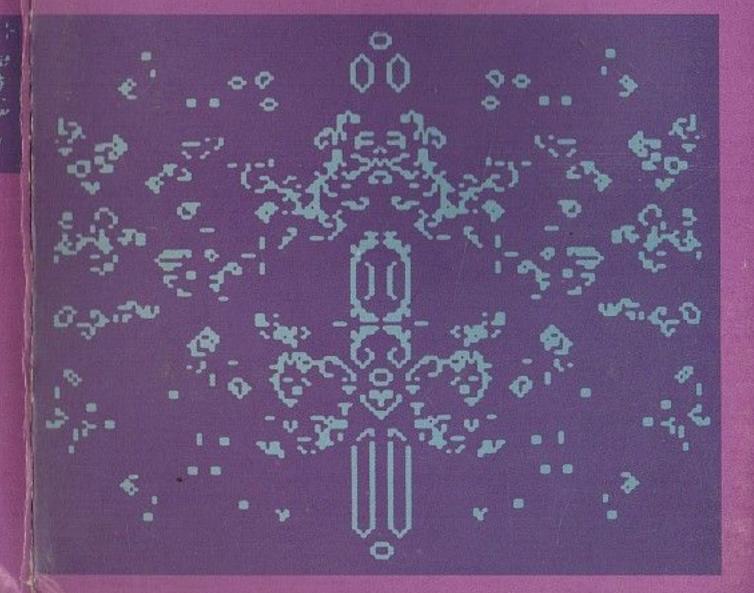
A fast game of LIFE using high-resolution graphics

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A fast game of LIFE using high-resolution graphics



ACORNSOFT LIFE PACKAGE
CONTENTS: INDEX
LIFE
LIFEPA LIFEPB
LIFEPC LIFEPD
LIFEPE

The INDEX file identifies the cassette, and includes test sequences for setting the correct playback volume on the recorder. It should be star-loaded by typing:

*LOAD "INDEX"

The file will then be loaded directly onto the screen, and should appear as shown above. The remainder of the file should appear as a sequence of lines showing the character set:

```
@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]↑+
!"#$%&"< >++,-./0123456789:;<=>?
```

The LIFE program should be loaded and run normally e.g.:

LOAD "LIFE" RUN

Program 5K, Graphics 1K to 6K; author Laurence Hardwick.

The ATOM LIFE package is an advanced implementation of J. H. Conway's game of Life, and uses the standard set of rules for survival and reproduction. These rules, though simple, give rise to a very complicated and fascinating selection of patterns. Some patterns are stable, others die out, some oscillate between different states, and some (such as the glider and the spaceship) move across the screen with successive generations.

The Rules of Life

Life simulates the life of a colony of organisms. At each generation every square on the display is checked to see if a organism is born, remains, or dies. The rules are:

- If an empty square is surrounded by exactly 3 organisms a new one is born
- If an organism is surrounded by 4 or more organisms it dies of overcrowding
- If an organism has less than one neighbour it dies of loneliness.
 Otherwise the square will remain the same.

Entering the Colony

First the graphics mode should be selected. Lower modes cover a smaller area but are faster than higher modes.

Graphics modes

The following modes can be used:

Mode:	Resolution:		Generations/minute:
	X:	Y:	
1	128	64	122
2	128	96	89
3	128	192	47
4	256	192	36

The display will then clear, and a dot cursor will appear in the centre of the screen.

Cursor

The cursor can be moved with the following controls

Z: left [: up X: right /: down

Holding the CTRL key at the same time draws a line in white and holding the SHIFT key draws a line in black.

Drawing Lines

A point can be marked by pressing '.' and a cross will be centred on that position. If after moving the cursor 'D' is pressed, a line will be drawn from the current position to the marked position.

Blank area

Areas of the screen can be blanked by moving the cursor to the bottom left-hand corner of the area and pressing '.', then moving to the top right-hand corner and pressing 'B'. This will remove the rectangle between the two points.

Generating New Colonies

To start the generation press RETURN. The generations will be displayed continuously, or suspended by holding the REPT key down.

If CTRL is pressed the program will wait after each generation for a key to be pressed. This mode can be stopped by pressing REPT.

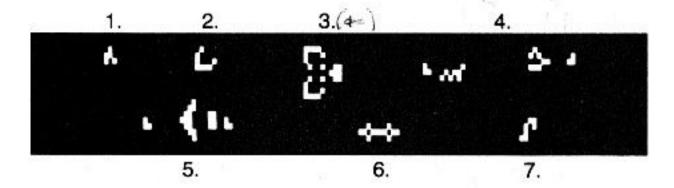
When REPT is pressed, or when in single-generation mode, the generation number is displayed in the top left-hand corner of the screen.

To return to edit mode press SHIFT. This allows alterations to be made to the pattern. RETURN will start the generation again.

Predefined Patterns

Several useful patterns are predefined, and can be recalled in any orientation at any position on the screen. Move the cursor to the required position, and press the number of the pattern followed by one of Z, X, [, or / to define the rotation of the pattern. Holding SHIFT at the same time reflects the pattern; thus all 8 orientations of each pattern can be obtained.

The program comes with 7 predefined patterns:



- 1. Glider moves diagonally
- 2. Small spaceship moves horizontally or vertically
- 3. Flying machine moves horizontally or vertically
- 4. Glider gun fires out gliders
- 5. Queen Bee oscillating shape
- 6. 15 cycle oscillator with a period of 15
- 7. Eater eats various small blocks of life

Load and Save

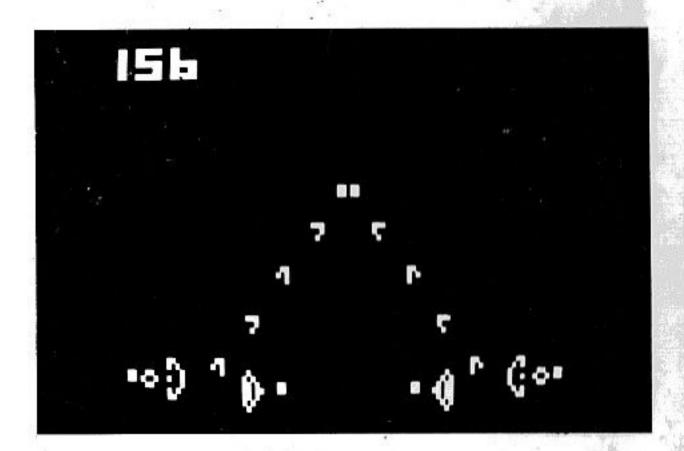
The whole screen can be stored onto cassette by typing S. Start the tape recording and then type a character to identify the picture. The picture will be stored as LIFEPx where x was the character typed.

To load a picture from cassette type L followed by the last character of the title. Thus different pictures can be stored on the same cassette with different names Always make sure that the right graphics mode has been selected before loading a saved picture.

Life Pictures

Five life patterns are provided on the ATOM LIFE cassette. These are:

Title:	Mode;	Description:
LIFEPA	1	Newgun – a different glider gun
LIFEPB	1	Oscillator
LIFEPC	1	Oscillator
LIFEPD	1	Poisoned cell
LIFEPE	4	Grid pattern – produces many pretty patterns



The ATOM LIFE package is one of the fastest versions of Life available on any microcomputer, and will process a full 256 × 192 screen in less than 2 seconds, or an 128 × 64 screen in under ½ second. It uses the standard set of rules for survival and reproduction. These rules, though simple, give rise to a very complicated and fascinating selection of patterns. Some patterns are stable, others die out, some oscillate between different states, and some (such as the glider and the spaceship) move with successive generations.

A cursor-drawing system allows any shape to be drawn on the screen. The program comes complete with 7 programmed shapes, which can be called up in any orientation at any position on the screen. These shapes are:

Glider, small spaceship, flying machine, glider gun, queen bee, 15 cycle, and eater.

Complex patterns can be saved to cassette and reloaded, and 5 interesting patterns are provided with the program:

Newgun, two oscillators, a poisoned cell, and a grid pattern.