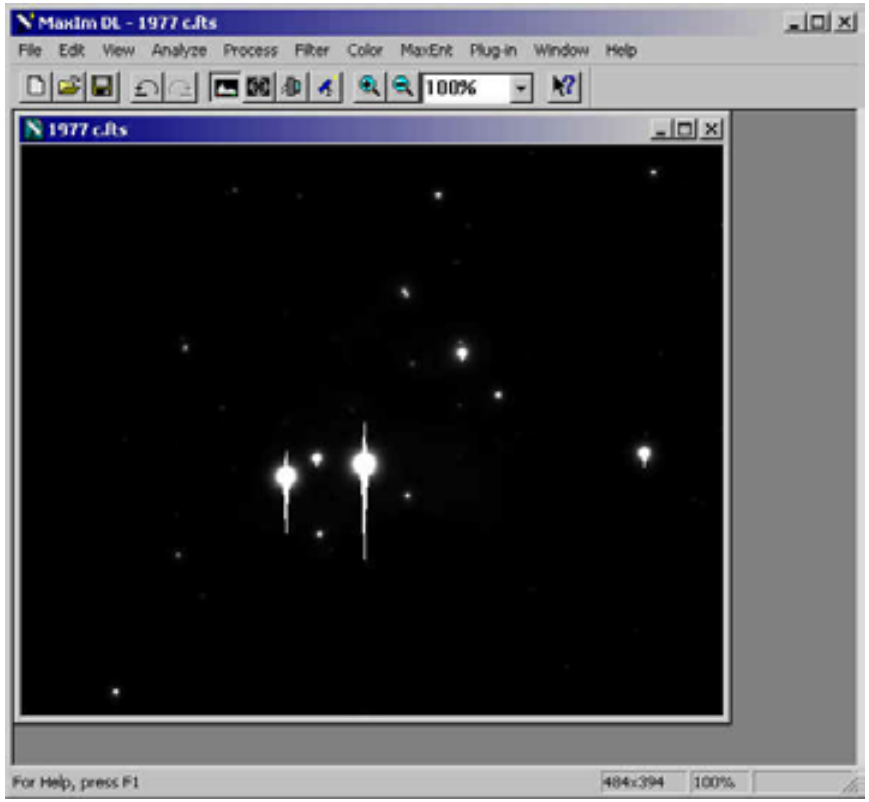
DeBloomer documentation

For version 1.1.40 or later of DeBloomer.

DeBloomer is a plug-in for MaxIm DL 3.07 or later.

Using DeBloomer

To begin, open an image that has some blooming in MaxIm DL. You must have MaxIm DL version 3.07 or later to use DeBloomer because it relies on features introduced in that version of maxim DL.



Opening an image in MaxIm DL.

The default settings of DeBloomer will work for most but not all images, so you may need to tweak the settings for your images. For your first deblooming session, start with the default values, observe the results you get, and then adjust the values. Here are some tips for common adjustments you can make to improve your results

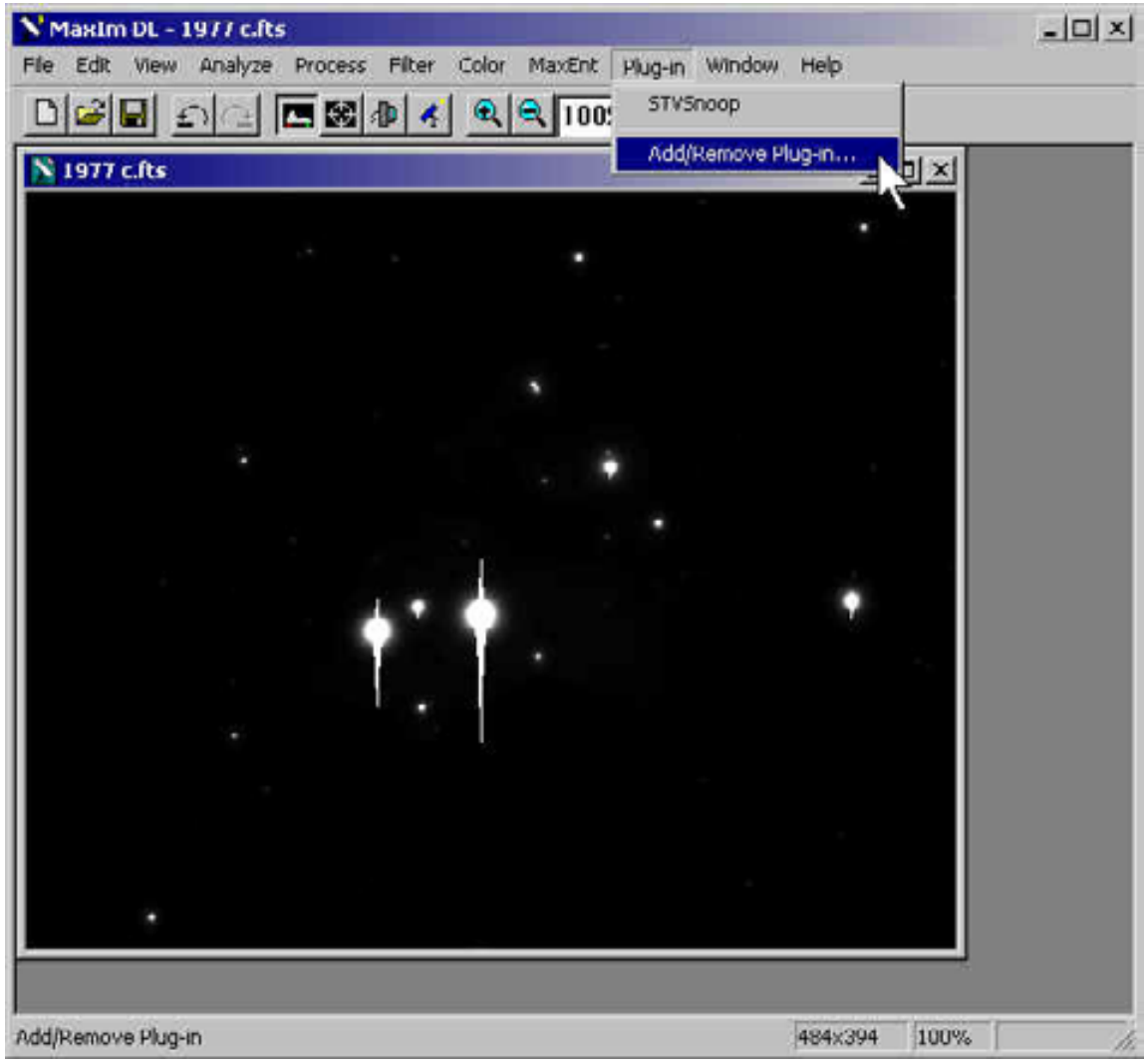
Quick start tips

- **Always apply deblooming to single images, not to combined images. Combined images blur the line between what is a star and what is a bloom because the blooming values are smeared out by the combine. This makes it much more difficult to identify and remove blooms.**
- If you have very small blooms present, you can use a smaller Scan Length (on the More Options dialog). Default is 9, and small blooms may require a scan length of 3-5.
- If you get short blooming tails above and below bright stars, increase the Star Limit. The default star limit is 3200 above the average background; try raising the star limit by 1000-5000.
- If deblooming removes too much of the star, decrease the Star Limit. The default star limit is 3200 above the average background; try lowering the star limit by 500-1500.
- Stars with heavy blooming are more damaged, and therefore more challenging to repair. If you have very wide blooms in an image (or very small stars because of a very fast focal ratio and good seeing), careful use of the rotation tool will give you the best results. To use the rotation tool, check “Fix stars by rotation” and ***uncheck*** “Rotate without showing stars first” on the More Options dialog. See the end of this document for tips on using star rotation tools. If you want to keep repairs simple, shorten exposure times to limit the width of blooms near the bright stars.
- If the filled area doesn’t match your image very well, you need to adjust the Noise factor to get the noise in the fill area to match the noise level in your image. Lower the number to get a smoother result; raise the number to increase the noise level.

Installing DeBloomer

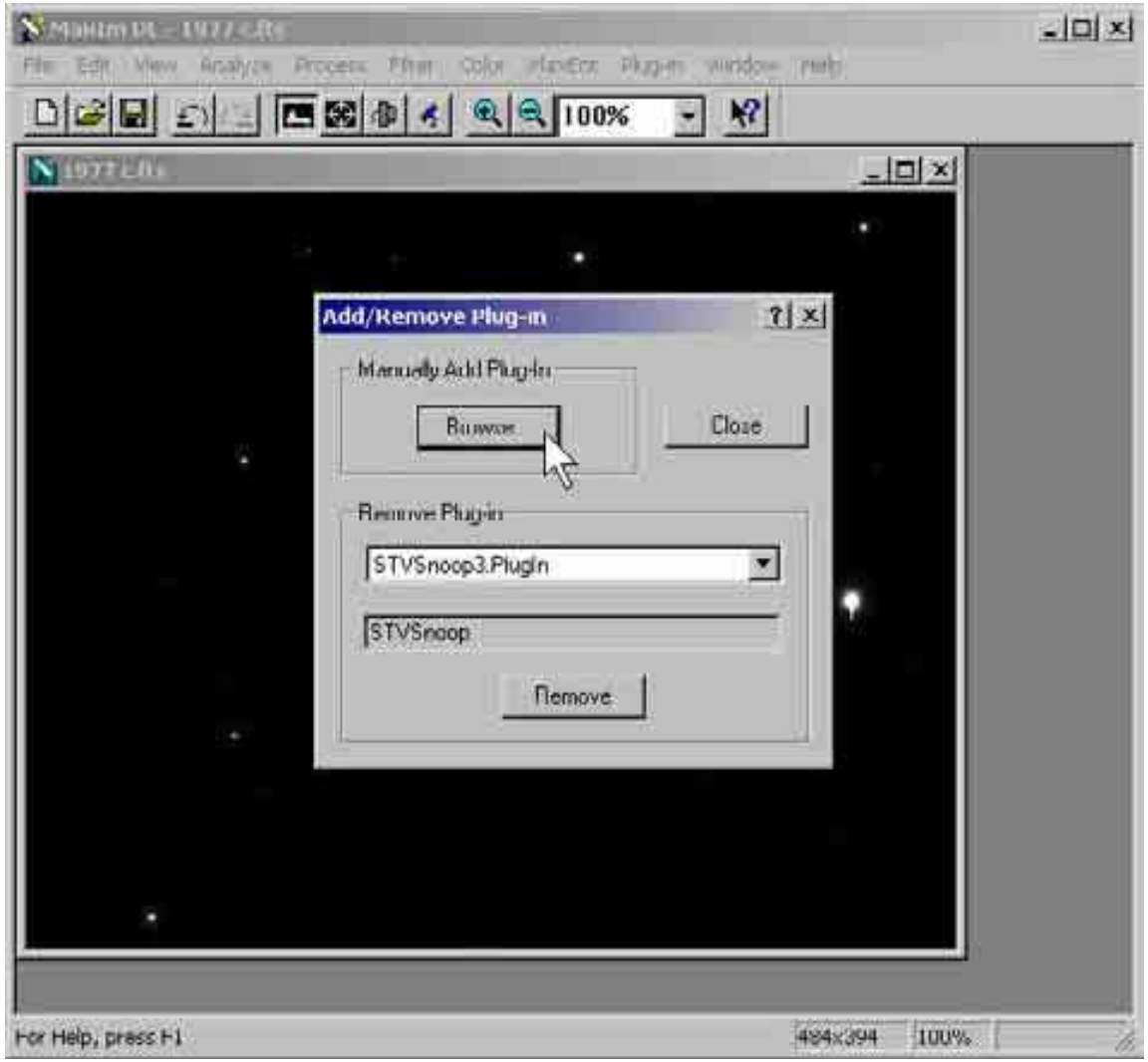
When you run the DeBloomer install program, it copies the plug-in file (debloomer.dll) and a readme file (debloomer_readme.txt) into your MaxIm DL program folder. To add the plug-in to MaxIm DL, follow the illustrations below.

First, click the Plug-in | Add/Remove Plug-in… menu item as shown below.



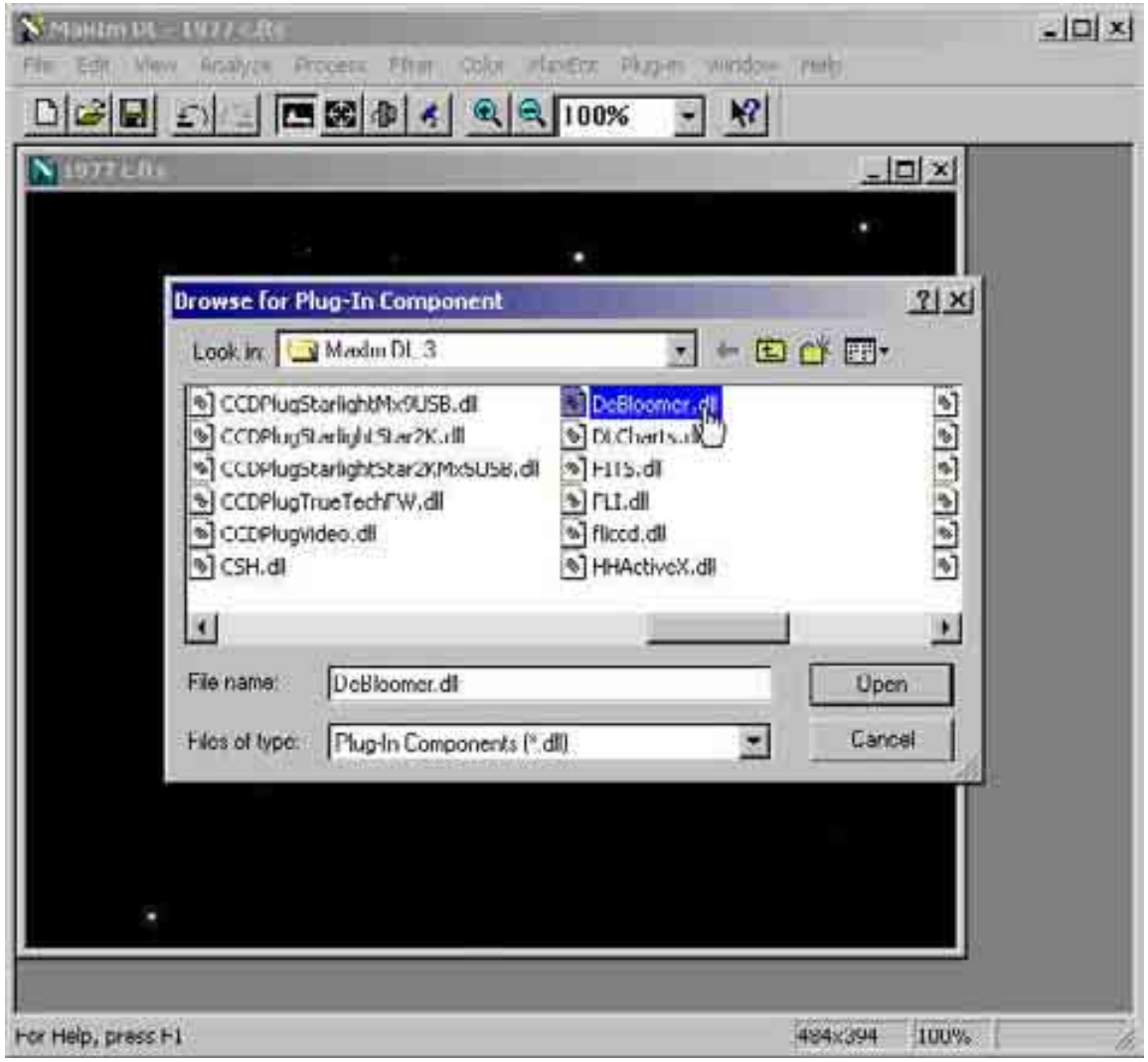
Adding a plug-in.

This opens the Add/Remove Plug-in dialog, shown below. If you have any existing plug-ins installed, the name of that plug-in will appear in the “Remove Plug-in” list. Ignore that! Click the Browse button.



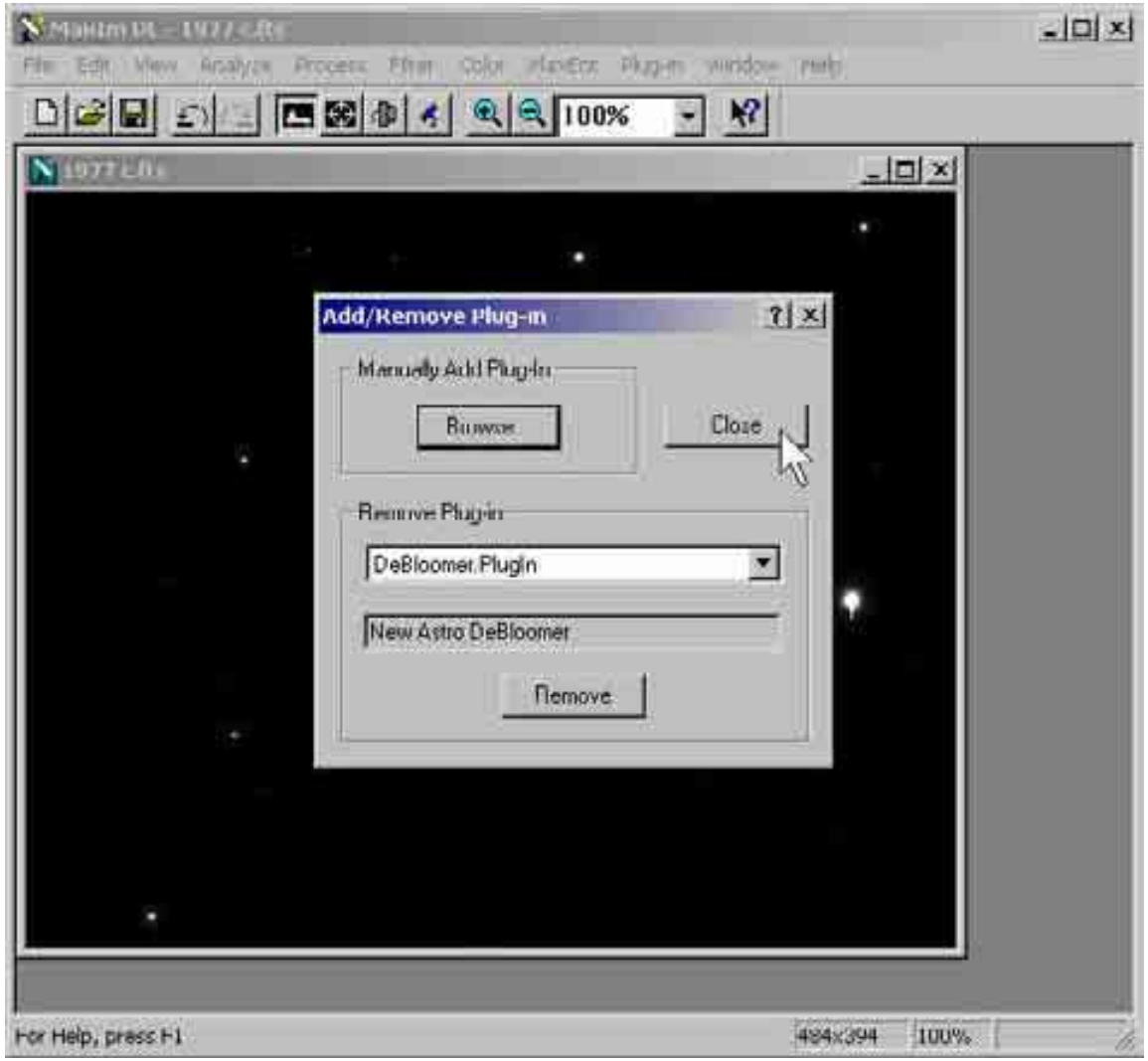
Click the Browse button to locate debloomer.dll.

This displays a list of all of the files in the MaxIm DL program folder. Locate debloomer.dll, and click on it to select it. Click the Open button.



Locating debloomer.dll.

This takes you back to the Add/Remove Plug-in dialog. Debloomer.Plugin is listed now. Click the Close button.

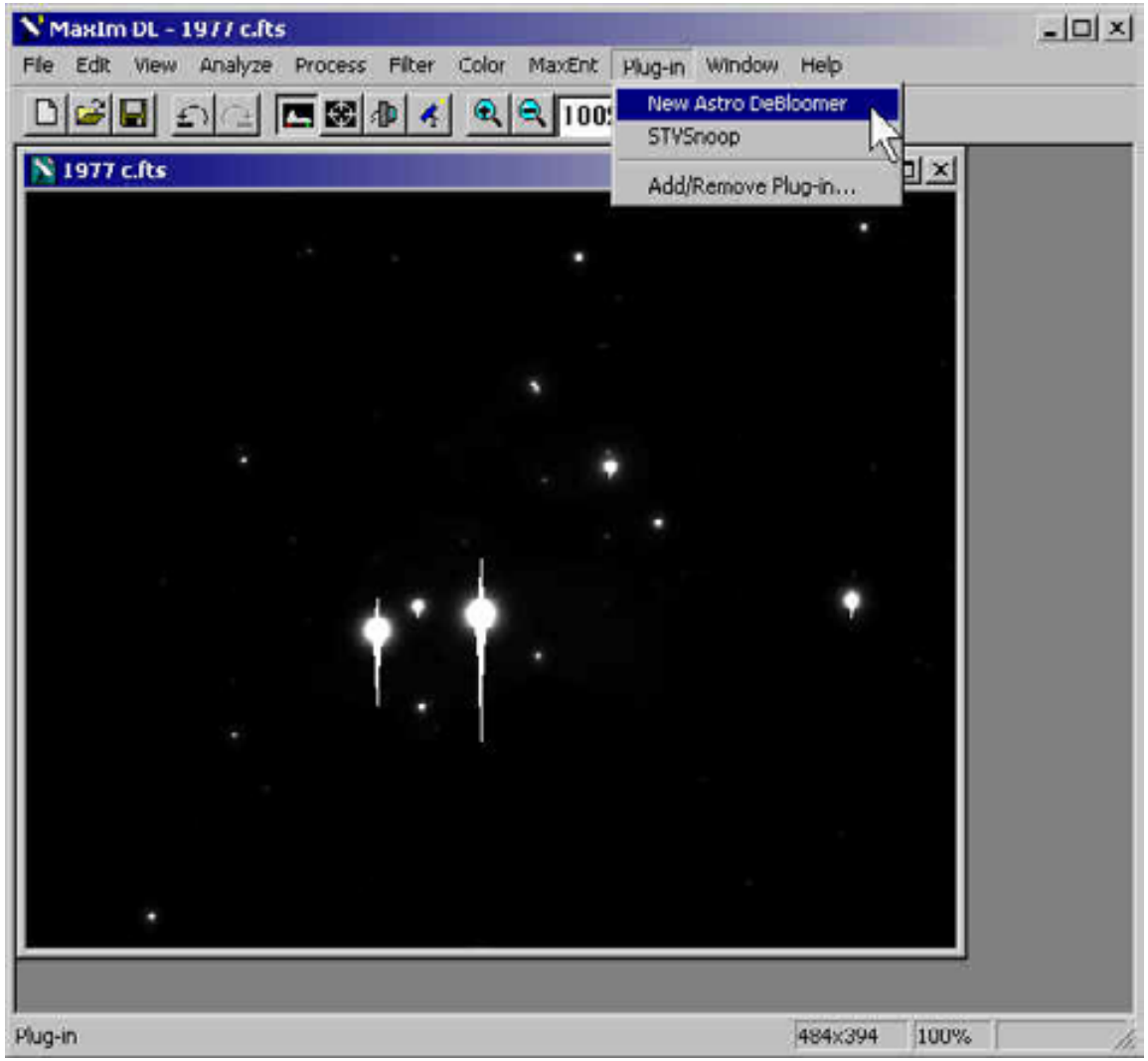


The DeBloomer Plug-in is now available.

You only have to add the plug-in one time.

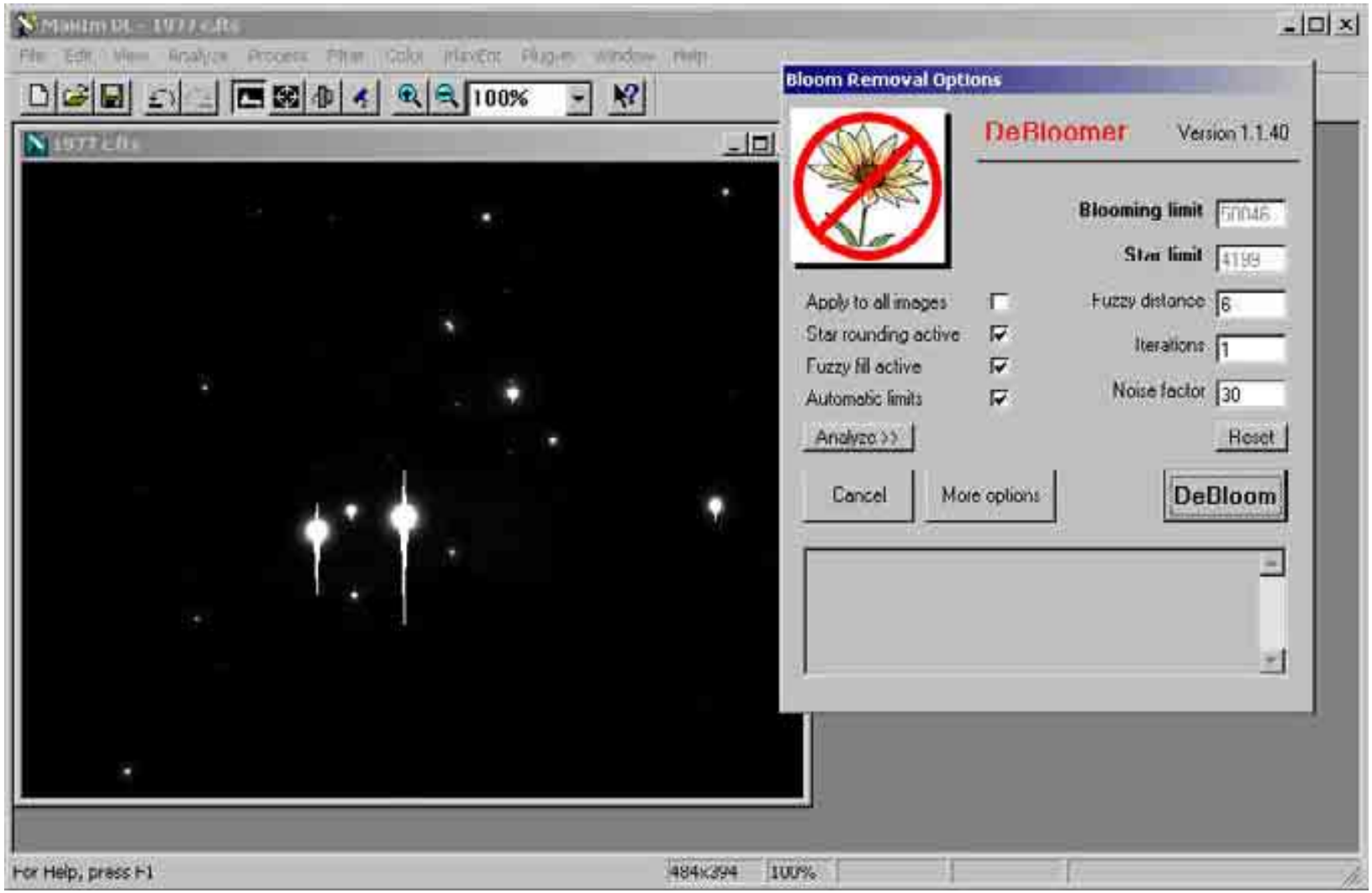
To use the plug-in, click the Plug-in | New Astro DeBloomer menu item as shown below.

NOTE You can also select a drag rectangle around one or more blooms before invoking the DeBloomer. This allows you to customized deblooming on portions of the image. In many cases, however, DeBloomer will do a good job even if bloom sizes and star sizes vary.



Starting the plug-in.

The Options dialog of the DeBloomer plug-in appears as shown below. The plug-in has a large number of options available, but if you set the options as shown below you can try your first deblooming session right away. If your results aren't optimal, read the rest of this documentation to learn how you can tune DeBloomer to your images.



The Options shown are available for the DeBloomer plug-in.

The DeBloomer Options dialog contains the following options:

Blooming Limit - All pixels brighter than this value are assumed to be bloomed pixels. If you set this number too low, blooming removal will be too aggressive. If you set it too high, you may not get any bloom removal at all.

TIP Click on the text "Blooming limit" and DeBloomer will calculate a suggested value for the Blooming Limit.

To find the Blooming Limit manually, open the MaxIm DL Information window and pass the cursor over some blooms to get an idea of how bright they are. Set the Blooming limit to about 5000 ADU (brightness levels) lower than the typical bloomed pixel level.

Star Limit - This determines what the program considers a star. All pixels brighter than this number and dimmer than the Blooming Limit are considered to be star pixels. This number should typically be about 1000-3500 ADU brighter than the background level.

If blooming is severe, a higher number will be better. If blooming is mild, use a number closer to the background

TIP Click on the text "Star limit" and DeBloomer will calculate a suggested value for the Star Limit.

If the Star Limit is too small, the program will fail to clean up blooms effectively. If the number is too large, stars will typically have square tops and/or bottoms. You can use rotation to clean up aggressive bloom removal, however, and the combination of a high star limit and use of rotation (see “More Options” dialog box description) can be very effective.

Fuzzy distance - Determines how far away from the bloom to apply smoothing. The larger this number, the more smoothly the edge of the bloom is blended into the background. Only applies if "Fuzzy fill active" checkbox is checked.

Iterations - The number of times the program should process the image. In most cases, a single iteration will do the trick. If you need more than one iteration, be sure to set the Auto Increment value on the “More Options” dialog. This tells DeBloomer how aggressive to get with each successive iteration.

Noise factor - Every image has some residual noise. This setting allows you to match the fill in the area where the blooms were to the image noise level. Larger numbers make for greater noise. Start with a value of 20, and raise or lower it to match the noise in your image. To evaluate the noise level accuracy, temporarily lower the white point and examine how well the background in the area where the bloom was removed matches the rest of the image.

Apply to all open images - When checked, applies the deblooming operation to each open image.

Star rounding active - When checked, boosts brightness at the top and bottom of large stars to help alleviate square tops and bottoms. If you do more than one iteration, this effect will only be applied on the last iteration.

NOTE This option provides mild star rounding. For more aggressive/advanced star rounding, try using star rotation instead.

Fuzzy fill active - When checked, the program will smooth out rough edges of the bloom by extending the fill area into the surrounding background. If this number is too large, you will lose stars that are very close to the bloom. If it is too small, blending will be minimal. The “Fuzzy distance” setting determines the extent of fuzzy fill.

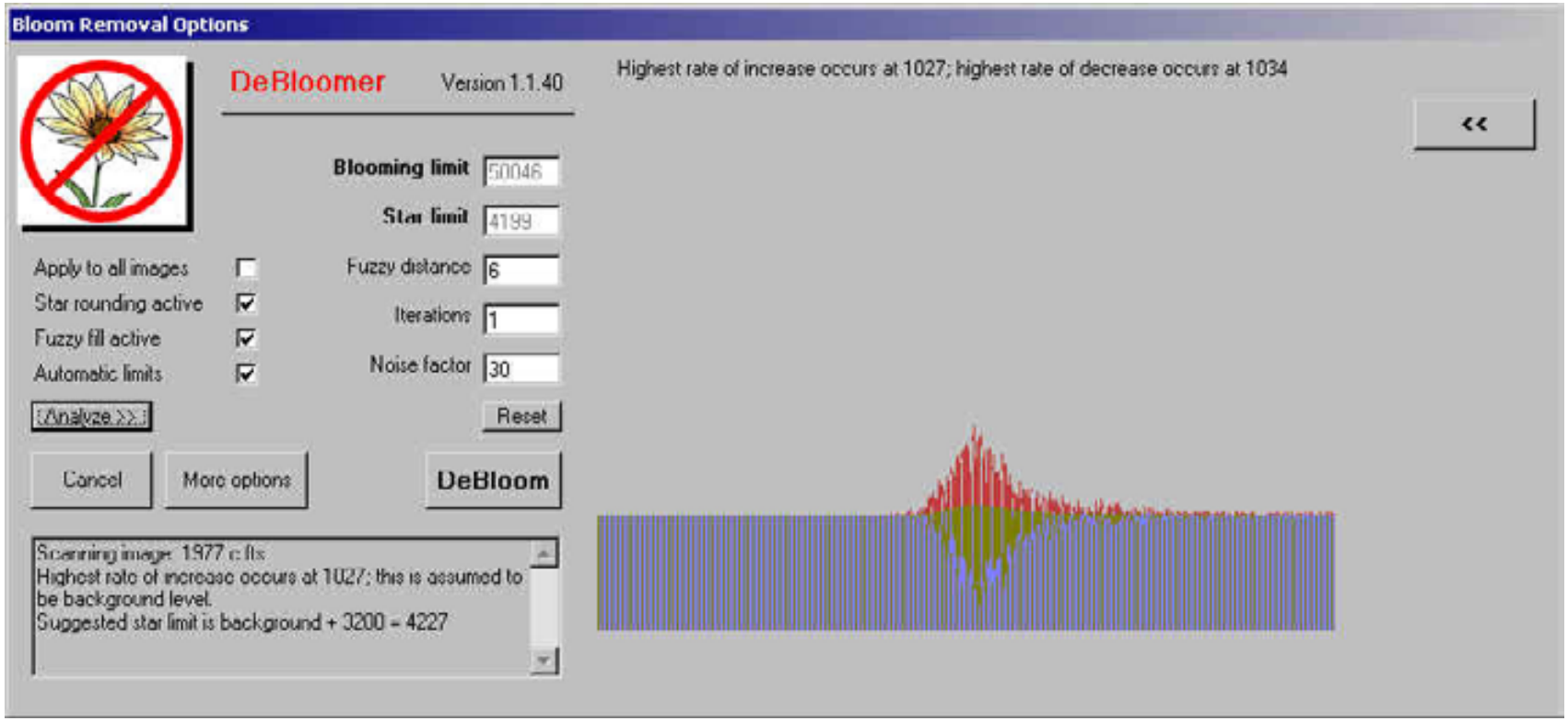
Automatic limits - When checked, the program will calculate its best guess for the Blooming and Star Limits for each image processed. This is Ideal for processing multiple dissimilar images when “Apply to all open images” is checked. Automatic Limits is also a great way to get close on your first attempt. You can then tweak these two settings to get the best possible results.

There are two small buttons on the Options dialog:

Analyze - The program will examine the dim portions of the data and show how it calculates the average background level. A graph (see sample below) is displayed that shows two parameters: the histogram of the image (blue) and the rate of change in the histogram (red). (The data plots appear green where they overlap each other.) Click the “<<” button at top right to close the analysis section. Typically, an image’s background level is located at about the point where the histogram’s higher rate of increase occurs.

A text report of the analysis appears at the bottom left of the DeBloomer Options dialog. You can select this text and copy it to the clipboard for later evaluation.

Reset - Resets default values for all options here and on the “More Options” dialog.



An analysis shows the histogram for the dim portions of the image.

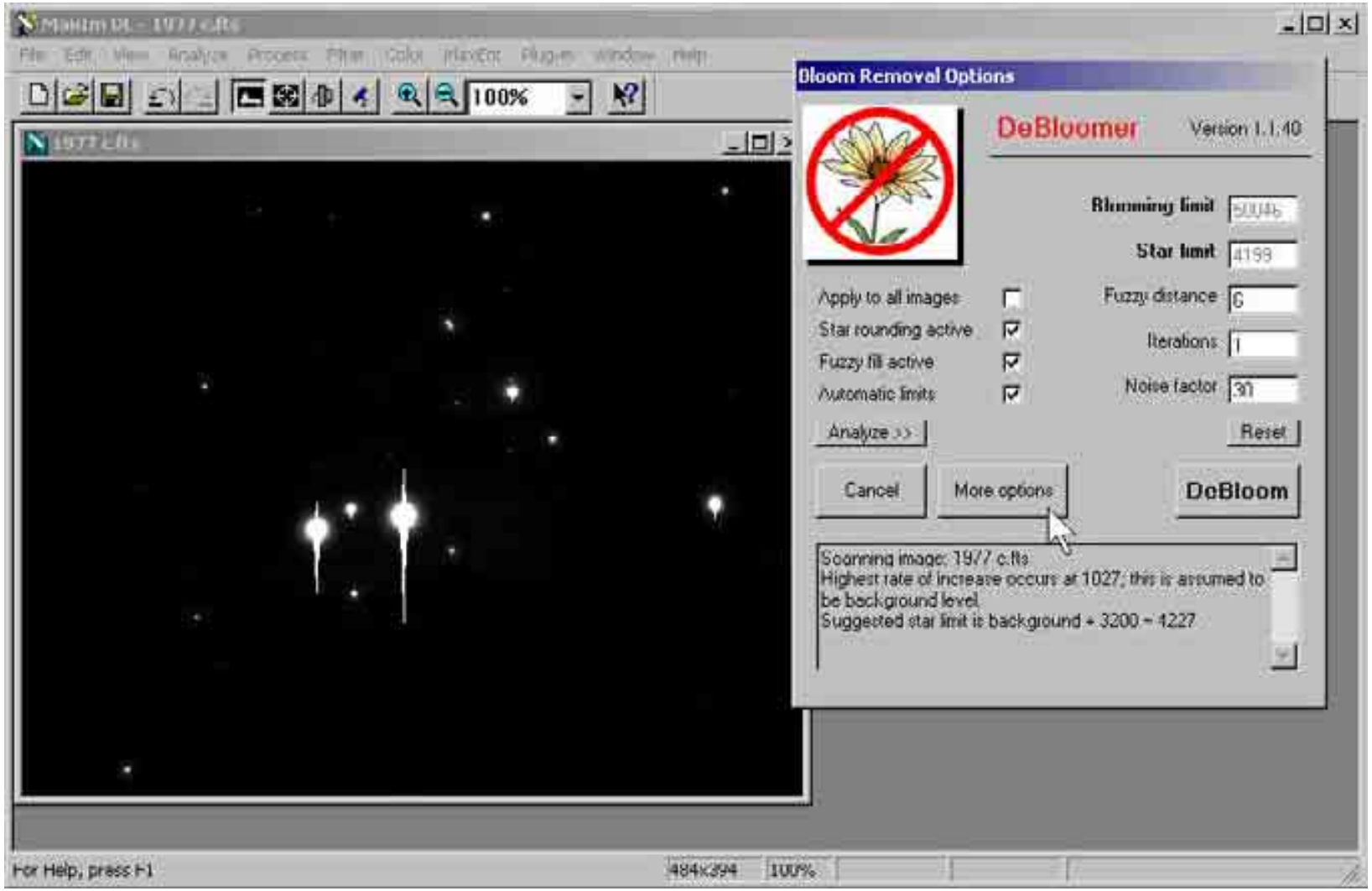
There are also three large buttons:

Cancel - Cancels deblooming. This button remains active during most portions of the deblooming operation, so you can cancel while deblooming is occurring. It is not active during evaluation of rotation.

More Options - Displays additional options described below.

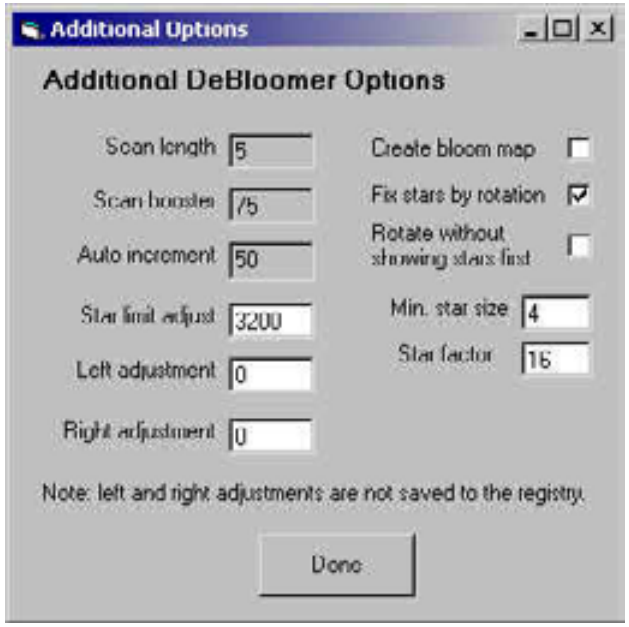
DeBloom - Starts the deblooming process.

To see additional options, click the “More options” button as shown below.



Accessing additional options.

This displays the “Additional Options” dialog shown below.



The Additional Options dialog.

The additional options include:

Scan Length - This value tells the software how small of a star to check for blooming. The idea value will vary with the quality of the seeing. Nights of good seeing will produce compact stars that are more likely to bloom. Nights of poor seeing will spread out the light and only larger stars will bloom. You can adapt to imaging conditions using the Scan Length. Values of 5 to 10 can prove useful. If small stars with short blooms remain after deblooming, you need a lower value here.

Scan booster - This value increases or decreases the Scan Length when scanning for stars. A large value will help root out larger blooms, but may compromise stars by lopping off tops and/or bottoms a bit. This number rarely needs changing.

Auto increment - Determines how aggressively the program should hunt down and destroy blooming during multiple iterations. This parameter increases the Star Limit in each iteration. Values over 100 increase the star limit more aggressively; values under 100 have less impact.

Star limit adjust - When you ask DeBloomer to automatically set or suggest the value for Star limit, it finds the average background value and adds this number to it. The Star Limit Adjust value allows you to customize the automatic setting for your typical images.

Left Adjustment - When filling in bloomed pixels, DeBloomer uses the value of pixels adjacent to the bloom to calculate the fill values. The Left Adjustment value, if it is not zero, tells DeBloomer to adjust the starting value for the left edge of the fill by the amount specified. For example, if the left edge is slightly brighter due to flaring of the bloom, you can enter a negative number for Left Adjustment to compensate. This will prevent a slightly bright fill for the bloom on the left side.

Right Adjustment - Same as above, but for the right side of the bloom.

NOTE Left and Right adjustment values are never saved to the registry. These values are typically suited only to one image (or even one bloom) at a time, and would be annoying if you forget to change them back.

Create bloom map - When checked, causes a map of blooms and stars to be created instead of removing blooms. DeBloomer will scan the image looking for blooms and stars as it usually does, but it will not fix the blooms.

If you are having trouble with settings or in getting bloom removal done right, you can use a map to help figure out what's going wrong. Are the stars that the program is identifying too large? Raise the star limit. Is blooming overly aggressive because stars are too small? Lower the star limit. Is there a complete failure to find any blooms? The Blooming limit is probably too high.

Fix by rotation - This is a very powerful feature unique to DeBloomer. When checked, the DeBloomer will make a copy of a star, rotate it 90 degrees, and then use that to fix up the top and bottom edges of the star.

Typically, blooms run right through a star, obliterating the top and bottom of the star image. When “Fix by rotation” is on, the left and right edges of bloomed stars are copied and rotated fix up star images. Replacement stars are displayed for evaluation using a dialog described below.

See also "Rotate without showing stars first" below; it controls whether you get a chance to evaluate star rotation.

You can set a larger or smaller "Min. star size" (see below) to determine the smallest star presented for evaluation. During evaluation, you can also adjust the x, y coordinate of the rotation and the size of the rotated image.

Rotate without showing stars first - Performs star rotation to fix up bloom damage (see above) without showing you the rotated star first. This turns on automatic rotation.

NOTE Blooming makes it difficult to automatically find star centers. For most images, leave this setting unchecked so you can evaluate each rotation visually and confirm or adjust it. Use this setting with caution!

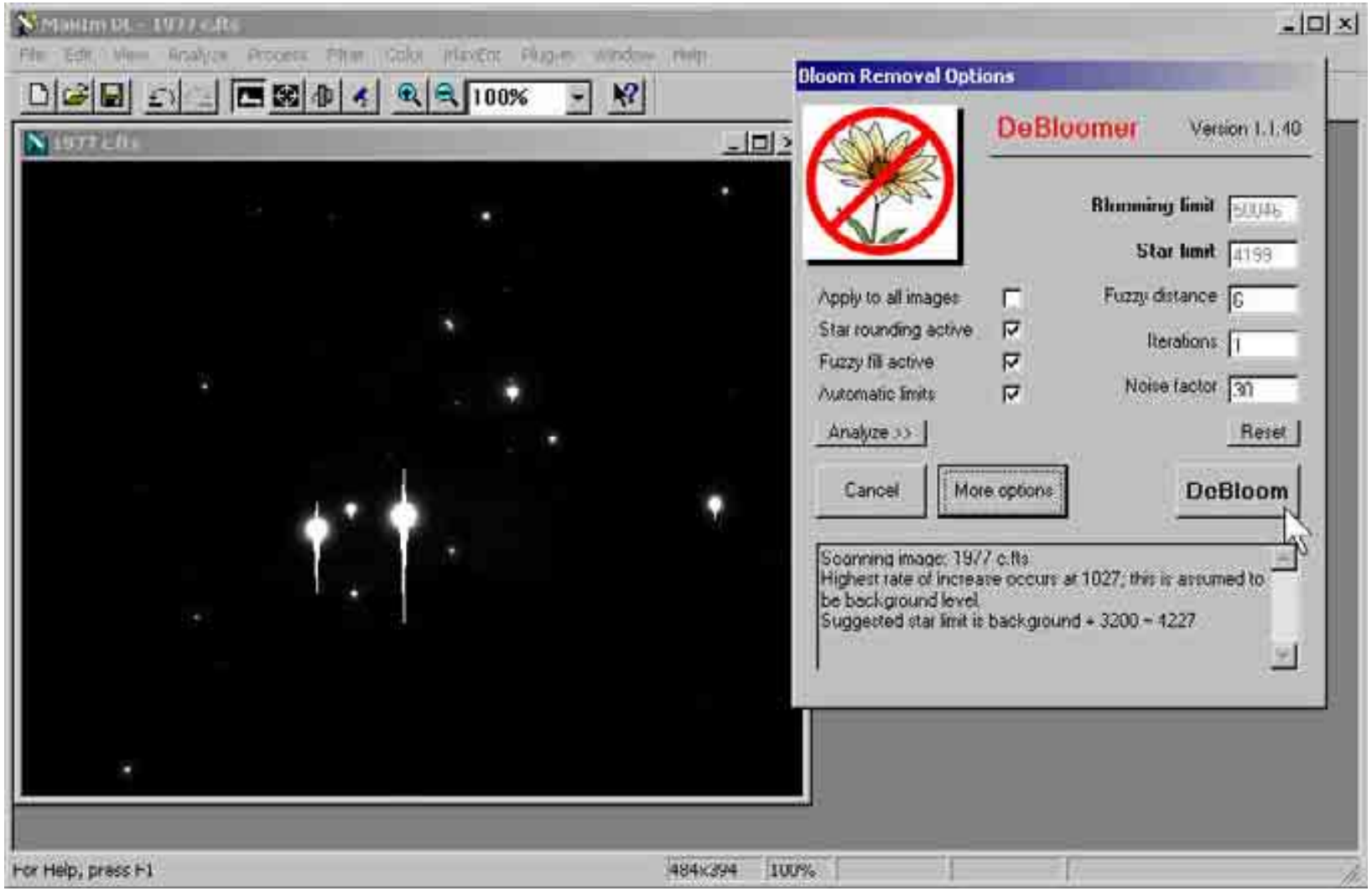
Min. star size - When performing rotation, this is the smallest star that will be shown to you for evaluation. A value of 3-4 will show lots of stars; a value of 8 will show only the largest stars. The best numbers for your images will depend on exposure length, seeing conditions, etc.

Star factor - Determines how far out from the center of the star the DeBloomer will make changes when "Fix by rotation" is checked. A value of 15 or 16 is typically a good match for most images, but smaller or larger values may be required for some stars. You can set this value interactively while visually evaluating rotation results as described below.

There is also a registry-only value:

Blooming Slope - This number should not need to be changed; it is pre-set in registry to 1000. The program uses this number to determine how much brighter than an adjoining pixel a potential bloom pixel must be in order for it to be a legitimate bloom pixel. If you are experiencing problems with the software accurately finding bloomed pixels, you can edit this value in the registry to see if it will help. Try increasing it to make the program more discriminating about what is, or is not, a bloomed pixel.

To start a deblooming session, click the DeBloom button as show below.



Start a deblooming session by clicking the DeBloom button.

During deblooming, you will see status information in the small box at the bottom of the DeBloomer Options dialog.

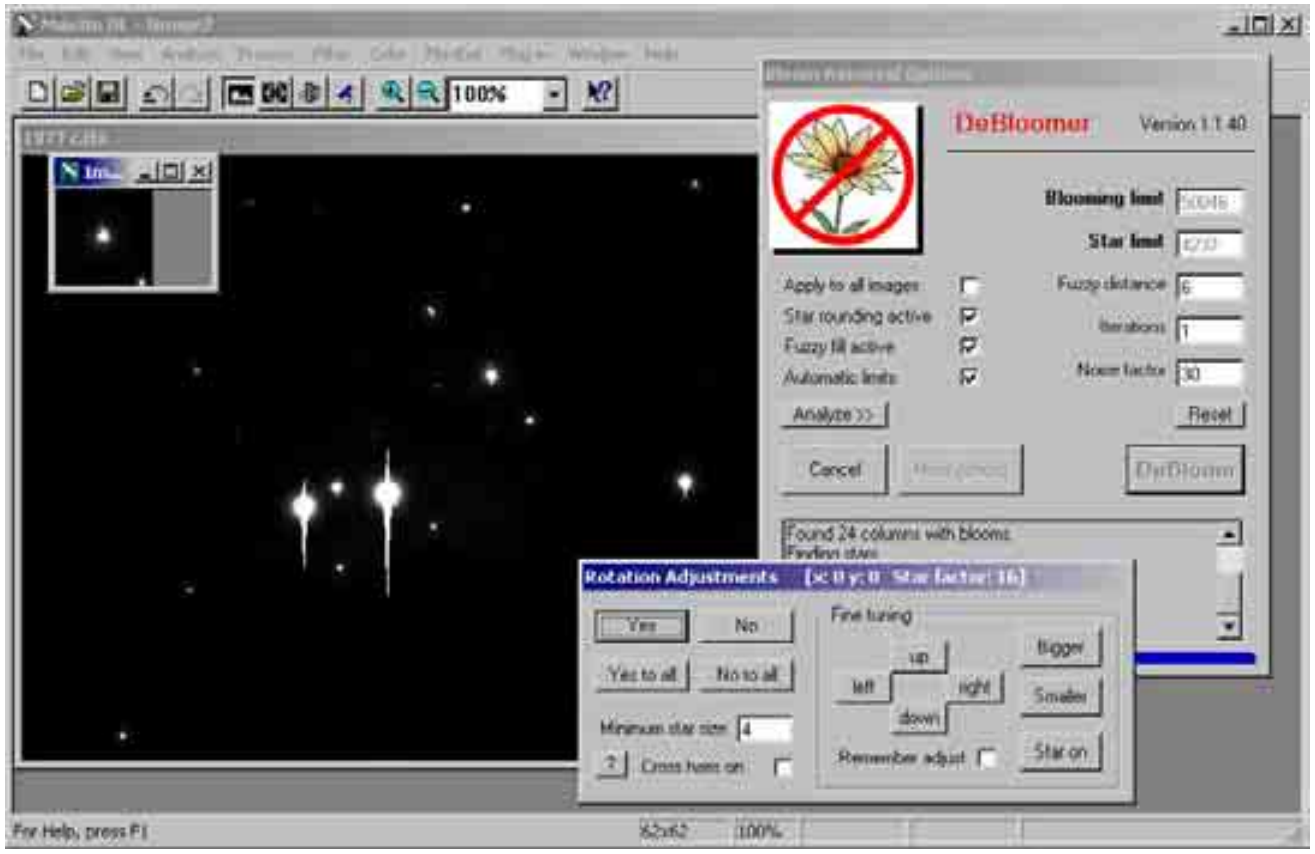
When deblooming is complete, DeBloomer will either close or, if you have turned on “Fix by rotation,” continue on. The figure below shows the appearance of the DeBloomer when “Fix by Rotation” is turned on. The DeBloomer Options dialog remains visible, and two new features show up:

- A small evaluation image
- The Rotation Adjustments dialog

The small evaluation image is a temporary MaxIm DL document created by DeBloomer. This window displays the current star with blooming removed, and with a rotated image of the star in place for your evaluation.

The Rotation Adjustments dialog allows you to interactively make adjustments to the rotation to optimize results. With the Rotation Adjustments dialog, you can get a very high percentage of round stars with a single pass of deblooming.

TIP The evaluation image typically appears at the top left of the MaxIm DL window. If you are doing “Fix by Rotation,” move the DeBloomer Options dialog out of this area before you click the DeBloom button. This will allow you to see the small evaluation image - otherwise, the Options window could hide it.



The Rotation Adjustments dialog.

The “Rotation Adjustments” dialog contains the following settings and tools.

Yes - Applies the current rotation adjustments to the displayed star.

No - No rotation is applied to the displayed star.

Yes to all - Applies rotation adjustments to all stars automatically. If "Remember adjust" is checked, the current x, y, and Star factor settings are used. If it is unchecked, x=0, y=0, and star factor remains unchanged for all subsequent stars.

No to all - No rotation is applied to this and all subsequent stars.

Minimum star size - Same as "Min. star size" on "More options" dialog. Allows you to change the minimum star size if you decide that too many or too few stars are appearing for evaluation.

? - Click for an explanation of why manual evaluation is used in addition to automatic:

Why use manual centering for rotation?

Bloomed pixels obliterate a major portion of a star. This makes it very, very difficult to locate the star center accurately. The software does do its best to find the star center, but manual centering is still available as an option for those cases where the blooming makes it impossible to locate the star center automatically. The worse the blooming, the harder it is to find star centers accurately.

Cross hairs on - When checked, cross hairs are added to the evaluation image. The cross hairs mark the center of the rotated star image.

Up, Left, Right, Down buttons - Adjust the position of the rotated star image in the indicated directions. X and Y values that result are displayed in the title bar of the Rotation Adjustments window.

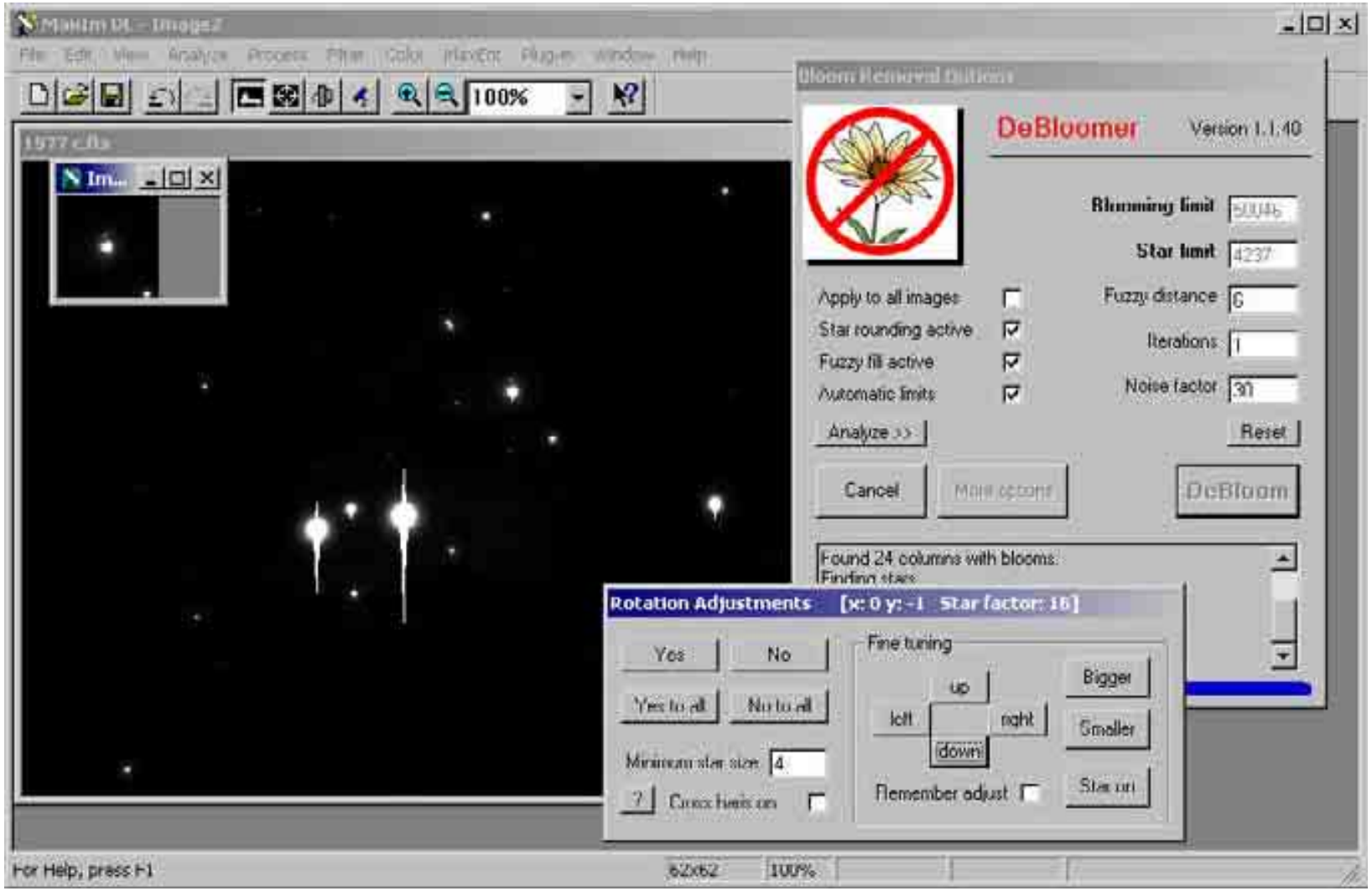
Remember adjust - When checked, the X, Y, and Star factor values from the current star are carried forward to the next star.

Bigger - Expands the size of the rotated star image. If too large, excess background will be copied. If too small, the rotated image will be smaller than the star size. The initial value is controlled by the "Star factor" setting on the "More options" dialog. The current value of Star factor is displayed in the title bar of the Rotation Adjustments window.

Smaller - Shrinks the size of the rotated star image. See "Bigger" for more details.

Star on/off - Blinks the rotated star image on and off so you can see what difference the rotated star image is making. If you blink the rotated star image off for the current star, it will remain off for subsequent stars, but if you click "Yes," the rotated image will still be applied!

In the figure below, the Down button has been click to lower the rotated star image by one pixel so that it better lines up with the debloomed star image. Note that the title bar of the Rotation Adjustments window shows that the y value is now -1.

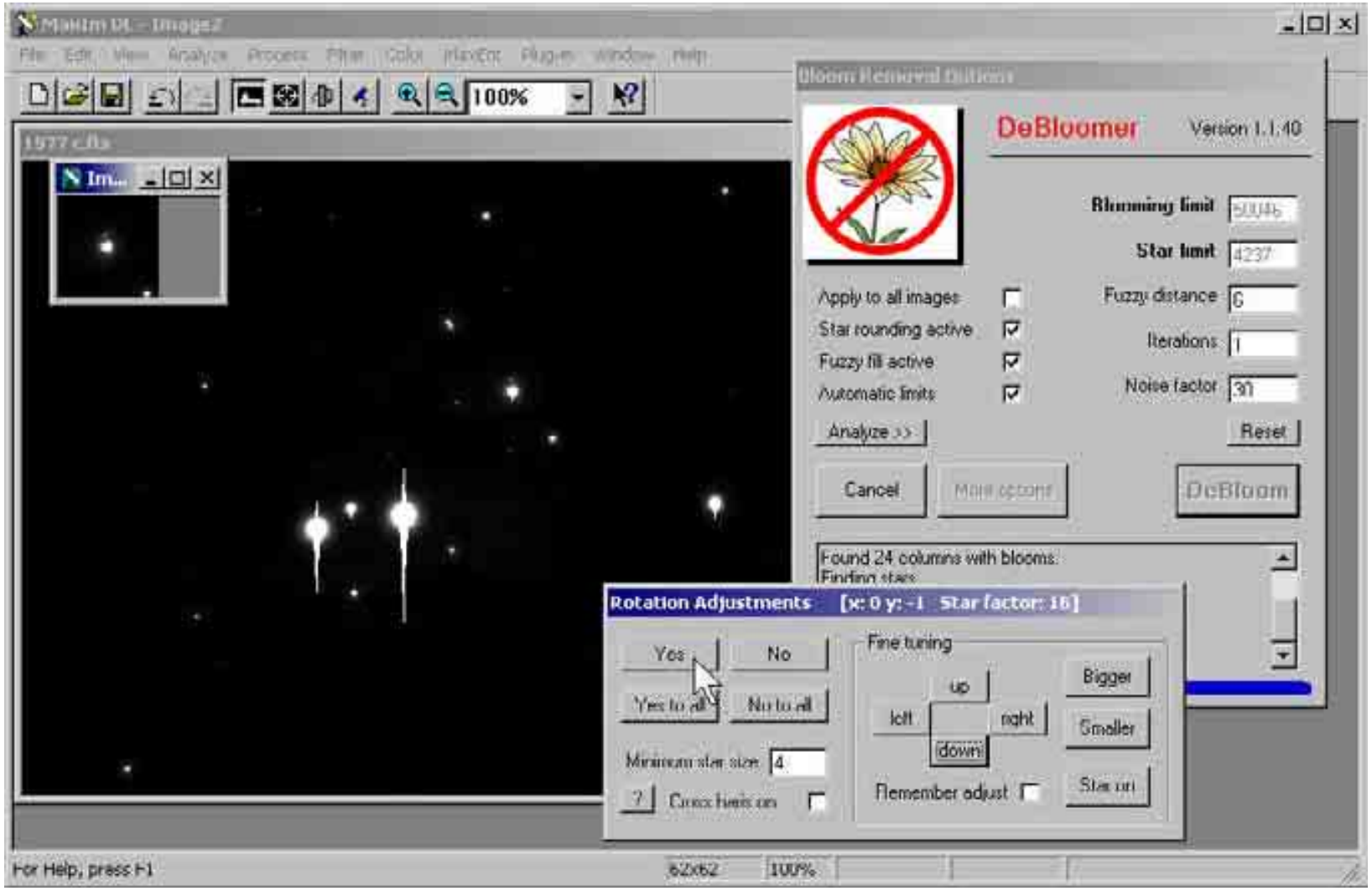


Adjusting the position of the rotated star image.

Note: There have been some changes to the appearance and function of the Rotation tool. See the following section, "Tips on using the rotation tool" for the latest information. This section will be updated when time permits.

Continue clicking the Up, Down, Left, Right, Bigger, and Smaller buttons until the rotated star image makes the star nice and round. To accept the rotation, click the Yes button as shown below. To reject rotation, click No.

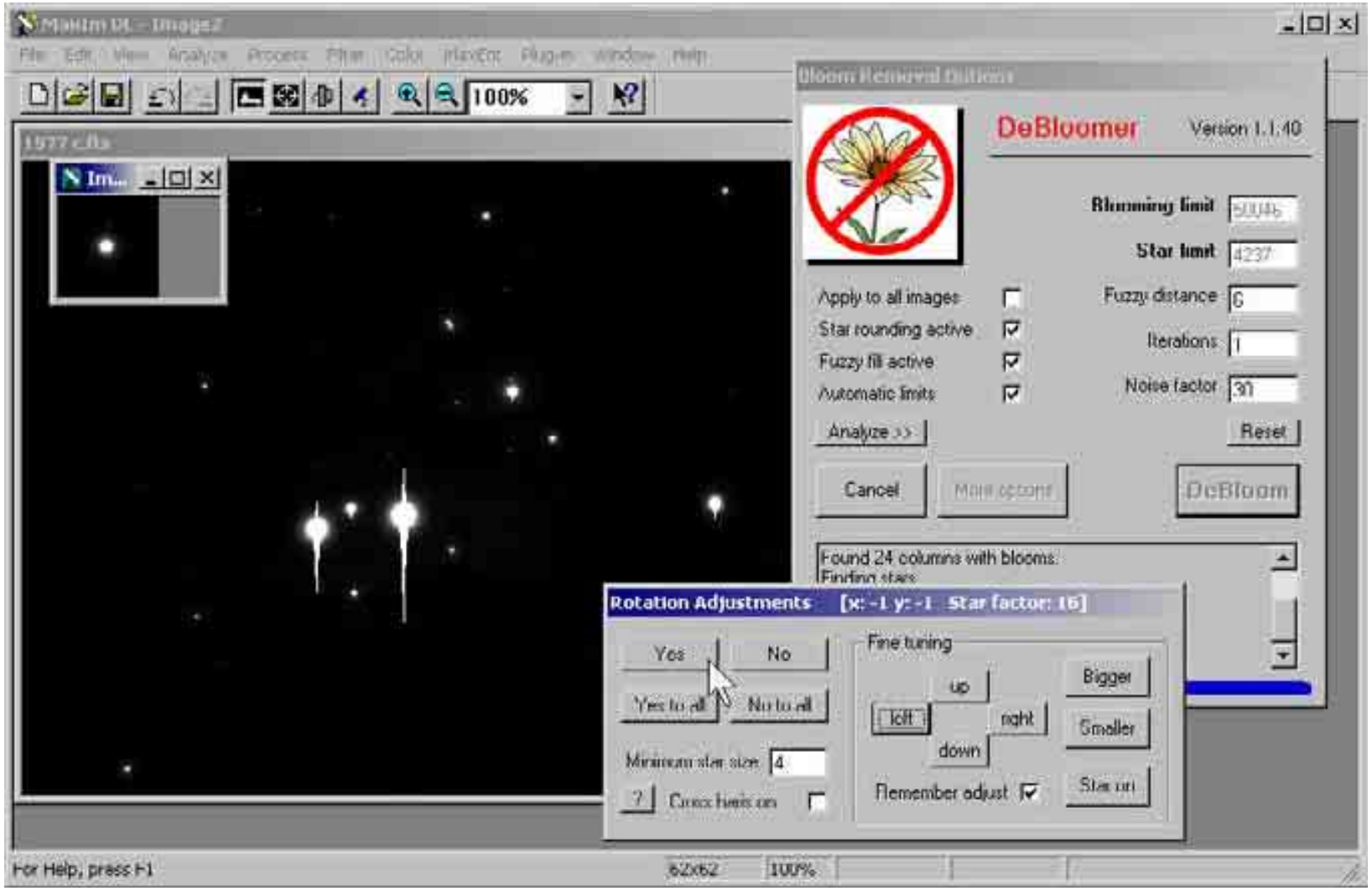
NOTE You must click Yes for rotation to be applied, whether or not you have clicked any of the Up/Down, Left/Right, and Bigger/Smaller buttons.



Click the Yes button to apply the rotated star image.

The figure below shows another star image with adjustments made. In this example, x = -1 and y = -1, so the rotated image had to be moved left one pixel and up one pixel. Positive x indicates movement to the right and positive y indicates movement down.

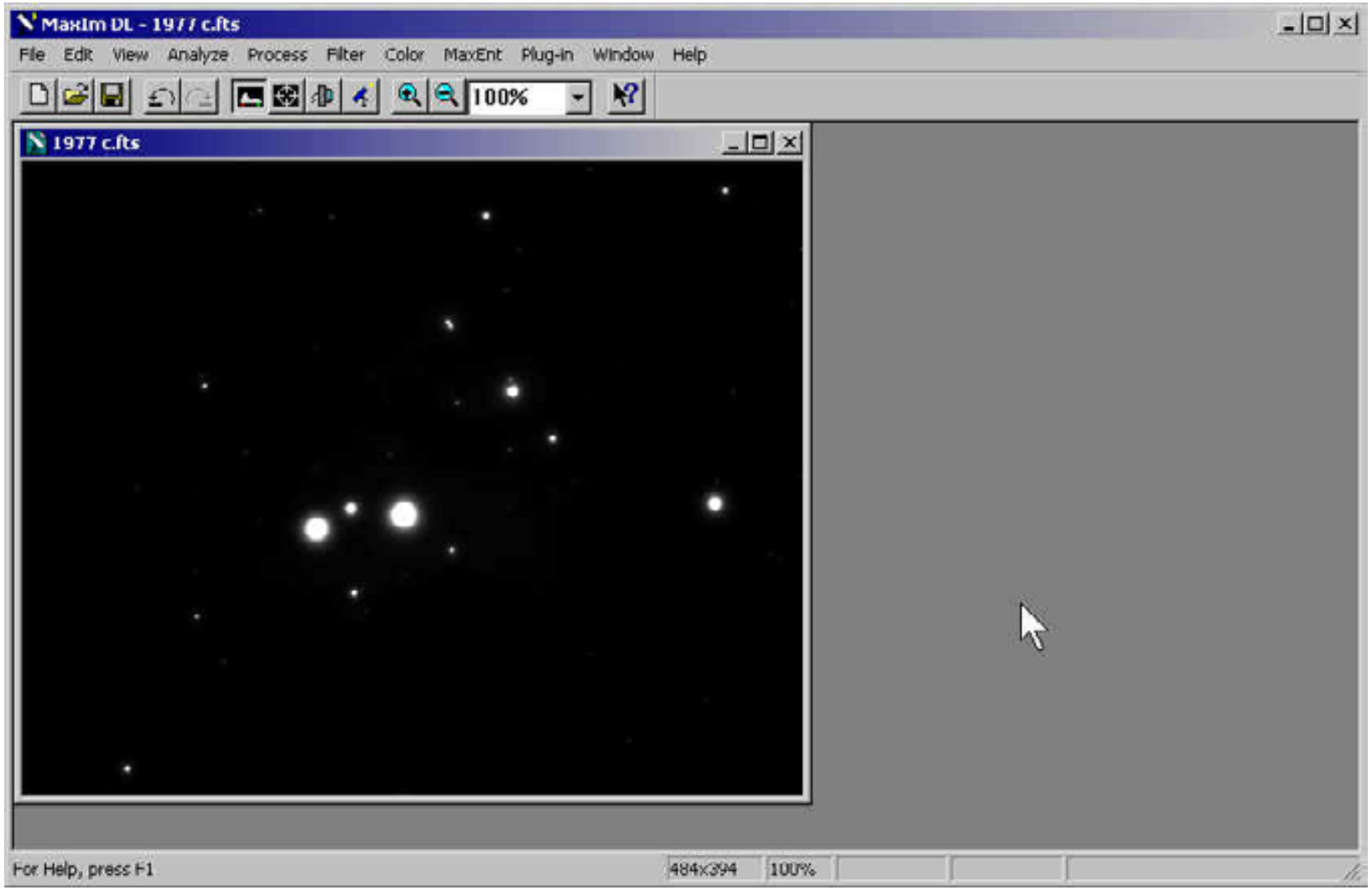
The “Remember adjust” checkbox is checked in the image below. The settings for this star (x = -1, y = -1, Star factor = 16) will be remembered and applied to the next image (or all subsequent images if the “Yes to all” button is clicked).



Remembering adjustments so they are applied to the next image.

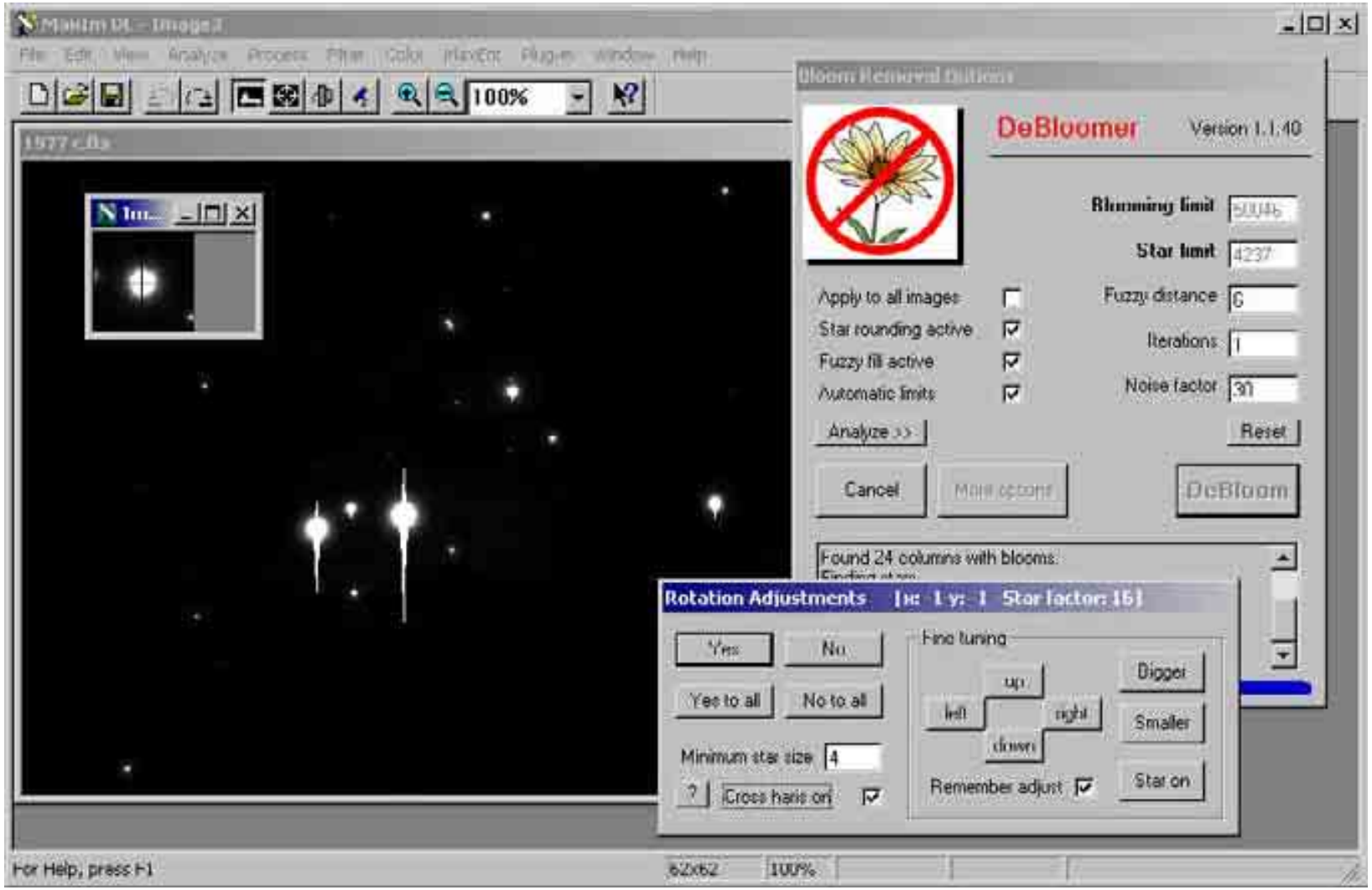
This process of evaluating star images continues until all stars with blooms that are larger than the minimum star size have been evaluated. If you are seeing too many small stars, increase the Minimum star size to screen them out.

The figure below shows the result of the deblooming operation. If you aren't satisfied with the results, use MaxIm DL's undo feature to remove the fix, and try again with revised settings. The more you use DeBloomer, the more you will know which settings are a good fit for your particular images and conditions.



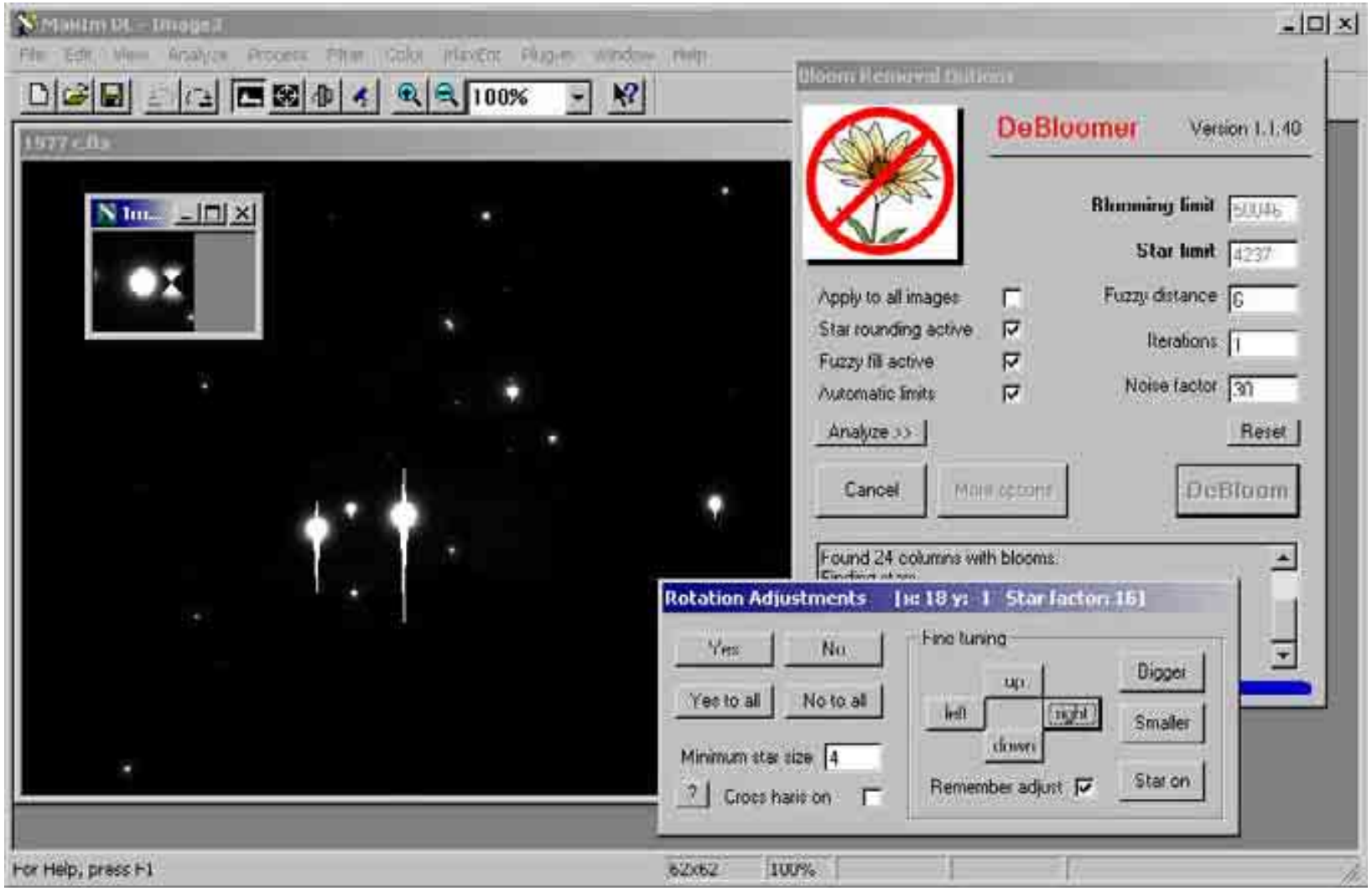
The result of deblooming.

There are some additional features available during Rotation Adjustments. The figure below shows the “Cross hairs on” checkbox checked. This displays cross hairs on the evaluation image. The cross hairs indicate the center of the rotated image, and can be used to help you accurately center the rotated image on the underlying star image.



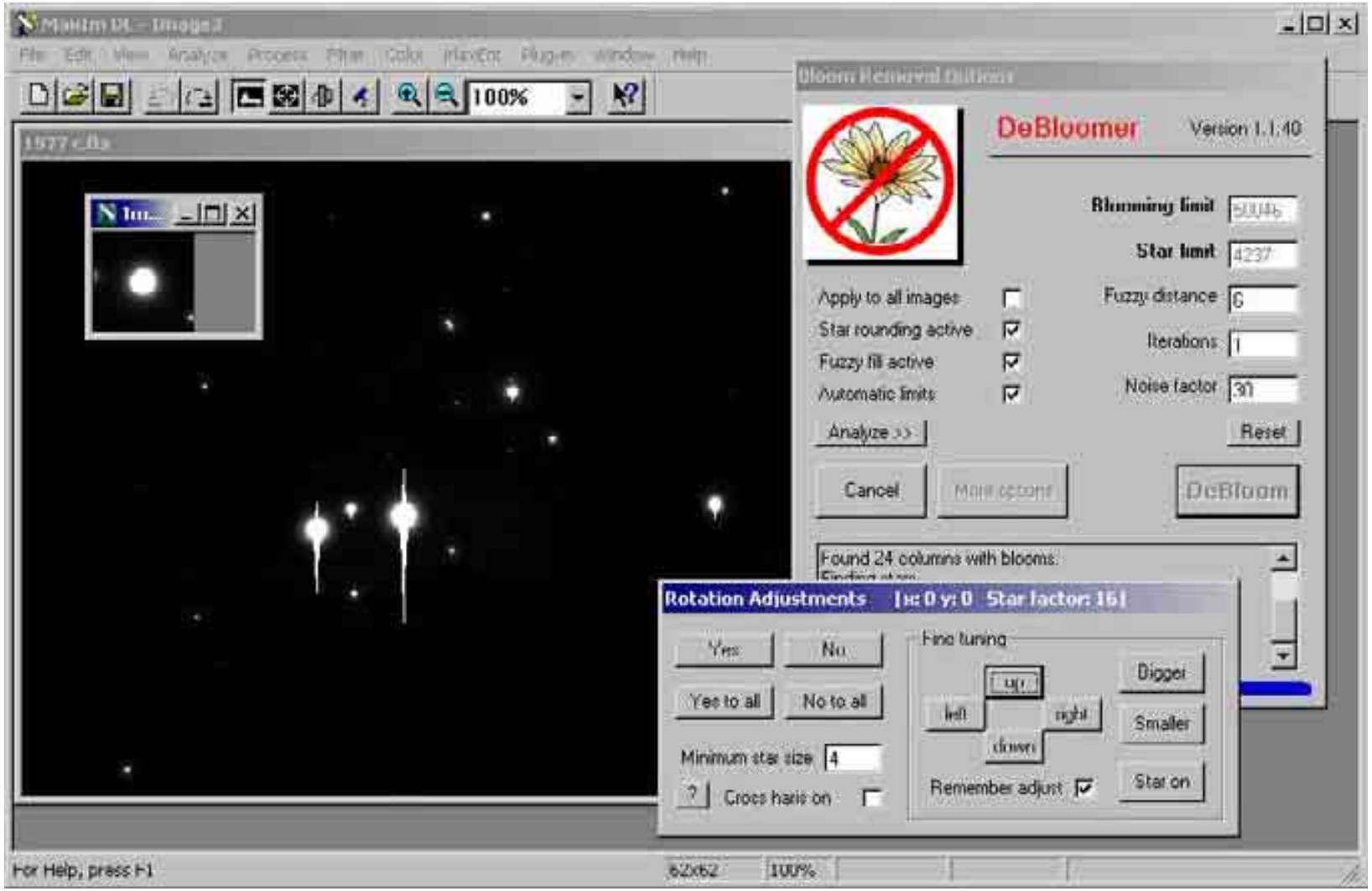
Using cross hairs to help center the rotated image.

The figure below shows the rotated image moved far to the right of the underlying star image. This shows you what the rotated image looks like. You can see that it consists of only the left and right portions, rotated 90 degrees. In this example, the Bigger button has been used to extend the rotation area out beyond the star. In this case, there is a small line of bloomed pixels that was not removed. The large rotated image will now cover this up. (Alternatively, you could undo the bloom and do it again with a higher Star Limit.)



Looking at the rotated star image.

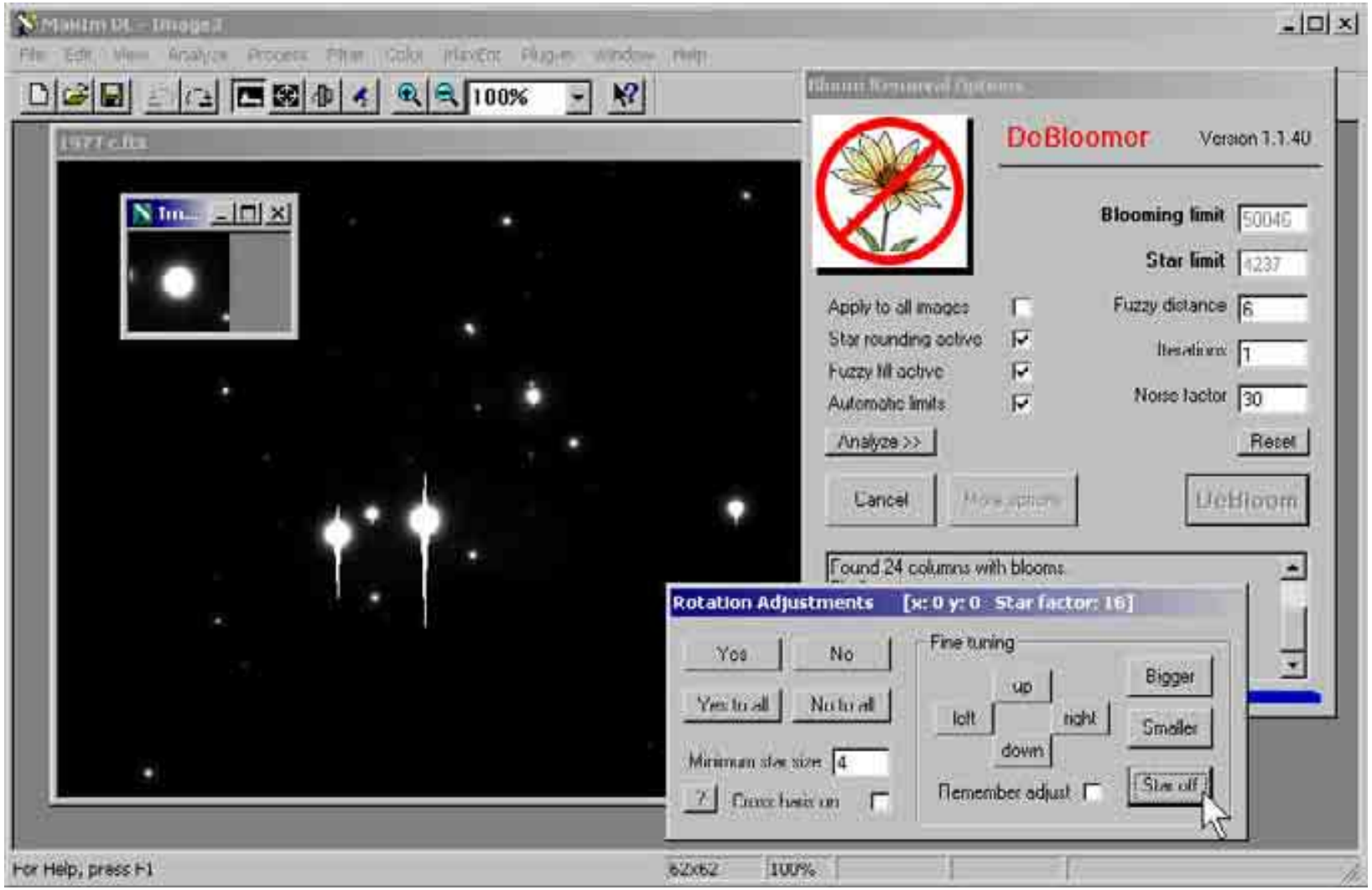
The result of the star rotation, with the large Star Factor, is shown below: the little line is removed.



The result of using a larger Star Factor.

You can turn off display of the rotated star image by clicking the “Star on/off” button. As sown below, the little line is visible when the button is set to “Star off.”

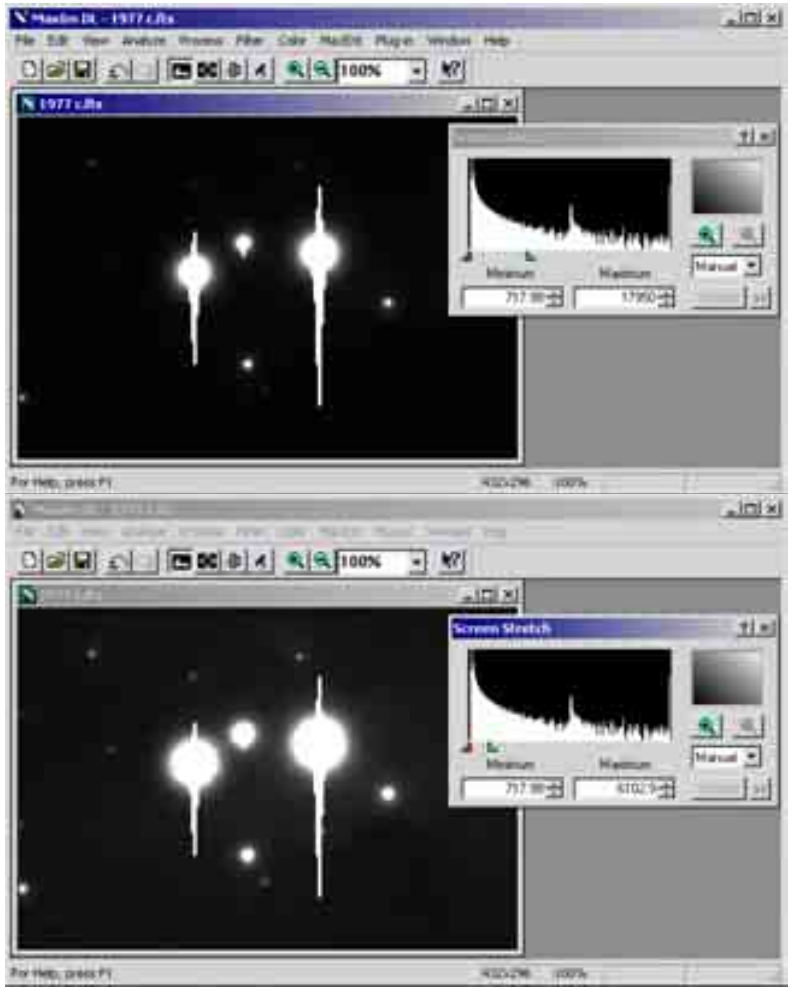
NOTE Even if the button says “Star off,” if you click “Yes” the rotation adjustments will still occur!



The rotated image is hidden when the blink button says “Star off.”

Tips on Using the Rotation Tool

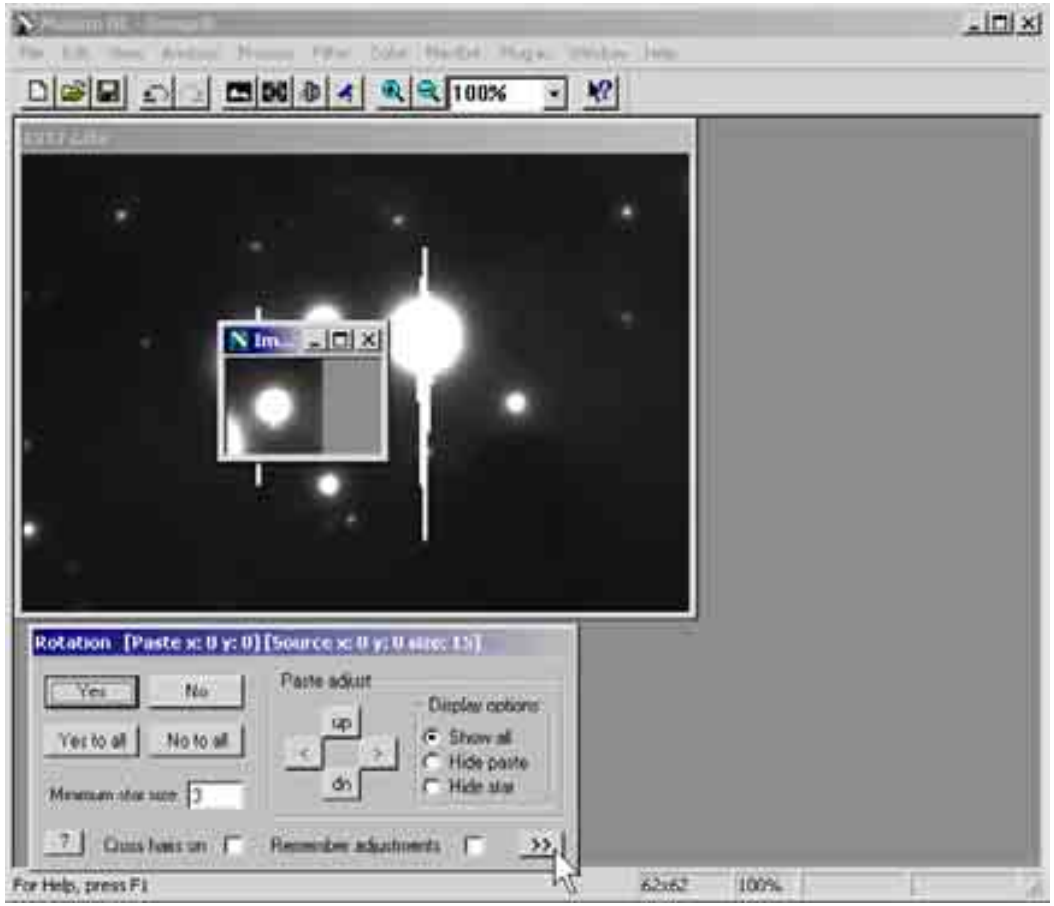
Set up the Screen Stretch before you use DeBloomer. Use a stretch that is approximately what you will use for final processing. Generally speaking, this means a black point (Minimum) just below the background level, and a white point (Maximum) low enough to show dim details (e.g., nebulosity).



Adjust screen stretch to approximately match what you will use in final processing.

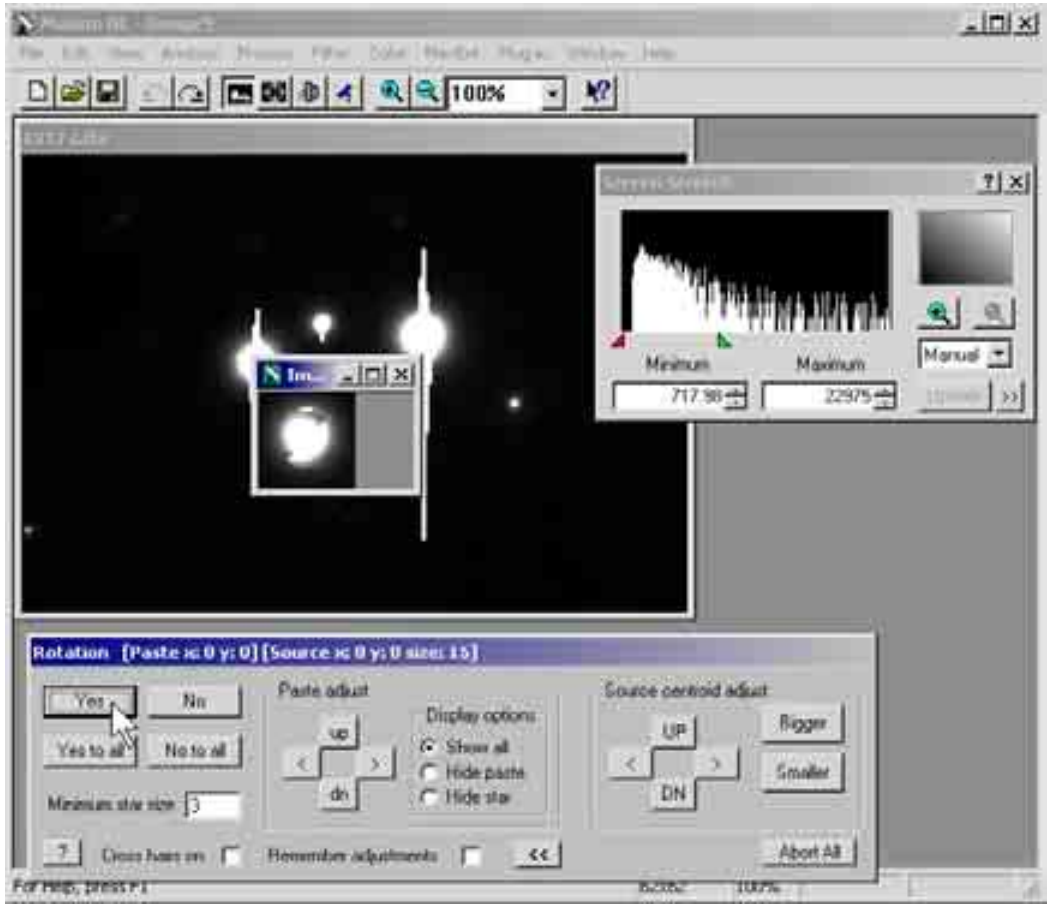
Note: Before you DeBloom, make sure that the “Fix stars by rotation” checkbox is checked!

After all other calculations are completed, the Rotation pop-up window appears along with the Rotation dialog (see below). The latest version of DeBloomer has new Rotation features. Click the small button at bottom right of the Rotation dialog to expand the dialog and reveal the new features.



The Rotation tool in action. Click on the button at bottom right to expand the tool and show more options.

The figure below shows the additional features.

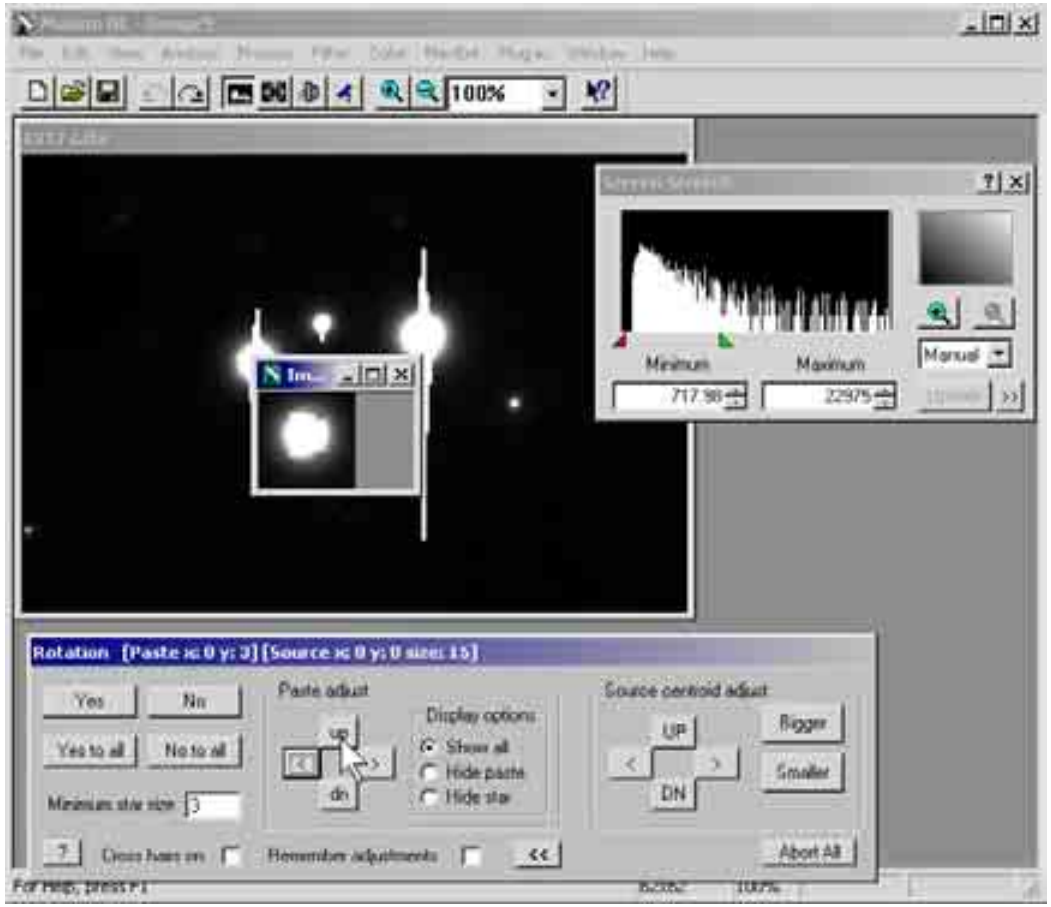


The expanded Rotation dialog.

The four buttons near the center of the dialog work as described previously in this document. The buttons at the right have a new function - they control how the star image is picked up and rotated. You'll learn more about the new buttons shortly.

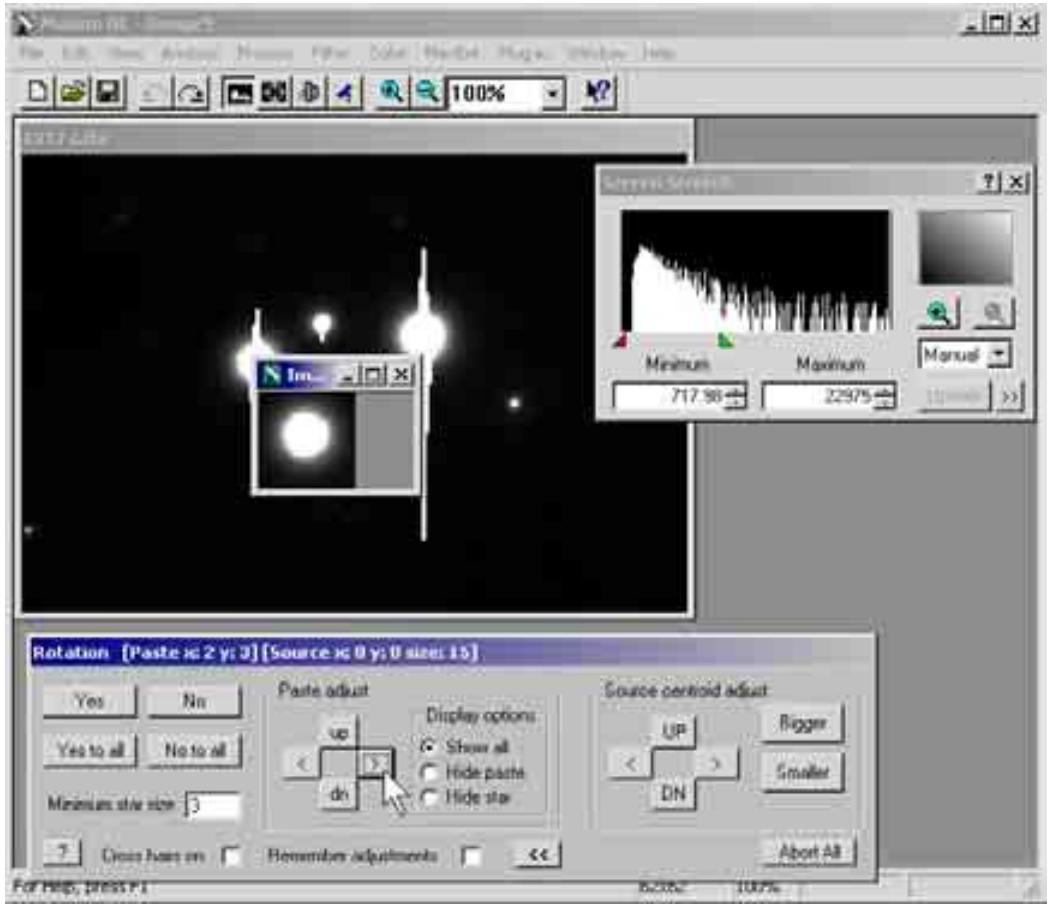
In the figure above, the rotated star image is out of position and looks pretty awful! Blooming obliterates some of the star, and this makes it challenging to automatically find the center of the star. In this example, the automatic centering failed. You can use the two groups of direction buttons to still get a good result.

In the figure below, the “up” button has been clicked a few times to move the rotated star image up to better match the position of the underlying star image.



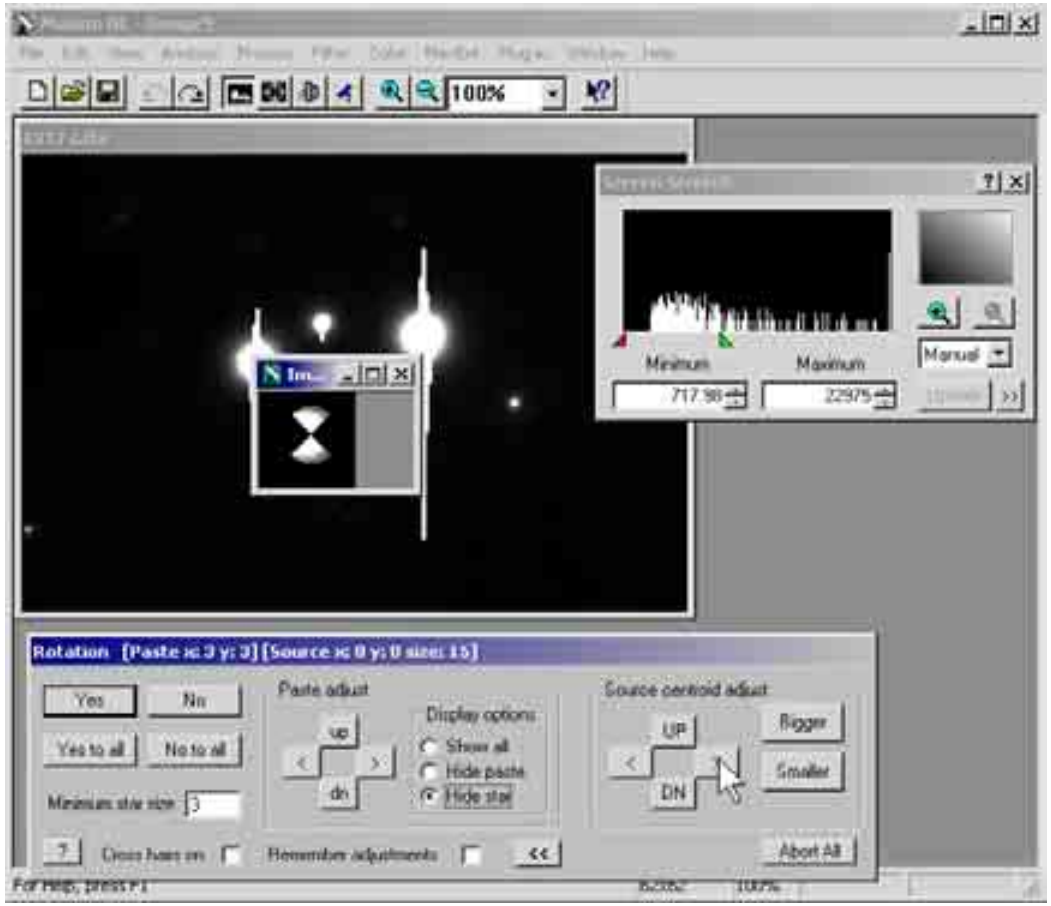
Use the up, down, <, and > buttons to move the rotated image and line it up with the underlying star image.

As shown below, the right button lines up the rotated image. But there's something not quite right here: there are four dark areas at the corners - not a good result! But all is not lost. The set of direction buttons at the right will come to the rescue.



Use the ">" (right) button to move the rotated image more to the right.

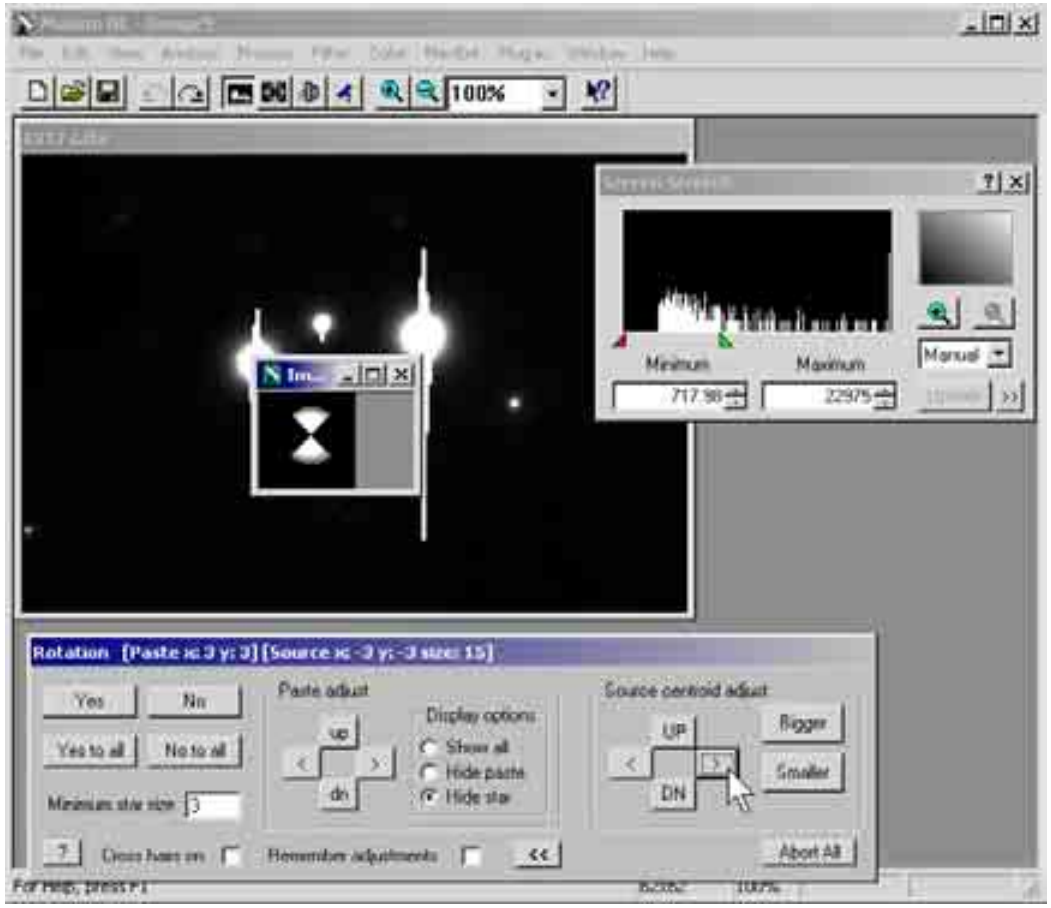
Click the “Hide star” radio button. This hides the underlying star image, and reveals the rotated image. It is immediately apparent that the rotated image is itself not properly centered. Because the center of the star could not be found reliably (due to the bloom damage), the image that was picked up for rotation is offset slightly to the right, as shown below.



Using the “Source centroid adjust” direction buttons.

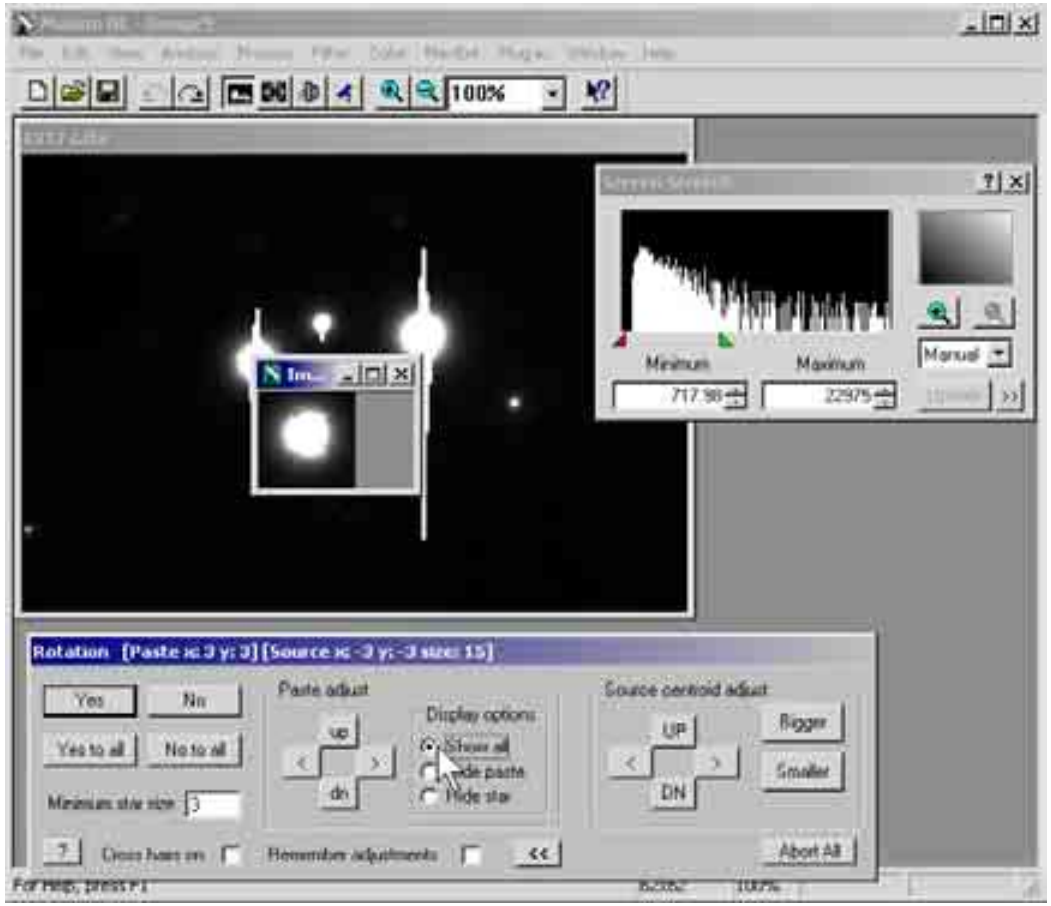
The four direction buttons in the “Source centroid adjust” area will solve the problem. The buttons control the apparent motion of the star used for rotation. In this case, clicking the “>” (right) button moves the star to the right.

The figure below shows the result of properly lining up the star image used for rotation. When needed, you can also adjust the position vertically using the UP and DOWN buttons.



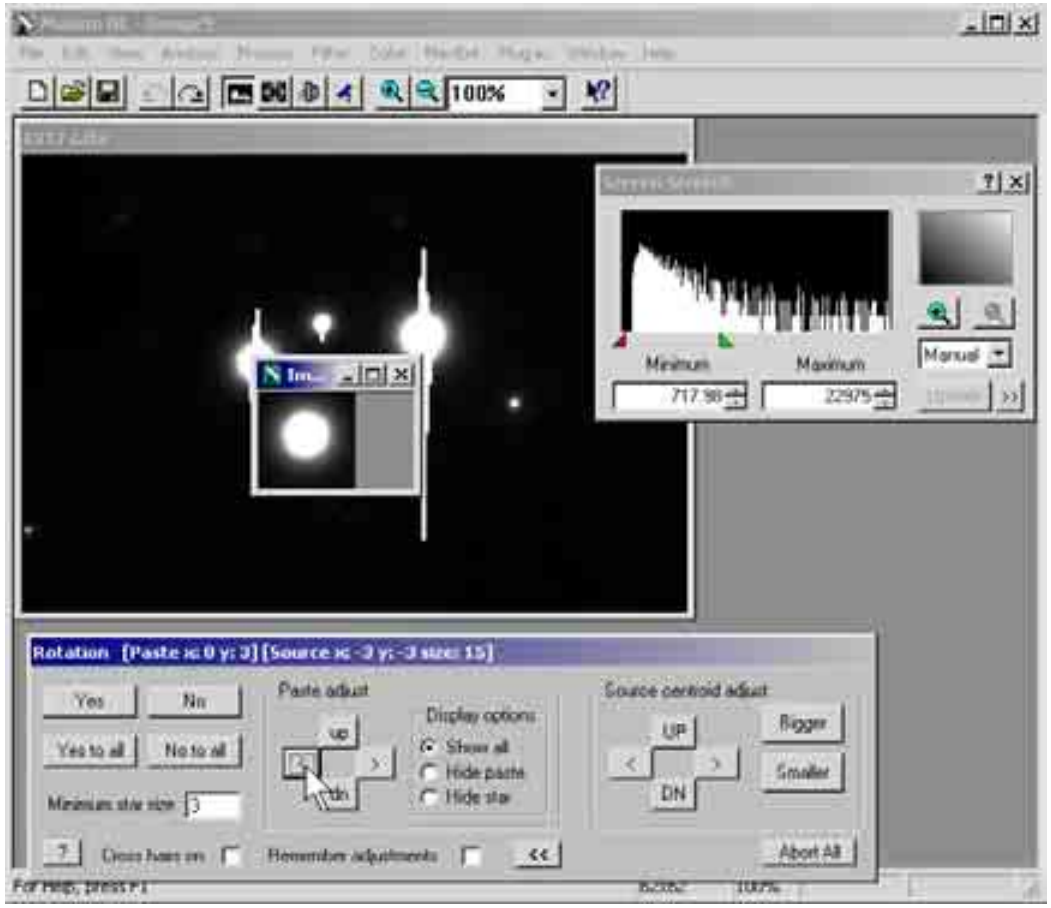
Adjusting the center of the image used for rotation.

Click the Show All radio button (see below) to reveal both the underlying star image and the rotated image. Changing the centroid of the source image used for rotation, however, has moved things around a bit. Click the “<” button in the “Paste adjust” area to correct this.



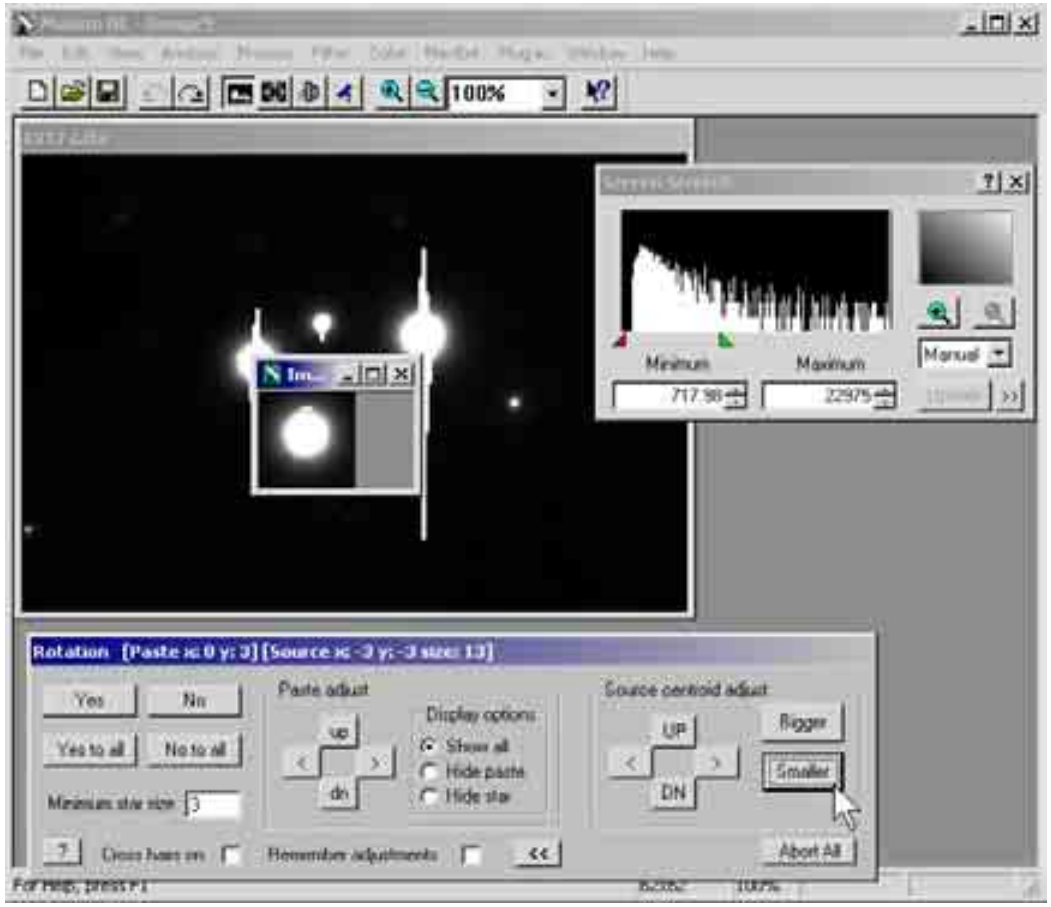
The result of changing the position of the source centroid.

The rotated image now lines up exactly with the underlying image, giving you a very round star despite the blooming carnage.



The result of adjusting both the source centroid and the rotated image.

You can also adjust the size of the source image used for rotation. The default size is set on the “More options” dialog, and is called the “Star factor.” The default value is 15. Smaller values will cause a smaller portion of the star to be used for rotation, and large values will cause a larger portion to be used. While the value you choose will work for many stars, there are times where you might want to temporarily use a larger or smaller value. Click the Smaller and Bigger buttons at far right to change the size.

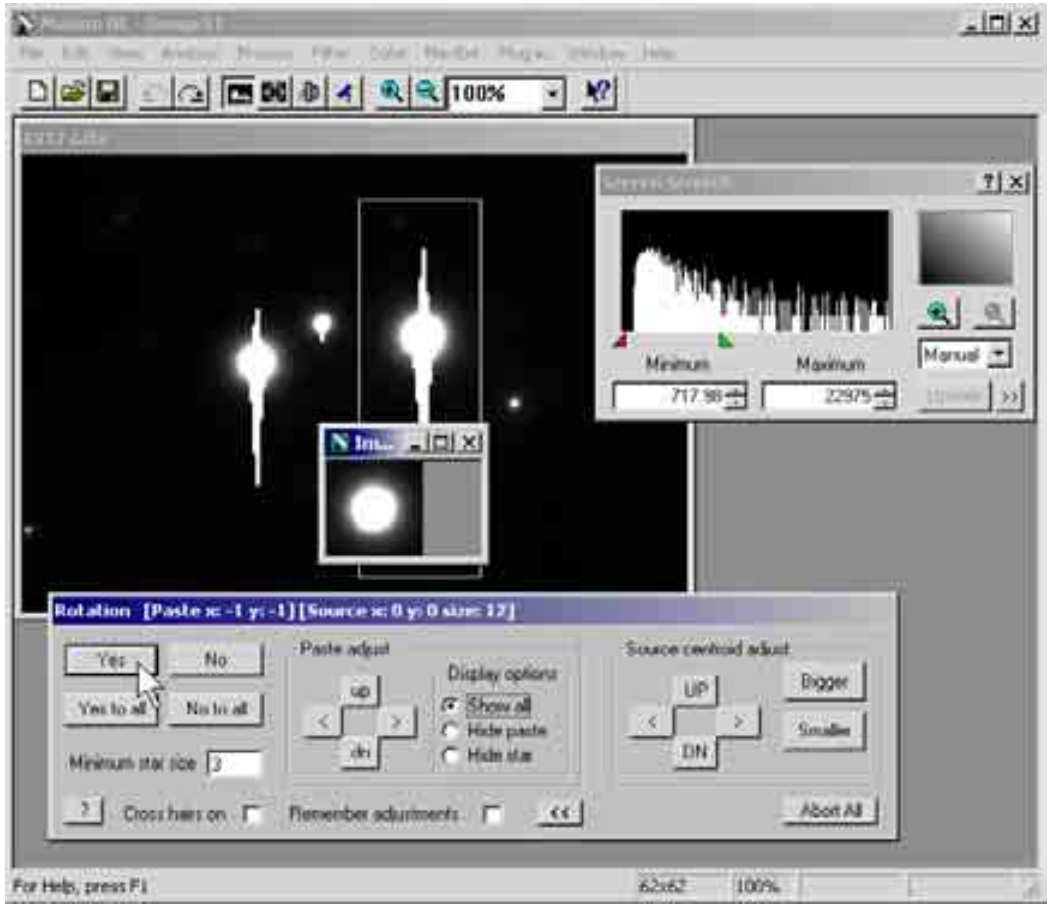


Changing the size of the original image used for the rotated star image.

For example, the above image shows what happens when “Smaller” is clicked several times for this star. Note that the current value of the Star Factor (shown in the Rotation dialog caption bar as “size”) has gone down from 15 to 13. The smaller source for the rotated image no longer covers the small remaining bloom at the top of the star. In other words, you can increase the amount of the source image used for rotation to fix small flaws. Be careful not to cover nearby stars, however.

Additional tips:

- You can use the “Remember Adjustments” checkbox to carry your adjustments for Paste adjust and Source centroid adjust forward to additional stars. When checked, the paste, source, and size values shown at in the Rotation dialog caption bar will be applied to all future images. You can stop this at any time by unchecking this checkbox.
- If you find that things are drastically wrong, you can click the “Abort All” button to abandon all changes. If you forget and save changes, and don’t like the result, you can use MaxIm DL’s Undo feature to reverse the DeBlooming operation.
- Click the “Hide paste” radio button to hide the rotated star image, and show just the underlying star image.
- You can select a portion of the image, even just a single star, by clicking and dragging a rectangle as show below.



DeBloomer and the Rotation tool can operate on just a portion of the image.

The Rotation tool takes a while to learn, but it’s a powerful weapon in your efforts to get the cleanest possible results.

Scripting with the DeBloomer

You can create an instance of the DeBloomer plug-in for use in scripting.

To create an object in Visual Basic:

```
Set debloomer = CreateObject("DeBloomer.Plugin")
```

For most applications, automated bloom and star limits are best. The following sample code sets the settings and calls the call:

```
' You must declare the document variable as an Object type
Dim myDoc as Object
Set myDoc = CreateObject("MaxIm.Document")
myDoc.OpenFile "C:\somefolder\myimage.fit"
fixAllBlooms(myDoc)
' The document is left in a changed state, but is not saved.

‘ A subroutine that sets properties and calls DeBloomer.
Public Sub fixAllBlooms(inDoc As Object)
    Dim fltr as Object

    Set fltr = CreateObject("DeBloomer.Plugin")
    ' Save changed settings to registry so they will be loaded
    '   the next time DeBloomer is run manually?
    If savingSettings Then
        fltr.saveSettings = True
    End If

    ' Set up options; note data types!
    '   numbers are Doubles; checkboxes are Integers.
    fltr.bloomLimit = CDbl(frmBloomRemoval.txtBloomLimit)
    fltr.starLimit = CDbl(frmBloomRemoval.txtStarLimit)
    fltr.fuzzyDistance = CDbl(frmBloomRemoval.txtFillDistance)
    fltr.iterations = CDbl(frmBloomRemoval.txtBloomIterations)
    fltr.noiseFactor = CDbl(frmBloomRemoval.txtNoiseFactor)
    fltr.starRounding = CInt(frmBloomRemoval.chkFixTopBottom.Value)
    fltr.fuzzyActive = CInt(frmBloomRemoval.chkFuzzy.Value)
    fltr.autoLimits = CInt(frmBloomRemoval.chkAuto.Value)
    fltr.starSize = CDbl(frmBloomRemoval.txtStarSize)
    fltr.AutoIncrement = CDbl(frmBloomRemoval.txtBloomIncrement)
    fltr.starAdjustment = CDbl(frmBloomRemoval.txtStarAdjust)
    fltr.leftAdjustment = CDbl(frmBloomRemoval.txtLeftAdjust)
```

```
    fltr.rightAdjustment = CDbl(frmBloomRemoval.txtRightAdjust)
    fltr.fixByRotation = CInt(frmBloomRemoval.chkRotate.Value)
    fltr.displayRotatedStars = CInt(frmBloomRemoval.chkNoStars.Value)
    fltr.minStarSize = CDbl(frmBloomRemoval.txtMinStarSize)
    fltr.starFactor = CDbl(frmBloomRemoval.txtStarFactor)

    ' Perform deblooming.
    fltr.deBloom inDoc

    ' Clean up object we created.
    Set fltr = Nothing
End Sub
```

DeBloomer Properties:

debloomer.saveSettings As Boolean

When set to True, the settings you set in script are saved to the Windows registry, and will be the settings used for all subsequent deblooming operations, manual or scripted. When set to false, settings are only valid for the current call to the DeBloomer.

debloomer.bloomLimit As Double

Same as the Blooming limit in the plug-in.

debloomer.starLimit As Double

Same as the Star limit in the plug-in.

debloomer.fuzzyDistance As Double

Same as Fuzzy distance in the plug-in.

debloomer.iterations As Double

Same as Iterations in the plug-in. Number of passes to make with each image.

debloomer.noiseFactor As Double

Same as the Noise factor in the plug-in.

debloomer.applyAll As Integer

Same as the "Apply to all open images" checkbox in the plug-in.

debloomer.starRounding As Integer

Same as the "Star rounding active" checkbox in the plug-in.

debloomer.fuzzyActive As Integer

Same as the "Fuzzy fill active" checkbox in the plug-in.

debloomer.autoLimits As Integer

Same as the "Automatic limits" checkbox in the plug-in.

debloomer.fixByRotation As Integer

Same as the "Fix by rotation" checkbox in the plug-in.

debloomer.starFactor As Integer

Same as "Star factor" in the plug-in.

debloomer.starAdjustment As Double

Same as "Star limit adjust" in the plug-in.

debloomer.leftAdjustment As Double

Same as "Left Adjustment" in the plug-in.

debloomer.rightAdjustment As Double

Same as "Right adjustment" in the plug-in.

debloomer.displayRotatedStars as Integer

Same as "Rotate without showing stars first" checkbox.

debloomer.minStarSize as Double

Same as "Min. star size" in the plug-in.

DeBloomer Methods:

debloomer.deBloom(inDoc As Object)

Takes a Maxim.Document object as its argument. Specifies the document that is to be debloomed. Returns nothing. Note that you must declare the object as object, not as a MaxIm DL Document!