

# Jagulator - Atari Jaguar Console Emulation Project

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## DOCUMENTATION (Version 1.5.1)

OFFICIAL JAGULATOR WEBSITE  
<http://www.jagulator.com>

### Introduction

Welcome to the latest public release of Jagulator, an Atari Jaguar console emulator. Jagulator is designed to be run on the Microsoft Windows range of Operating Systems and uses OpenGL as the graphics subsystem.

For a specific list of the changes in this release see the section titled 'Release Notes' later in this document.

### System Requirements

For a one man operation, which the development of Jagulator is a good case, it is difficult to test this software on a wide range of platforms as you would expect from a larger software house. The best that I can offer is a rough guide as to the required specifications to run this emulator.

#### MINIMUM SPECIFICATION

PII 233Mhz Processor, 32MB RAM, OpenGL Compatible Graphics Card and Driver

#### IDEAL SPECIFICATION

PIII 500Mhz Processor (or higher), 64MB+ RAM, OpenGL Compatible Graphics Card and Driver

### Running Jagulator

Make sure the following has been done before proceeding:

- You have extracted the software distribution from the zip file (using folder names). This should give you a root folder of 'Jagulator-1.5.1' with sub-folders 'boot' and 'roms'.
- Edit the jagulator.ini so that the [default] parameters 'bootpath' and 'rompath' are correctly set to the directories you extracted Jagulator to.
- Copy the Jaguar Boot Rom image to the boot directory and make sure it is name 'jagboot.rom'. The demos/games will not work unless the boot rom is present. (This rom is not supplied with Jagulator for copyright reasons.)  
Copy the game/demo rom files into the roms directory.

To Load a Rom select 'File' then 'Load Rom...'. Select the Rom Image File and click OK. Emulation will start immediately.

To Pause Execution, press the 'Escape' key.

To Restart Execution, click on 'File' then 'Start'.

You do not need to click 'File' then 'Reset' to load a new rom as the load function now automatically resets the emulator.

## **Jaguar Controller to Keyboard Mappings**

### **Jaguar JoyPad**

A  
B  
C  
Up  
Down  
Left  
Right  
0 thru 9  
Option  
Pause  
\*  
#

### **PC Keyboard**

A  
S  
X  
Up Arrow  
Down Arrow  
Left Arrow  
Right Arrow  
0 thru 9  
O  
P  
K  
L

## **Known Problems/Issues**

- The standard Microsoft OpenGL software driver does not seem to work. Please make sure that you have loaded the graphics card specific OpenGL driver for your system. You can check the current OpenGL driver on your system by selecting 'Options' then 'Video Configuration' from the Jagulator emulator.

## **Release Notes**

### **Version 1.5.1: (Distribution: PUBLIC)**

- Optimised Object Processor core to reduce the number of calculations made each time the Object List is parsed.
- Fixed bugs with Branch Objects: YPOS < or > VC.
- Removed Blitter Processor multi-threading to increase execution time.
- Added Status Bar to inform the user on the progress of rom loads and execution.
- Implemented a 'Supported Roms' system so that only verified roms will be able to be loaded and executed on Jagulator.
- GPU code verifiably working, although still buggy.
- Borders and display areas now correctly set.
- CLUT now correctly sets up as per VMODE settings (e.g. CrY16 or RGB16).
- All but 24-Bit color modes now supported in the Object Processor.
- Emulation reset code improved allowing multiple rom loads in each session.
- General compatibility improved.
- Speed Increased.
- Executable Size Reduced.

### **0 Version 1.5.0: (Distribution: PUBLIC)**

- Massive rewrite of the entire emulator code.
- Transparency now supported within the Object Processor.
- Fixed bugs in graphics orientation, scaling and positioning.
- Joypad emulation of Controller 0 completed.

- EEPROM reads partially implemented.
- Minor changes to front end (bear in mind that this is still 'development' software).
- Reset functionality added to allow multiple code execution.
- Blitter functionality improved.
- Improved video interrupt timing.
- Corrected bugs in CrY to RGB color conversion.
- Background color register (BG) now functional.
- Improved internal memory access.

### **Version 1.3.3: (Distribution: ALPHA TESTER)**

- StarScream 68000 emulation core upgraded to version 0.26a to get more accurate interrupt emulation.
- Vertical Blank Interrupt Implemented.
- Scanline emulation code removed as it was proving incredibly sluggish.
- New 'Single Pass per Frame' Object Processor code implemented. This has given a \*huge\* increase in FPS.
- Pixmap blitting (that was used to test the CrY -> RGBA conversion code) has now been removed.
- OpenGL Quad's are now used for bitmap objects.
- Scaling has now been implemented for 'Scaled Bitmap' objects.
- Texture mapping has been bypassed temporarily so as to refine object processor code.
- NTSC front and back vertical 'porches' now implemented in the display.
- Implemented video configuration window. No need to edit the INI file now for video settings.
- Also this window displays important information about your currently installed OpenGL driver.

### **Version 1.3.2: (Distribution: INTERNAL)**

- Object Processor code rewritten. This now correctly emulates scanline processing and updates Objects accordingly as each scanline is processed.
- OpenGL frame buffer code modified for Object Processor code.

### **Version 1.3.1: (Distribution: PUBLIC)**

- First Public Release of Jagulator
- Successful emulation up to first frame of the Boot Code.
- Image scaling has not been implemented at this time. Nor have several interrupts which is hindering DSP execution and Video Refreshing.

### **Version 1.0.0: (Distribution: INTERNAL)**

- Primary Development of Emulator.

## **Contacting the Author**

Before you fire up your mail program and send me mail, keep these in mind:

- Don't email if you're looking for ROMs.
- Don't email and ask when game 'x' will work.
- Don't email when the next release will be out.

If you still want to email me for the following:

- Bug Reports
- Sending Technical Information

- Suggestions
- or a friendly chat

Send Mail to: [realityman@jagulator.com](mailto:realityman@jagulator.com)

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