Printables by JOSEF PRUSA



CoralBoard based cyberdeck (AI assistant)

MakerOne

VIEW IN BROWSER

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Summary

A compact CoralBoard cyberdeck that turns your AI assistant into a portable, futuristic desktop companion.

Gadgets > Portable Devices

Tags: portable device cyberdeck coralboard

https://www.youtube.com/watch?v=NzusW5csADQ

CoralBoard Cyberdeck — AI Assistant

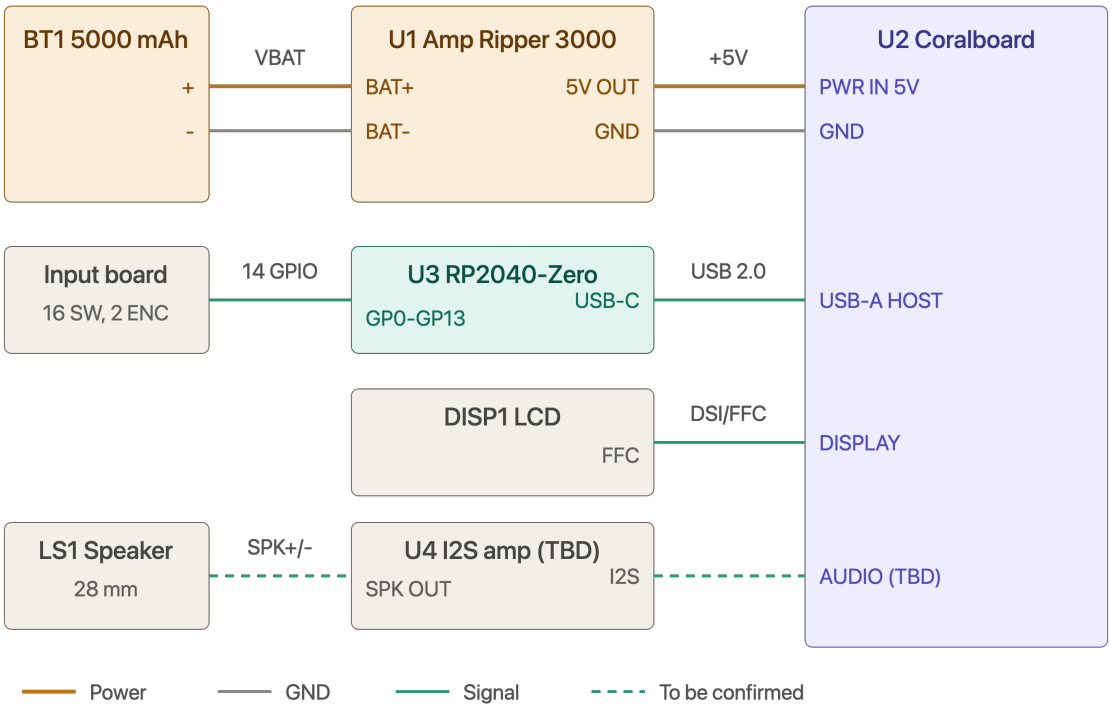
This project is a compact cyberdeck built around the **CoralBoard**, designed to work as a portable AI assistant with a custom physical interface.

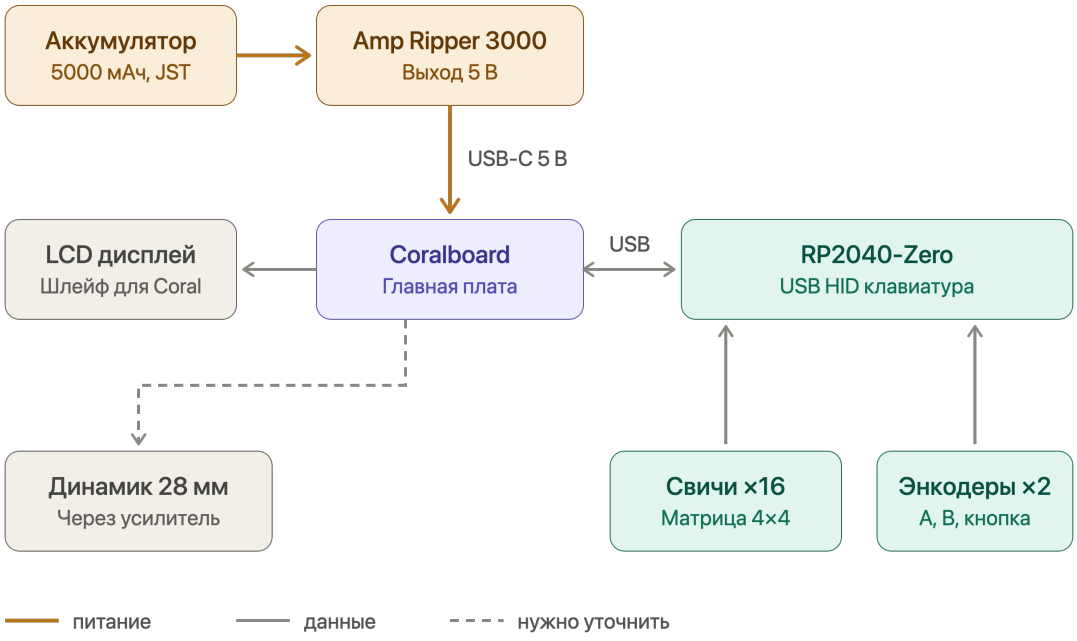
The main computer is connected to a dedicated LCD display and powered by a **5000 mAh battery** through an **Amp Ripper 3000** power module. A **28 mm speaker** provides audio output, creating a self-contained AI assistant that can be used without a conventional desktop setup.

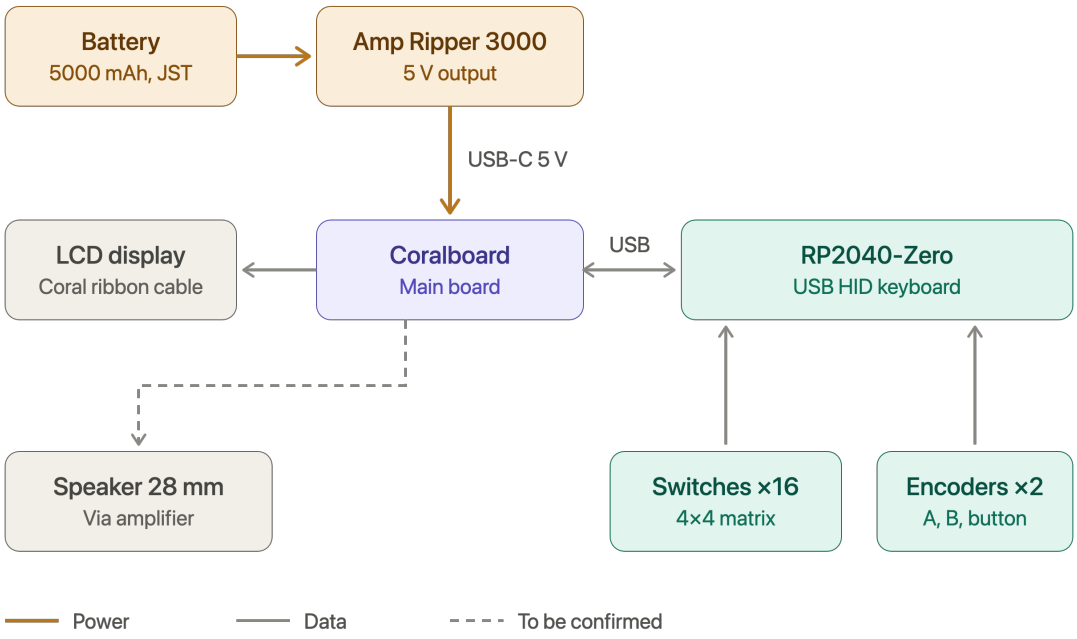
The user interface is built around an **RP2040-Zero**, which acts as a USB HID keyboard controller. It connects to **16 physical switches arranged in a 4×4 matrix** and **two rotary encoders**, allowing the user to interact with the CoralBoard through buttons, rotary controls, and shortcuts.

Main components

- CoralBoard — main computer and AI processing
- LCD Display — dedicated display connected directly to the CoralBoard
- 5000 mAh battery — portable power source
- Amp Ripper 3000 — 5 V power supply
- CoralBoard-compatible LCD display
- 28 mm speaker
- RP2040-Zero — USB HID controller
- 16 switches — 4×4 matrix
- 2 rotary encoders with push buttons


BT1 5000 mAh
+
-
VBAT
U1 Amp Ripper 3000
BAT+
BAT-
5V OUT
GND
+5V
U2 Coralboard
PWR IN 5V
GND
Input board
16 SW, 2 ENC
14 GPIO
U3 RP2040-Zero
GP0-GP13
USB-C
USB 2.0
USB-A HOST
DISP1 LCD
FFC
DSI/FFC
DISPLAY
LS1 Speaker
28 mm
SPK+/-
U4 I2S amp (TBD)
SPK OUT
I2S
AUDIO (TBD)
Power
GND
Signal
To be confirmed


Аккумулятор
5000 мАч, JST
Amp Ripper 3000
Выход 5 В
USB-C 5 В
LCD дисплей
Шлейф для Coral
Coralboard
Главная плата
USB
RP2040-Zero
USB HID клавиатура
Динамик 28 мм
Через усилитель
Свичи ×16
Матрица 4×4
Энкодеры ×2
A, B, кнопка
питание
данные
нужно уточнить

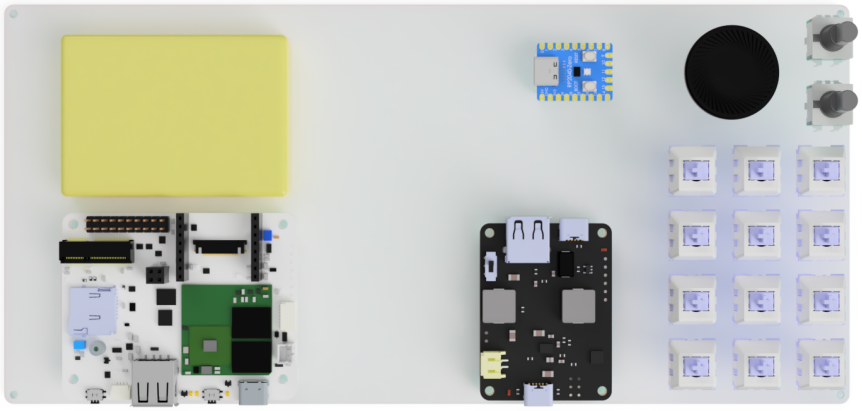


The wiring diagrams show how the different components are connected and how the RP2040-Zero communicates with the CoralBoard via USB.

The goal of the project is to create a **small, functional and customizable cyberdeck** that combines AI capabilities with a dedicated physical interface in a compact 3D-printed enclosure.

Assembly Guide

https://www.youtube.com/watch?v=NzusW5csADQ



Follow these steps to assemble the CoralBoard Cyberdeck:

1. Mount the CoralBoard and Amp Ripper 3000

Place the **CoralBoard** and **Amp Ripper 3000** on the bottom panel and secure them using the required **M3×10 mm screws**.

2. Install the switches

Snap the **12 switches** into their designated positions in the enclosure. Make sure all switches are fully seated and aligned correctly.

3. Install the rotary encoders

Insert the **two rotary encoders** into their designated mounting positions and secure them in place.

4. Mount the RP2040-Zero

Place the **RP2040-Zero** inside the enclosure and secure it using **double-sided adhesive tape**.

5. Solder the electronics

Solder the **12 switches, two rotary encoders, RP2040-Zero, CoralBoard, and other required connections** according to the wiring diagrams provided with the project.

Before closing the enclosure, check all solder joints and verify that the wiring is connected correctly.

6. Mount the LCD display

Position the **LCD display** in its designated opening and secure it using **double-sided adhesive tape**. Make sure the display is properly aligned before pressing it firmly into place.

7. Connect the battery

Install the **5000 mAh battery** inside the enclosure using **double-sided adhesive tape** and connect it to the Amp Ripper 3000.

8. Assemble the enclosure

Once all components are installed and connected, carefully place the outer body panels together. Make sure no wires are pinched or obstructed, then secure the outer body parts together with the remaining **M3×10 mm screws**.

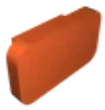
9. Final check

Before powering on the cyberdeck, check that:

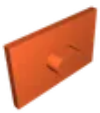
- All components are securely mounted.
- No wires are shorting or pinched.
- The LCD cable is properly connected.
- The RP2040-Zero is connected to the CoralBoard via USB.
- All switches and rotary encoders are wired correctly.
- The battery and Amp Ripper 3000 connections are correct.

Once everything is checked, the CoralBoard Cyberdeck is ready to power on and use.

Model files



button-part-1.stl



button-part-2.stl



speaker-holder.stl



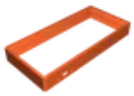
bottom-panel.stl



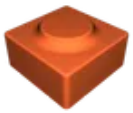
knob-cap.stl



main-part.stl



outer-shell.stl



key-cap.stl

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