

# Aboloka-8 Reference Manual

Revision 1.0

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# Introduction

Aboloka-8 is a fantasy computer designed by Avuxo<sup>1</sup> and inspired by Soviet-era retro computers. This project is different from fantasy retro consoles like PICO-8<sup>2</sup>, TIC-80<sup>3</sup>, and co. because it aims to provide a sandbox where you can experiment with retro user experience, and maybe more.

When I started contributing to this project, I set a goal: *is it possible to make Aboloka-8 a retro computer with a modern ISA*<sup>4</sup>? Given the incompatibility between my vision and Avuxo's, I decided to implement my architecture as an extension of the proposed one. While designing the instruction set, I quickly realized that it is difficult to extend because of the out-of-order op codes. Not that it wasn't possible, but rather that it would have been more difficult to make the decoder. To save myself the trouble, I have decided to build one from scratch, inspired by Intel's 32-bit processors (specifically, the i80386). To avoid tearing up the initial project, I preferred to work on a *legacy* mode that allows you to switch to the set of instructions documented here<sup>5</sup> with some additions to allow switching from one mode to another.

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<sup>1</sup><https://www.github.com/Avuxo>

<sup>2</sup><https://www.lexaloffle.com/pico-8.php>

<sup>3</sup><https://www.tic80.com/>

<sup>4</sup>Instruction Set Architecture

<sup>5</sup><https://www.github.com/Avuxo/Aboloka-8>

