

RCA *Studio II*

OUTBREAK



1 Read this first

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1.1 Document revision history

YYYY-MM-DD	Version	Description
2013-06-15	1.00	Initial version

1.2 Author’s notes

Outbreak is a *Breakout* clone written for the Studio II using interpreted code. The original Atari arcade game was introduced in 1976, and since then countless variations have been released on anything that will run it (it’s almost customary to port this classic). This version was completed June 2013, building up on a demo from 2011 simply titled *Ball & Paddle*. Fragments of the demo remain as part of the paddle movement routine, but almost everything else changed along the way. A useful source of vintage *Breakout* coding techniques can be found in chapter 4 of *Atari Graphics & Arcade Game Design* by Jeffrey Stanton with Dan Pinal, available here:

<http://www.atariarchives.org/agagd/chapter4.php>

The cover art is derived from a public domain image taken out of a sci-fi pulp magazine from Project Gutenberg. The image was modified slightly with PaintShop Pro Photo X2 and vectorized using Inkscape. This is intended as an homage to the Atari 2600 artwork for *Super Breakout*. If you find the game too easy, try playing it without using double speed to move your paddle.

2 How to play *Outbreak*

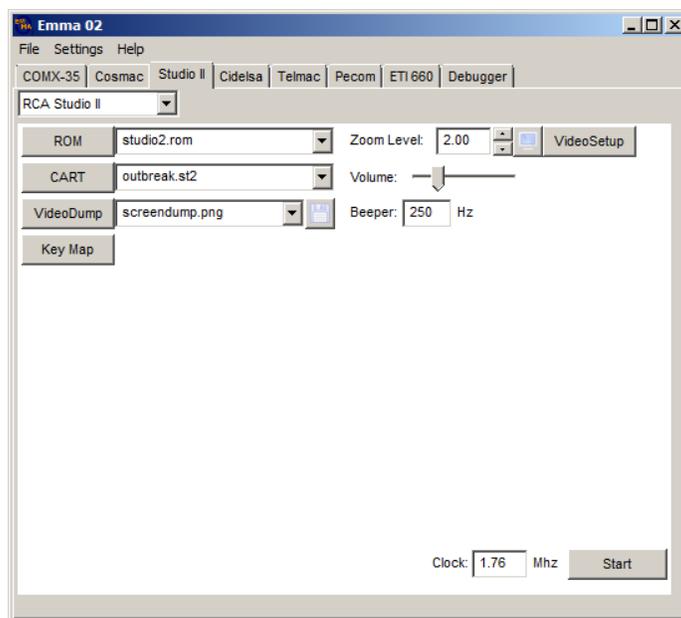
The game program is distributed as an ST2 file, which is a cartridge format defined by Paul Robson for use with Studio II emulators. It includes the binary game code along with a descriptive header. *Outbreak* has been tested with the *Emma 02* emulator written by Marcel van Tongeren.

You can download *Emma 02* here: <http://www.emma02.hobby-site.com>

After starting up *Emma 02*, click on the Studio II tab. Load the game by clicking the “CART” button, and navigating to the “outbreak.st2” file. Start the game by pressing the “Start/Reset” button at the bottom right of the window. See below for a screenshot.

The game instructions refer to the numeric keys as if you were using an actual Studio II console. Keyboard A is on the left side of the console, and keyboard B on the right. When using *Emma 02*, the layout of Studio II keys is mapped to a PC keyboard with the defaults shown in the table on the following page. More information on keyboard mapping is available in the emulator’s help file. To reset the Studio II emulator, press the F12 key. You can also use the “Start/Reset” button, but you will have to give the game window focus before it will respond to the keyboard. The F3 key toggles full screen mode.

Outbreak starts up in the difficulty select loop, with a blank screen. Pressing an option key on keyboard A will start the game, refer to the game instructions for specific details. You can return to the difficulty selection at any time by resetting the emulator.



Emma 02 screenshot, Studio II tab



Studio II	<i>Emma 02</i> PC keyboard mapping																																					
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Emma 02 key assignments

3 *Outbreak*

An experiment gone wrong leads to an outbreak that threatens your survival! Malfunctioning, self-replicating nanobots have escaped from the lab and formed a super-swarm around your space station. Developed to recycle waste, a flaw in their programming has left them with a directive to break down everything, including you. Impossible to stop all at once, your only hope is to eliminate the threat one segment at a time by transmitting shutdown codes to the nanobots with the station's parabolic reflector antenna. Careful alignment and quick reactions are required as you must also receive confirmation codes. Your mission is to stop the outbreak!

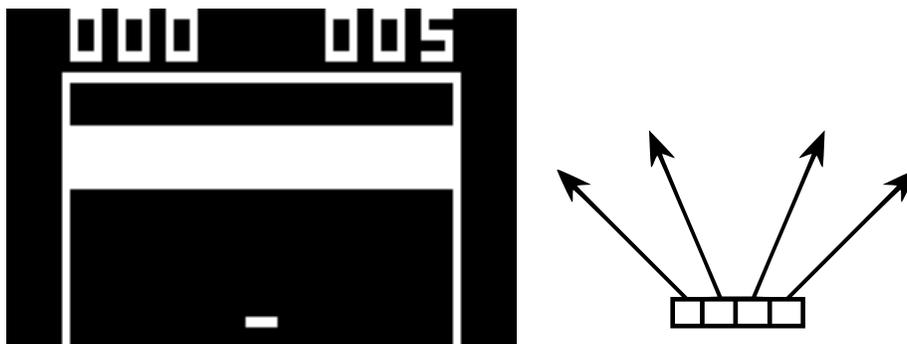
3.1 Starting the game

On reset, select the game difficulty you want to play using keyboard A. You can start the game at four different skill levels by pressing the corresponding number. The scoreboard displayed briefly at the top of the playfield shows score on the left and the remaining transmitter batteries on the right. Once your game is over, press reset or key 1 on keyboard B to play again.

Difficulty level	Select key (sets position of swarm)
Novice	A.0
Standard	A.1
Advanced	A.2
Expert	A.3

3.2 Moving your reflector

Use direction keys 4 and 6 on either keyboard to move the reflector across the bottom of the screen. Press the same key on both keyboards for double speed. Position the reflector to transmit to and receive transmissions from the swarm. The direction of the transmissions depends on which part of the reflector it hits. The reflector is divided into four parts, as shown in the diagram below. You score 1 point for each segment of the swarm you deactivate. If you miss a transmission, you lose one transmitter battery. An extra battery is earned if you deactivate the entire swarm.



Left: screenshot, right: reflector directions