

# Design Ideas

## Goal

The goal is to create a portable, 8-bit computer from base components, that is at least as functional as an Alphasmart or Freewrite device, and preferably, has functionality more similar to a Tandy WP-2. Would also be good if the device can improve on some of the design problems of those devices, such as having a positionable screen.

## Architecture

Currently, the best looking architecture to build the computer around looks like the [RC2014](#).

This will mean that the computer is a Z80 based system.

## Operating System

Still looking into operating systems. Potential options include CP/M and CollapseOS, but definitely would prefer other options if they exist.

## Serial Terminal

Originally was looking into epaper for a display, but am leaning against it due to issues with slow refresh rates. Instead, looking for LCDs that can be driven by an Arduino that might be able to serve as a full TTL terminal. If that fails, can also use a [diy-VT100](#) for the display, and a [USB Host](#) or [E1115 converter](#) for keyboard input.

## Case Inspiration

The final product will likely use a 3d printed case, potentially using a modified version of the HALGRID P-1 Raspberry Pi Laptop Computer Shell (itself, based on the GRID Compass).

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