

# Easy circuit

## by Andreas von Döllen

### 1. General

Easy circuit is not a painting or design program. Therefore, there are no functions to fill circles or arcs or surfaces.

Easy circuit is formed out of the desire to have a mouse - controlled drawing program to Create diagrams. This program should also be easy to use.

Facilities such as rubber band technology, Block-shift and Block-copy functions appeared to me as a must for such a program. With the Block Export function it is even possible to save drawings in whole or in part as a Screen. (To read, e.g., with Text87/Fonted89.)

Easy circuit is created with EASYPTR of Albin Hessler. EASYPTR is, with license from Mr. Hessler, as far as possible integrated into the EasyCircuit program code. However, the file EASYPTR\_ext must be loaded before the program start resident.

The symbols used are consciously available as single sprites in order to be able to edit them as easily as possible.

With ECConf\_EXE all of the presets for easy circuit can be made and the symbol library are changed, created, or extended.

Generally: ENTER is also the right mouse button. SPACE is also the Left Mouse Button.

### 2. Required Hardware

Memory expansion: min. 256K  
QIMI mouse interface

### 3, Required Software

QPTR  
Toolkit 2

#### 4. Start

First, you should create a copy of the EasyCircuit floppy disk. Only work with this copy.

You need a Minimum of approximately 250KB of free memory to be able to easy circuit to start. Before starting the program, please make sure that the following files are loaded resident:

```
Toolkit 2
PTR_GEN..... V1.42
WMAN.....V1.34
HOT_rext.....V2.19
QPTR.....v0.06
EASYEXT_res...V1.14
```

The files should have the specified or higher version numbers.

If you have constantly loaded the above files anyway, then simply start with:

```
EX FLP1_EasyCircuit_exe
```

The loading of the symbol library is displayed. If everything is fine, you will see the main menu and the drawing field after a while.

You can now immediately load one of the Demo drawings if you want. By the way, the drawing 'Rockets ' shows that other things can also be drawn as schematics (a little gimmick).

#### 5. Status

Three windows at the bottom of the screen are used to display status messages. The largest of these windows usually shows the symbol library. But it is also used for queries and input. A window displays the current position of the cursor in the drawing field or, in Block mode, the size of the block. Where required, it will also show which mode is currently activated. This window is also used for short queries.

The third window shows the number of lines and characters.

## 6. Background functions

Easy circuit knows some (important) features that may not be in the menu. These functions can only be activated when the Cursor is in the drawing field.

Button	Function	Description
kK	Kill	deletes the line the Cursor is on when Line Mode is active. Deletes a Symbol if the Cursor represents the same Symbol and is congruently above the Symbol to be deleted.
ESC		cancels an initiated Operation or leaves the program or deletes the drawing if no Operation was initiated. (There is demand !)
rR	redraw	rebuilds the screen. For example, if after Block-kill "dirt" on the screen or the drawing is incomplete after scrolling.
Ctrl and cursor keys		scrolls around a complete bid screen side in the corresponding direction.

## 7. In the menu

### 7.1 boxes 1 to 0

By selecting these menu items, the icon underneath is clicked.

A clicked Symbol can be moved with the mouse and placed anywhere by pressing the right mouse button.

As a rule, a Symbol is rotated by the Tab key. However, this does not always have to be the case, see :the symbol library.

### 7.2 arrow up / arrow down

Scrolls through the symbol library.

### 7.3 Line

Selects the line mode.  
submenu

**Single** for normal lines

**Double** submenu for double lines

If you select nothing in the submenu, Single is automatically selected when the Cursor enters the drawing field

### 7.4 Text

Selects the text mode.  
Submenu

**Small** uses a smaller font. After selecting, move the Cursor to the desired location and press ENTER. The normal QL Cursor appears at this point. Then enter the Text and press ENTER again. The Text can now be precisely adjusted. Press ENTER again. ATTENTION!

If you try to push the Text beyond the edge of the screen, the function is immediately aborted and the Text is stored here !

**Big** uses the normal QL font. The handling is as with Small.

**ON / OFF** Text off suppresses the display of all texts.

**Pick** Picks a Text again to delete or implement it. To do this, place the Cursor near the beginning of the text and press ENTER. The found Text is marked. You can now choose between **kill** for Delete, **Move** For implement, and Continue for this speeds up the screen setup. Continue if EasyCircuit has picked the wrong Text.

## 7.5 Files

Selects the File mode.

submenu

- Load** loads a drawing. If the number of lines and/or symbols is greater than preset, both values are automatically adjusted. (Actual number +50)
- Save** Saves a drawing.
- Merge** Add a drawing. The new drawing can be placed exactly. The Max. Number of lines or characters exceeded, so you get an error message and Merge is not running. (Go to the **SET** menu and increase the corresponding max. Value.)

For all file operations: do not specify a drive name. The drive is set in the **Set** menu, and/or with the config program. Easy circuit generates for each drawing three Files:

Name \_lin lines  
Name \_zei characters  
Name \_tx Text

## 7.6 2nd

In the right Status window, specify the Offset between the top left corner of the drawing and the top left corner of the screen.

submenu

- Help**
- Frame** toggles the drawing border on and off. The type of border (A3 or A4) depends on the drawing format set with SET.
- I.Scan** serve as an additional way to delete lines. The lines are 'flipped' one after the other (Cursor left/right). The current line is shown in red. K for **Kill** then deletes this line.

## 7.7 Block

Selects the Block mode.

Submenu

<b>Draw</b>	draws a Block.
<b>Move</b>	moves a Block.
<b>Export</b>	Exports a Block as a Screen dump.
<b>Kill</b>	deletes a Block. Symbols are deleted immediately, with lines a confirmation request takes place.
<b>Copy</b>	copies a Block.

For all block functions: move the Cursor to the desired location and press the right mouse button. Then pull up the Block in the desired size and press the right mouse button again.

With the exception of Draw and Export, all block functions are very slow (depending on the size of the block and the drawing). If symbols are in a Block, then their 'origin (usually the center point) should be in the Block, otherwise the Symbol cannot be detected and then hinders the line search.

Texts are not handled by the Block functions.

The text display is turned off when a Block Operation is performed (except Draw and Export).

## 7.8 ESC

Bring back the standard cursor. Also terminates Line and text mode.

## 7.9 Set

### Submenu

<b>Setup</b>	the following parameters can be changed while the program is running:
<b>Systemdrive</b>	the drive on which the program files are searched.
<b>Datadrive</b>	the drive on which drawings are searched for and backed up.
<b>Printerdriver</b>	name of the printer driver on the Systemdrive.
<b>Density</b>	sets the pressure density. Possible: <b>Single</b> (single density) and <b>Double</b> (double density))
<b>Max number of Lines</b>	maximum number of lines (per drawing). Default Setting: 200. The value can be changed depending on the available storage space.
<b>Max Number of Signs</b>	Maximum number of characters (per drawing).
<b>Rubberband</b>	switches the rubber band function on and off.
<b>Mouse Speed</b>	changes the mouse acceleration.
<b>Jump Width</b>	changes the "jump width" when scrolling. Possible Values: 50 (Default), 100, 150.
<b>Paper Format</b>	two formats are possible: <b>A4</b> and <b>A3</b> .

## 7.10 Print

Prints the drawing in the preset Format and with the preset density (**Set**).

In A4 format, the drawing is rotated, i.e. you get A4 across. An A4 drawing corresponds to about 2 screen sides together and 1 1/2 screen sides next to each other. (Visible when "FRAME" is on.)

The 4 corresponding screen pages are automatically called up (displayed) and converted into a print file.

Since a print line must contain data from two screen pages (upper and lower) in this mode, the lower screen pages are stored between them and then output to the printer with the corresponding lines of the upper screen pages. Therefore, nothing happens at first when scanning the lower screen sides of the printer.

In A3 format you get a two-page printout, because A3 printers are not supported.

See also: Section 8.3



## 8. Problems

### 8.1 Easy Circuit can not be started.

1. Check they are loaded whether all the necessary Extensions. (see Required Software)
2. Free storage space is enough ?
3. All necessary Files on your system disk, and these are also completely?

### 8.2 The Max. Number of lines or / and characters (symbols) cannot be changed:

You have probably exaggerated.

It should be possible to use both Max. Set values to 10000 (with more than 600K free space). After that, however, any further change is impossible, you get an error message.

### 8.3 characters are missing on the expression.

This can happen when characters are so close to the edge of the screen that they are not fully visible. These characters are then not displayed at all. Remedy:

Check the correct representation of all characters before printing (Ctrl and cursor keys Scroll an entire screen page each.). Characters that are not represented must necessarily be offset.

## 9. The Symbol Library

The symbol library is created in 20 columns of 4 rows each.

In the easy circuit menu always 10 columns are displayed.

First, the columns 0-9. When the menu item "↑" select the next 10 columns, etc. the menu item "↓" works the other way around.

But only the first row of each column is shown. The second to fourth line can be reached by clicking on the respective Symbol and pressing the Tab key. For example, the first row column 0 contains the Resistance symbol. The second row column 0 contains the same Symbol, but rotated by 90 degrees.

But the resistance only needs two forms of representation,

Horizontal and vertical. Therefore, the 3rd line of column 0 has the same Symbol as the 1st line and the 4th line has the same Symbol as the 2nd line.

It is different, for example, with the Diode, it requires 4 display forms.

The best way to understand all this is to start the Ecconf configuration program. The symbol library is shown as it is arranged.

The advantage of this organization is that you can also arrange other Symbol in the 2nd-4th line and thus save storage space. An example of this is the symbol for logic building blocks.

It's just a square. It only becomes an OR link if you add the >=1 Symbol, which is located in the same column in the second row. (The representation of a logic gate as a square corresponds to the currently valid Norm, the "half circles" no longer exist.)

However, if you change your symbol library, make sure that you do not have any drawings that were created with the Old Library. Easy circuit manages an icon only on the basis of the columns and rows.

It is better if you just expand and not change.

## 10. The Configuration Program

The configuration program is started with:

```
EX ECConf_exe
```

(for easy circuit required Extensions must be loaded !).

The program first asks for the name of the drive in which the disk to be configured is located. It takes a while until the symbol library and the program settings table (Conf\_dat) are loaded. You enter a menu that explains itself.

If you want to change the symbol library, select the appropriate menu item.

You see the first 5 columns of the library.

Use the cursor keys to scroll back or forth.

Empty memory slots are marked by the " one-way " sign (red circle with white bar).

Now press " E " for Edit. The Symbol that now has a black background can now be edited.

You can go back with the cursor keys in all directions to select the Symbol you want to edit.

Only the name of the character is edited.

Press ENTER and enter the name of a symbol. (Close again with ENTER) the program now tries to find a Sprite definition with this name and the extension \_spr on the drive. If this File exists, the Symbol is immediately displayed. If it does not exist, you will get the "window locked characters" again.

Attention: the program does not recognize if a file does not contain a Sprite definition, so there may be problems. When you are done with your settings do not forget to select " Save".

And: if possible, do not edit around on your original Diskette.

A sprite editor is not included. You can use EASYSprite or any of the other sprite editors on the market to create/edit new symbols. However, you have to note that a Symbol is not larger than 25x23 pixels (wxh) and the origin is in the Middle, otherwise it does not fit in the display window with EasyCircuit, which of course gives trouble.

## 11. Files

On your floppy are the following files, this easy circuit runs properly :

EasyCircuit_EXE	Easy Circuit Program
Easyext_res	Easyptr Extensions
Cad_men	Easyptr Menu Definition
Setup_men	dto. for Setup menu
Config_dat	Easy Circuit Presets
Ecir_hlp	Easy Circuit In The Help File
GLP_drv	easy circuit in the printer driver (for Centronics GLP)
Ecir_font	Easy Circuit Font

As well as various files with the extension \_spr. These are fuel-definitions (component symbols).

In addition, the configuration program ECConf\_EXE and two Demo drawings.

## 12. Rights

Easy circuit is Copyright of  
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West Becker-Str. 65  
D-2860 Osterholz-Scharmbeck

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Albin Hessler Software  
Im Zeilfeld 25  
d-7447 Aichtal

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### 13. Work with a Easy Circuit

Lines.

If possible, avoid covering short lines with longer lines, thereby wasting only memory and slowing down the speed of the image build-up.

In addition, you can only delete a hidden Line if you know where it is or use **I.Scan**.

Oblique Lines

are sometimes difficult to find for the program. That is, if you put the Cursor on the Line and kill presses nothing happens. This concerns particularly oblique lines with a very small slope. In this case, you need to repeat the kill attempt at a different location on the lines. The first and last pixels of a line are particularly suitable. If all attempts fail, use **I.Scan** to delete this line.

The Block Functions.

Since these functions are not exactly the fastest, you should choose the size of the rack as small as possible. Sometimes it is better to perform several block operations with small blocks each, than a block operation with a large Block. As already mentioned, symbols should always be in the Block with their origin (usually the center point). Otherwise, they are not found and thus not hidden when the line search begins. The line search routine interprets each white Pixel in the Block as part of a line and searches the entire line memory for each of these pixels. It is clear that this entails a considerable loss of time.

Auto Scroll

is triggered when the Cursor touches the edges of the canvas. However, this only works if the default Cursor (arrow) is active or a very small Symbol is selected.

Auto Scroll does not rebuild the whole image, but only the part that is needed. Except: texts, they are always recreated for the whole screen when the text display is turned on.

## Text

should be brought as far as possible to the end in the drawing. Or, turn off the text display while you create or edit your drawing. This speeds up the screen setup. Especially after auto Scroll (see above).

You can replace the font font (ECad\_font) on your system disk with another font font and then access it via **Text ...Sma1**. But be CAREFUL: The character size of your Fonts should be the same as that of the easy circuit Fonts.