point at (45,50) and the right at (55,50). Type these numbers into the co-ordinate boxes. The form should now look like this:



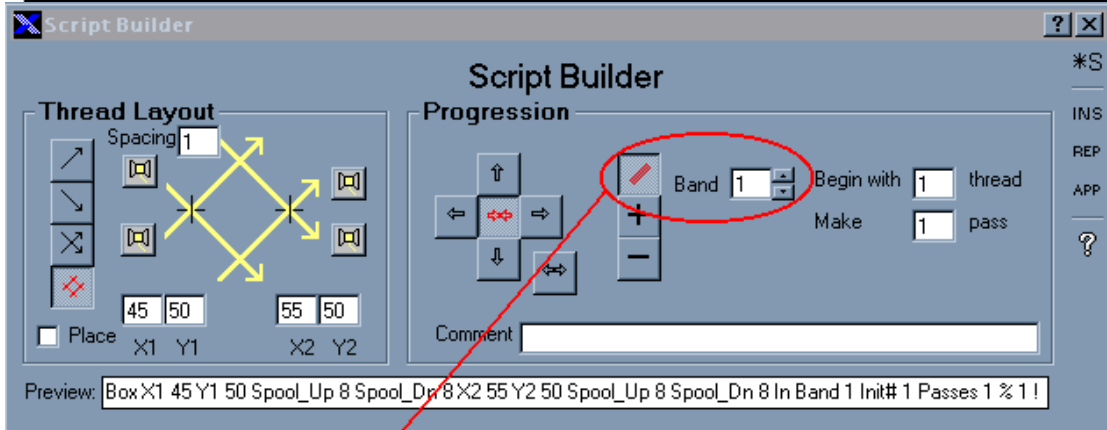
These are the left & right co-ordinates of the box layout

Now that we have set up the layout, the next thing to do is to set up the progression. We know that for the Inner box in this star pattern, each new pass gets wrapped to the inside. To set this up, select the Inwards progression button:



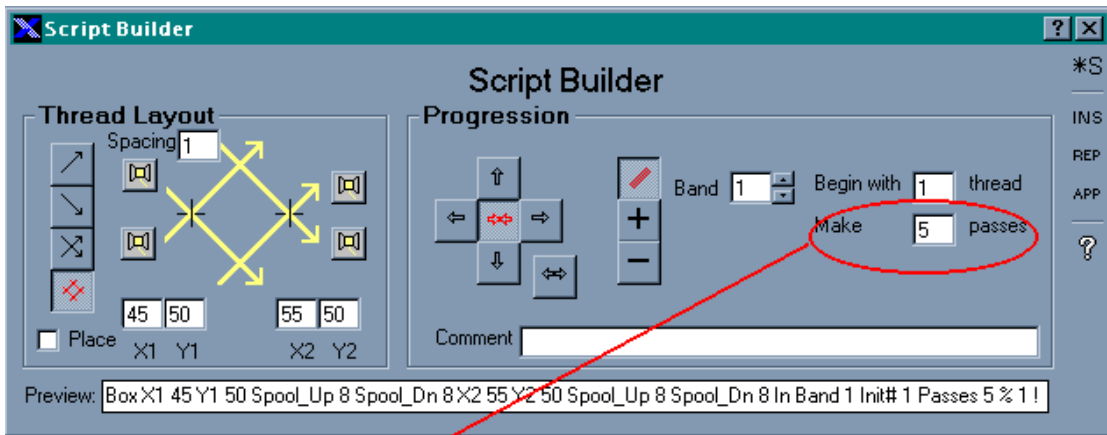
Select the "Inwards" progression button

Every pass of the Inner box will consist a band of one thread, so choose the Band button, and specify one thread:



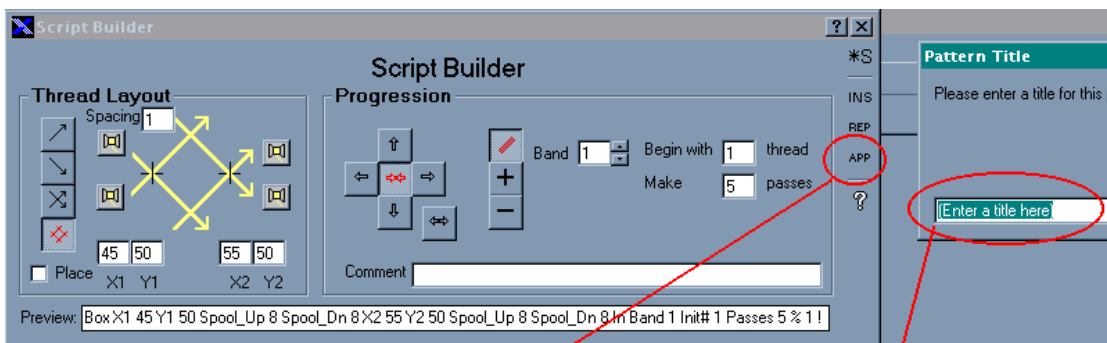
Select a band of one thread

Now we need to specify how many passes to make. The starting points of the box are 5 either side of centre, so we'll choose to wrap 5 passes. This means the middle of the star will completely close:



Make 5 passes

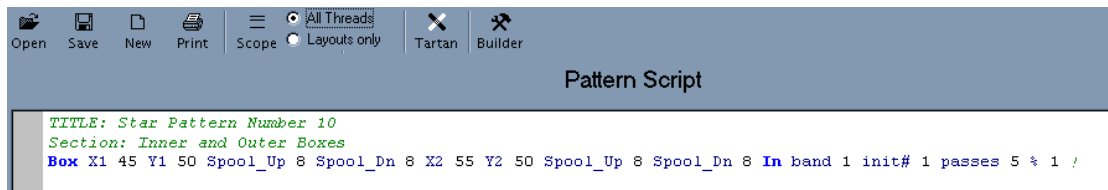
We have finished setting up the script for the Inner box, so now we'll add it to the full pattern script. To do this, click on the Append button:



Click on the Append button. You will get prompted for a pattern title and also a section title.

As this is a new script you will get prompted for a Pattern Title, and also a Section Title. Call the Pattern Title "Star Pattern Number 10", and the Section Title "Inner

and Outer Boxes". Once you have done this the script for the Inner box will appear in the Script window:



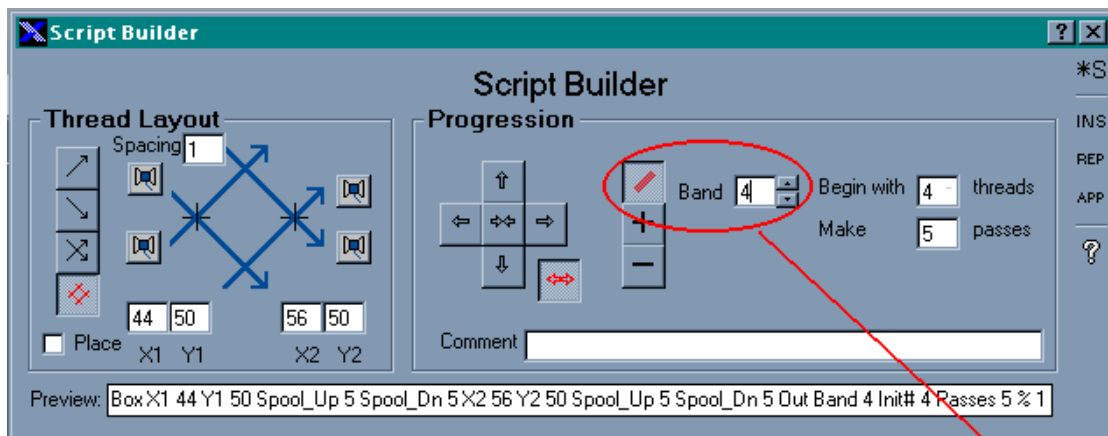
If you were to click the Wrap button now then the software would wrap the Inner box – it would end up looking like a thick cross through the centre of the Flat View window (try it if you want).

Step 2 – Set Up the Outer Box

Setting up the Outer box is very similar to setting up the inner one. Set up the Pattern Builder form with the following information:

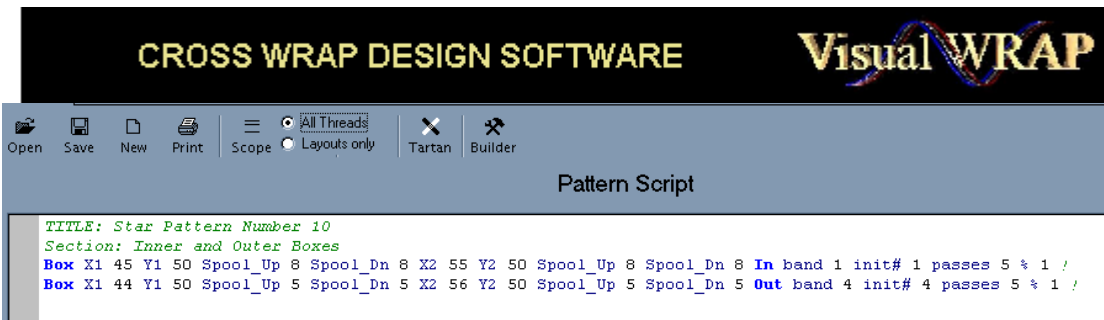
- Box Layout
- Dark-coloured threads
- Select co-ordinates just outside of the inner box, ie. choose (44,50) and (56,50)
- Outwards Progression
- Select a band of threads, but this time choose a band width of 4 threads instead of 1
- Make 5 passes

The Pattern Builder form should look like this:



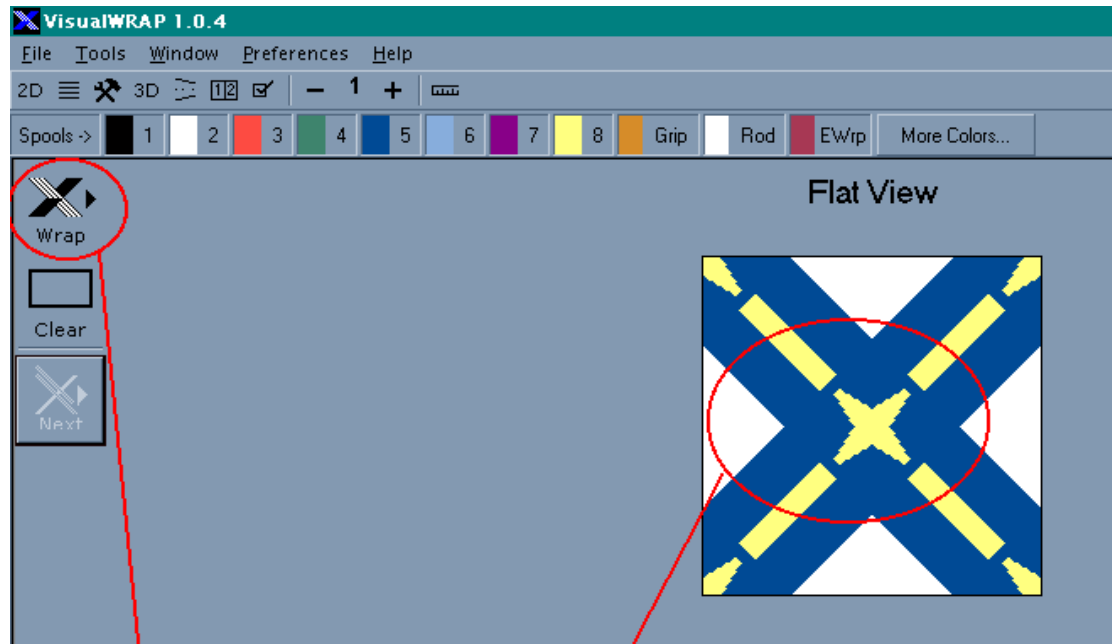
This is the entire setup for the Outer Box. Note the band of 4 threads each pass this time.

Once it has been set up, click on the Append button to add it to the pattern script. There should now be two lines in the pattern script (apart from the Title and Section):



The script should now look like this

If you click on the Wrap button, you should now see the star pattern form. (You may wish to close the Script Builder form first).

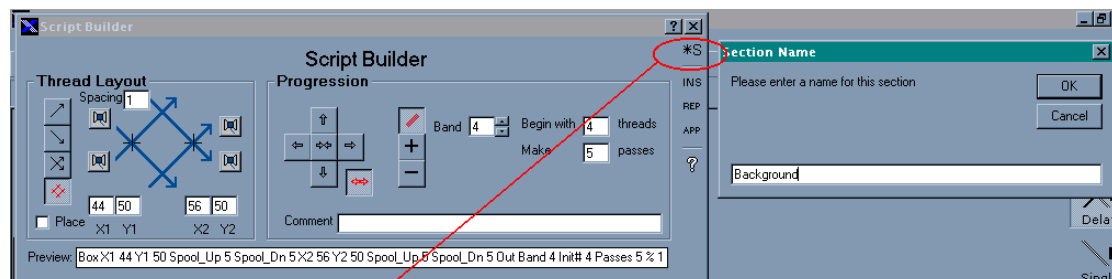


Click on Wrap to see the Star Pattern form

You have now successfully created a pattern script for the Star pattern. At the moment the pattern is an open one. To close the pattern (ie. fill in the background) we need to add a new section to it.

Step 3 – Create the Background Section

Open the Script Builder form and click on the New Section Button:

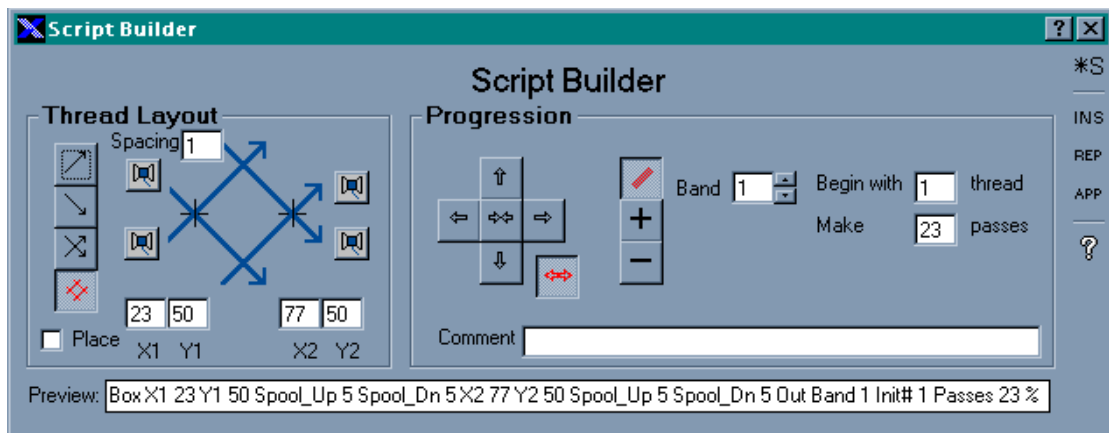


Click on the New Section button. Call the new section "Background".



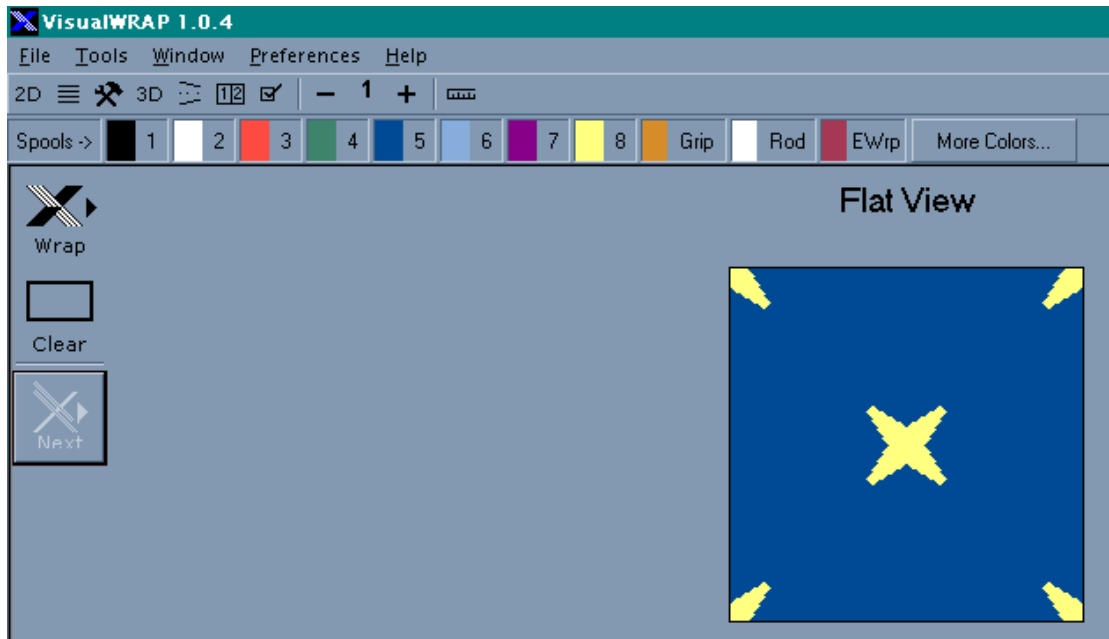
The background will consist of a dark box moving outwards. The starting position of the box will be chosen so that it surrounds the star, and the number of passes will be chosen so that it completely closes the pattern.

To work out the starting position, we know that the Outer box started at (44,50) - (56,50), there were 5 passes, and each pass consisted of a band of 4 threads. So the width of the Outer box is (5 passes * 4 threads) = 20 threads. This means that the finishing co-ordinates of the Outer box must be (44-20,50) and (56+20,50) which equals (24,50) and (76,50). This means the Background box should be located at (23,50) and (77,50). We will select 23 as the number of passes:



Setup for the Background box - Box layout, dark threads, moving outwards.

Click on Append and the Background section will get added to the script. Click on Wrap to see the finished pattern:



The finished Star pattern.

The final script should look like this:

TITLE: Star Pattern Number 10

Section: Inner and Outer Boxes

Box X1 45 Y1 50 Spool_Up 8 Spool_Dn 8 X2 55 Y2 50 Spool_Up 8 Spool_Dn 8 In band 1 init# 1 passes 5 % 1 !

Box X1 44 Y1 50 Spool_Up 5 Spool_Dn 5 X2 56 Y2 50 Spool_Up 5 Spool_Dn 5 Out band 4 init# 4 passes 5 % 1

!

Section: Background

Box X1 23 Y1 50 Spool_Up 5 Spool_Dn 5 X2 77 Y2 50 Spool_Up 5 Spool_Dn 5 Out band 1 init# 1 passes 23 %

1 !

Final note – Mathematical versus Graphical Thread Placement

When working out where to position the corners of boxes, this tutorial used the mathematical approach of counting threads. Another (possibly simpler) option is to use the “Place” option on the Script Builder form. When this option is selected, moving the mouse over the Flat View causes the co-ordinates of the mouse to automatically update the co-ordinate boxes on the Builder form. If you then click the mouse then the co-ordinates will be remembered. A thread (or set of threads) is drawn in outline as a guide to where the thread will end up. Experiment with this option to see if you prefer using it. The advantage is you can place the layout threads graphically rather than mathematically.

David Boyle 2003