## SYMPATHY

## Crossword Grid Editor for MS Windows 3.1

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## Getting Started

This tutorial introduction to Sympathy shows how the program can be used to construct different types of grids. It is divided into the following main sections:
A. General principles (blocked grid construction)
B. Fully checked grid construction
C. Barred grid construction
D. Exploring Sympathy

All users should work through section A, as this covers Sympathy's main features.
Sections B and C cover specialized features for the construction of fully checked and barred grids; users need only work through these sections if they are interested in constructing these types of grids.

Section D gives some pointers to users wishing to explore Sympathy's more advanced features.

Before starting the tutorial, run Sympathy by double clicking on the Sympathy icon, and then selecting Run Sympathy on the Introduction Screen.

## A. General Principles (blocked grid construction)

This section illustrates Sympathy's main features by constructing a 9 by 9 blocked grid, with 90 degree symmetry.

## 1. Changing the grid size

Sympathy starts with a default grid size of 12 columns by 12 rows (if you cannot see the full grid in the window, you may wish to click on the arrow at the top right hand corner of the Sympathy window to enlarge it to fill the whole screen).

We need to create a different-sized grid, so we must change the grid size first. To do this, select the New... command from the File menu; this will open the Aspect Ratio dialog box.

Change the number of columns to 9 and the number of rows to 9 . You can do this either by using the down arrows to the right of the numbers, or by clicking in the entry boxes and changing the 12 to a 9 .

The radio button next to the No lights selection of the Start with option should be filled in to indicate that the grid will be empty of lights at the start. If this isn't the case, click on No lights to select that option.

When the number of columns and the number of rows are both shown as 9 , and No lights is selected, click on the OK button. The grid should resize to look like this (note that the pictures in this tutorial don't show the fine lines between cells):


TIP: to get help about any Sympathy command, select the menu item and press the F1 key just before releasing the mouse button.

TIP: to get help about any Sympathy dialog box, click on the Help button or press the F1 key when you are working in the dialog box.

TIP: to change the size of the default grid which Sympathy uses at start up, change to the desired number of columns and rows in the Aspect Ratio dialog box and click on Save As Defaults.

## 2. Changing the symmetry

Sympathy starts with a default of 180 degree symmetry. We need to create a 90 degree symmetrical grid, so we next need to change the grid symmetry.

To do this, select the Properties... command from the Grid menu; this will open the Grid Properties dialog box. The symmetry can be changed using the combo box to the right of the Symmetry: label in the Editing section; select the following icon from the combo box (it's the third icon down in the scrolling list):


TIP: because Sympathy supports so many different symmetry modes, the symmetry icons are held in a scrolled list: you can use the combo box scroll bar to view the icons above and below the part of the list currently displayed; alternatively, the up and down arrow keys can be used to select each icon in turn when the combo box is highlighted.

TIP: if the check box to the left of a property has a cross in it, the property is customized at the level displayed by the dialog box (grid, light or cell); if the check box doesn't have a cross in it, the property is not customized and the default setting for the property is shown.

TIP: many more aspects of the grid can be changed using the Grid Properties dialog box: to find out about these other properties, click on the Help button or press F1.

TIP: dialogs without $\underline{\mathbf{O} K}$ and $\underline{\text { Cancel }}$ buttons can be kept open while you continue to work on the grid in the main window. They can be closed at any time, by clicking on Close or iconized by clicking on the down arrow in the top right hand corner of the dialog.

## 3. Adding Lights

In this step, we will add spaces for words in the grid, technically known as "lights". Because the grid has been set to 90 degree symmetry, whenever a light is added, 3 others will be added in the appropriate places.

Lights are added by "dragging" the mouse: place the pointer in the square at the top left hand corner of the grid, then press and hold the left mouse button down, while moving the pointer two squares to the right; now release the mouse button.

This should create a space for a three letter across word. Note that 3 other lights are created at the same time; also that the grid is numbered by default in the conventional manner. Your grid should now look like this:


TIP: to get help about mouse actions in Sympathy, press the $\mathbf{F 1}$ key in the main window.

## 4. Moving Lights

In this step, we will move the lights along one space.
Lights are moved by dragging them at their long edges: place the pointer over the upper edge of the top left hand light (1 across) around the center of its length. The cursor should change to the following shape:

now press and hold the left mouse button down, while moving the pointer one square to the right; now release the mouse button.

The complete light should have flipped over one square to the right. Note that the 3 symmetrical lights will have moved consistently. Your grid should now look like this:


TIP: if you change your mind halfway through a mouse action you can abandon it completely by hitting the Esc key.

## 5. Resizing lights

In this step, we will resize the lights so that they can fit 4 letter words.
To resize lights, you drag them at their ends: place the pointer over the left end of the top left hand light (1 across). The cursor should change to the following shape:

now press and hold the left mouse button down, while moving the pointer one square to the left; now release the mouse button.

The left end of the light should have flipped over one square to the left. Note that the 3 symmetrical lights will have changed consistently. Your grid should now look like this:


TIP: you can also resize an across light at its right end, or a down light at its top or bottom; the cursor changes to a special shape to indicate when this is possible.

## 6. Selecting lights and entering words

In this step, we will enter words into lights. To do this, the lights must first be selected.
During the previous steps you may have noticed that the light you were changing had a rectangle just inside. This indicates that it is selected.

You can select a light without moving or resizing it by simply clicking on its edge with the mouse. When a light is selected, you can enter text into it by typing the appropriate letters.

Try this out by selecting the light at the bottom right hand corner of the grid (4 across). Then typing in the letters $\mathbf{a}, \mathbf{t}, \mathbf{h}, \mathbf{y}$. Note that the text "flows" into the light from the start as you'd expect. Your grid should look like this.


TIP: you can also change which light is selected by using the arrow and tab keys.
TIP: the text associated with the light is just one of many aspects of a light that can be changed. Select the Properties... command from the Light menu to open the Light Properties dialog box and discover what aspects of a light can be tailored (this command is only available when a light is selected).

## 7. Changing light orientations

In this step, we will swing a down light round so that it becomes an across light. This is done using the same action as resizing (step 5).

Position the cursor over the bottom of the light at the top right hand corner of the grid (2 down). The cursor should change to the following shape:

now press and hold the left mouse button down, while moving the pointer three squares to the left and three squares up. Your grid should look like this:


Note that the text entered into 4 across will have moved along with its light to become the text in 3 down. Like all the light properties, light text is anchored to the light and moves along with it.

## 8. Selecting cells

In this step, we select an individual square in the grid, technically known as a "cell", and enter text into a light using a different technique.

During the previous steps, you have been positioning the mouse over the edges of the squares to select lights. To select a cell, you position the mouse over the center of a square and click the mouse button.

Try this by clicking over the center of the top left hand square in the grid. Then type the letter $\mathbf{s}$. Press the down arrow and type the letter $\mathbf{y}$; then press the down arrow and press $\mathbf{m}$; finally press the down arrow and press $\mathbf{p}$. This is another way of entering text into a light. Your grid should look like this:


TIP: you can enter text anchored to a cell rather than a light by using the shift key with a letter; this text doesn't move with the lights and is useful for entering characters that aren't associated with individual lights, such as messages on diagonals.

TIP: you can change the appearance of a cell using the Cell Properties dialog box; this is opened when you select the Properties... command from the Cell menu (this command is only available when a cell is selected). Cell properties override light properties which in turn override grid properties.

## 9. Completing a grid

Using all the techniques learnt above, use Sympathy to complete the grid so it looks like this:


Take care to position the mouse in the middle of a cell when dragging out a light in the opposite direction to an existing light - if you position the mouse at the edge of the cell you are liable to move or resize the existing light, rather than create a new light.

Note that if you make a mistake, you can delete a light (which will also delete any lights symmetrical to it) by selecting the light, then using the Delete command on the Light menu (you can use the Del key as a short-cut).

TIP: if you have difficulty using the mouse in the above exercise, you may find it easier to work with a zoomed in view of the grid: to change the zoom setting, select the Properties... command from the View menu to open the View Properties dialog box; then click on 150\% to get a zoomed in view of the grid.

TIP: : if you make a complete mess of a grid and want to start again, use the Restart command on the Grid menu. Any grid properties that have been customized will still be in effect.

## 10. Filling a grid

Sympathy incorporates a powerful robot filler which will enter words from a dictionary to complete a grid for you.

Try this out now by selecting the Normal Fill command from the Filling menu. In a few seconds, this will have completed the grid. Note that words are fitted correctly around the light text you entered.

The results of the grid are shown in the Fill In Progress dialog. Click on the OK button to dismiss it.

Sympathy allows you to preview the filled grid before you "commit" the automatically filled words; the uncommitted words are shown in a different color. Commit the text now by selecting the Commit Fill command on the Filling menu; the automatically filled words are now part of the grid, just as if you had entered it yourself. Your grid should look something like this:


TIP: if you don't like the words that Sympathy enters, you can stop them being used in the fill by adding them to the "kill list": to do this, select the light with the word you want to kill, then select the Kill Word command from the Light menu (you can use Ctrl+K as a short-cut).

TIP: you can change the behavior of the filling algorithm using the Properties... command from the Fill menu.

## 11. Printing a grid

This step shows how you can print out the completed grid.
To print out the grid, select the Print... command on the File menu. The Print dialog box will open. Here you can select parameters that will affect the way the grid is printed. In particular, you can decide whether to print out either the solver's grid (without words) or the solution grid (with words) using the Include Answers check box.

For now, just leave the options as their defaults and click on $\underline{O K}$ to print out the grid.
TIP: parameters affecting the grid size can be changed using the Grid Dimensions dialog box: to open this, select the $\underline{\text { Dimensions... command from the } \underline{G} \text { rid menu. }}$

## 12. Including a grid in another document

This step shows how you can include the grid as part of a bigger document, typically the title, clues and so on, that make up your complete puzzle. Before doing this, you will need to open a document in your word processing or desktop publishing software.

To include a grid in the target document, select the Export... command on the File menu within Sympathy. The Export dialog box will open. Here you can select parameters that will affect the way the grid is exported.

For now, export the grid as a Picture to the Clipboard (if this is the first time you have used the Export dialog box, these will be the default options). When you press OK, the grid will be copied to the clipboard in Windows Metafile (.WMF) format.

Now select the target document in the word processor or desktop publisher and paste in the grid; most programs will include a Paste command on their Edit menu for this. Because the grid is in picture format, it can be scaled up or down satisfactorily in the target document.

Note that the grid will look slightly different to how it appears in Sympathy because it will be scaled to map on the display (Sympathy knows that the grid is a regular structure and does its own scaling to make the grid look nice). Despite this, the printed grid should look the same as it does when printed from Sympathy
13. Including a set of answers in another document

This step shows how you can include the set of words filled in by Sympathy as part of a bigger document. This gives you a template for a set of clues.

To include the answers, you go through the same actions as in step 11, but this time, export the grid as a List of answers.

## B. Fully Checked Grid Construction

This section illustrates the extra options for constructing fully checked puzzles by creating an 8 by 8 grid with 180 degree symmetry.

## 1. Changing the grid size

We first need to change the grid size. To do this, select the New... command from the File menu; this will open the Aspect Ratio dialog box.

Change the number of columns to 8 and the number of rows to 8 . You can do this either by using the up and down arrows to the right of the numbers, or by clicking in the entry boxes and changing the number displayed to 8 .

Now choose the All lights selection of the Start with option, since we will construct the grid by adding blocks to a grid initially containing all lights (if All lights is already selected nothing more need be done).

When the number of columns and the number of rows are both shown as 8, and All lights is selected, click on the OK button. The grid should resize to look like this:


TIP: if you mainly construct fully checked grids, you will probably want to start with All lights as the default: Sympathy will do this if you select All lights then click on Save As Defaults.

## 2. Selecting $100 \%$ checking mode and 180 degree symmetry

Sympathy has two checking modes: Unconstrained mode is the least restrictive, allowing anything to be done; but 100\% is more convenient for creating fully checked grids, since fewer key presses and mouse actions are needed.

To change to $100 \%$ mode, select the Properties... command from the $\underline{G} r i d$ menu; this will open the Grid Properties dialog box. The mode can be changed using the combo box to the right of the Checking Mode: label in the Editing section; select the $\mathbf{1 0 0 \%}$ option (in some distributions 100\% mode may already be the default).

Also ensure that 180 degree symmetry is selected. The symmetry can be changed using the combo box to the right of the Symmetry: label in the Editing section; make sure the following icon is selected in the combo box (it's the second icon down in the scrolling list):


TIP: if you mainly construct fully checked grids, you will probably want to use $\mathbf{1 0 0 \%}$
Checking Mode as the default: Sympathy will do this if you select 100\% then click on Save As Defaults in the Editing section.

## 3. Adding Blocks

In this step, we will add blocks to the grid to define the boundaries of the lights.
Blocks are added by selecting the desired cell and using the Cell Block command: place the pointer in the center of the fourth cell from the left on the top row (labeled 4) and click the left mouse button to select the cell; then hit the gray + key by the numeric keypad to create a block (this is actually just a short-cut for the Block command on the Cell menu).

This should add a block. Note that one other block is created at the same time to preserve the 180 degree symmetry; also that the grid is automatically renumbered. Your grid should now look like this:


Now hit the down arrow key to select the cell below (labeled 9) and hit the gray + key again. Repeat this to create a column of three blocks. Your grid should now look like this:

| ${ }^{1}$ | ${ }^{2}$ | 3 |  | ${ }^{4}$ | 5 | 6 | 7 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 8 |  |  |  | 9 |  |  |  |
| 10 |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |
| 12 |  |  | 13 |  |  |  |  |
| 14 |  |  |  |  |  |  |  |
| 15 |  |  |  |  | 16 |  |  |
| 17 |  |  |  |  | 18 |  |  |
| 19 |  |  |  |  | 20 |  |  |

## 4. Removing Blocks

In this step, we will remove a block added in the previous step, turning the cell back into one used by lights.

First ensure the cell containing the last block added in the previous step (4 columns along, 3 rows down) is still selected. Then hit the gray - key by the numeric keypad to remove the block (this is actually just a short-cut for the Light command on the Cell menu).

This should convert the cell back into a light cell. Note that Cell Light command is only available in $\mathbf{1 0 0 \%}$ Checking Mode, since the user's intention is otherwise ambiguous (in Unconstrained Checking Mode, the mouse is used to extend lights). Your grid should now look like this:


Now hit the right arrow key and hit the gray + key. Your grid should look like this:

| 1 | 2 | 3 |  | 4 | 5 | 6 | 7 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 8 |  |  |  | 9 |  |  |  |
| 10 |  |  | 11 |  | 12 |  |  |
| 13 |  |  |  | 14 |  |  |  |
| 15 |  |  |  |  |  |  |  |
| 16 |  |  |  | 17 |  |  |  |
| 18 |  |  | 19 |  | 20 |  |  |
| 21 |  |  |  | 22 |  |  |  |

## 5. Changing lights with the mouse

In this step, a light will be resized using the mouse. In 100\% Checking Mode, lights can still be changed with the mouse, but the result may be different to Unconstrained Checking Mode, since Sympathy ensures that the grid stays fully checked.

To create the desired grid, we need to resize a light, and this is done by dragging it from one end: place the pointer over the left end of the light in the fifth row down (15 across). The cursor should change to the following shape:

now press and hold the left mouse button down, while moving the pointer two squares to the right; now release the mouse button.

The left end of the light should have flipped over two squares to the right. Note that the symmetrical light will have moved consistently and that down lights will have been cut in two so that the grid stays fully checked. Your grid should now look like this:


## 6. Filling a grid

In this step, thematic lights will be added and the grid filled.
First select the light marked as 10 across and type in $\mathbf{s} \mathbf{y ~ m} \mathbf{~ p}$; then select the light marked as 20 across and type in athy. Your grid should look like this:


Now fill the grid by selecting the Normal Fill command from the Filling menu. In a few seconds, the fill should have completed and the grid should look something like this:

|  | A |  |  |  |  | R |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{8} \mathrm{~A}$ | R | E |  | A | R | E | A |
| ${ }^{10} \mathrm{~S}$ | Y | M | ${ }^{11} \mathrm{P}$ |  | ${ }^{2} \mathrm{G}$ | E |  |
| ${ }^{13} \mathrm{~S}$ | L | E | E | ${ }^{14}$ | E |  |  |
|  |  | ${ }^{15} \mathrm{~A}$ | R |  | S | ${ }^{1}$ | A |
| O | ${ }^{1} \mathrm{~W}$ | N |  | ${ }^{20}$ | T | H |  |
| ${ }^{21}$ A | E | 0 |  |  | E | R | A |
| 24 | $Y$ | R | 0 |  | ${ }^{25}$ S |  |  |

## C. Barred Grid Construction

This section illustrates how to create barred puzzles by creating a 9 by 7 asymmetric grid.

## 1. Changing the grid size

We first need to change the grid size. To do this, select the New... command from the File menu; this will open the Aspect Ratio dialog box.

Change the number of columns to 9 and the number of rows to 7 . You can do this either by using the up and down arrows to the right of the numbers, or by clicking in the entry boxes and changing the number displayed to what it needs to be.

Now ensure the No lights selection of the Start with option is enabled, since we will create the grid by adding lights to an empty grid (if No lights is already selected nothing more need be done).

When the number of columns is shown as 9 and the number of rows as 7 , and No lights is selected, click on the OK button. The grid should resize to look like this:


TIP: if you mainly construct barred grids, you will probably want to start with No lights as the default: Sympathy will do this if you select No lights then click on Save As Defaults.

## 2. Selecting unconstrained checking mode and no symmetry

Sympathy has two checking modes: 100\% and Unconstrained. Barred grids can only be constructed in Unconstrained mode.

To change to Unconstrained mode, select the Properties... command from the Grid menu; this will open the Grid Properties dialog box. The mode can be changed using the combo box to the right of the Checking Mode: label in the Editing section; select the Unconstrained option (in some distributions Unconstrained mode may already be the default).

Also ensure that the "no symmetry" icon is selected. The symmetry can be changed using the combo box to the right of the Symmetry: label in the Editing section; select the topmost icon in the scrolling list, which looks like this:


TIP: if you mainly construct blocked or barred grids, you will probably want to use Unconstrained checking mode as the default: Sympathy will do this if you select Unconstrained then click on Save As Defaults in the Editing section.

## 3. Adding lights

Barred grids are constructed in much the same way as blocked grids, except that the lights are butted up to each other (not separated by blocks). Sympathy automatically places bars to delimit the lights in barred grids.

We will first add the across lights from top to bottom. Start with 1 across: place the pointer in the square at the top left hand corner of the grid, then press and hold the left mouse button down, while moving the pointer to the right hand side of the grid; now release the mouse button. The grid should look like this:


Now add the two lights on the second row: drag from the leftmost cell of the second row to the fifth cell along on the second row and release the mouse button; then drag from the sixth cell along on the second row to the right hand side of the grid and release the mouse button. The grid should look like this:


Note that a vertical bar is automatically added to separate the two lights on the second row; also, bars have been added between the light on the top row and the lights on the second row - most of these will disappear when the down lights are added.

Now use the same technique to add more across lights to create the following pattern:


Finally add in the down lights to complete the grid:


TIP: if you construct lots of barred grids, you will probably find it helpful to activate the Ximenean unch model. To do this, select the Unch Model... command from the Grid menu to open the Unch Model dialog box; then click on Ximenean barred and OK. By default, overunched lights will marked with a red arrow, and underunched lights with a blue arrow (these colors can be changed using the View Properties dialog box).

## 4. Filling a grid

In this step, a thematic light will be added and the grid filled.
First select the light marked as 18 across and type in $\mathbf{s y m p a t h} \mathbf{~ y . ~ Y o u r ~ g r i d ~ s h o u l d ~ l o o k ~}$ like this:

| ${ }^{1}$ | ${ }^{2}$ | 3 |  | ${ }^{4}$ | 5 | 6 |  | 7 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| ${ }^{8}$ |  |  |  |  | 9 |  |  |  |
|  |  |  | 10 |  |  |  |  |  |
| ${ }^{11}$ |  |  |  |  |  |  | 12 |  |
| 13 |  |  | ${ }^{14}$ |  |  | 15 |  |  |
| 16 |  |  |  |  | 17 |  |  |  |
| ${ }^{18} \mathbf{S}$ | $\mathbf{Y}$ | $\mathbf{M}$ | $\mathbf{P}$ | A | T | H | Y |  |

Now fill the grid by selecting the Normal Fill command from the Filling menu. In a few seconds, the fill should have completed and the grid should look something like this:

| ${ }^{1}$ A | N | T |  | S | P | A | S |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{8} \mathrm{C}$ | A | E | C | A | ${ }^{9}$ |  | E |  |
| T | P | A | ${ }^{10} \mathrm{~A}$ | G | L | A |  |  |
| ${ }^{11} \mathrm{R}$ | E | R | A | 1 |  | N | E |  |
| ${ }^{13} \mathrm{E}$ | B | 0 | ${ }^{14} \mathrm{~N}$ | T | A | ${ }^{15} \mathrm{~N}$ | E |  |
| ${ }^{16}$ S | T | 0 | A |  | 17 | A |  |  |
| ${ }^{18} \mathrm{~S}$ | Y | M | P | A | T | H | Y |  |

## D. Exploring Sympathy

The above tutorial only describes the most commonly used features of the program. To illustrate the power and flexibility of the program, a set of example grids are included with the release:
\(\left.$$
\begin{array}{ll}\text { checked.sym } & \text { a simple fully checked US style grid } \\
\text { blocked.sym } \\
\text { barred.sym }\end{array}
$$ \quad \begin{array}{l}a simple 15x15 blocked grid <br>

a simple 12x12 barred grid\end{array}\right]\)| shapes.sym | a fully checked grid with a non-orthogonal shape |
| :--- | :--- |
| colors.sym | a fully checked grid demonstrating light and cell colors |
| text.sym | a barred grid demonstrating light and cell text |
| numbers.sym | a barred grid demonstrating light and cell numbers |
| reverse.sym | a barred grid with reverse sense lights |
| fonts.sym | a barred grid demonstrating light and cell fonts |

Open these files to discover some of the wacky things you can do with Sympathy. Most of the effects are possible by changing properties of the grid, lights and cells: viewing these properties, in conjunction with the on-line help, will show you how they are achieved.

