

Overview

The debugging board is a **dedicated auxiliary system** whose only job is to make the rest of the robot less painful to work with.

It is not part of the rover's core functionality.

Purpose

At a high level, the debugging board serves roles:

Visibility

Provide real-time insight into system state:

- logs
- status indicators
- network activity
- subsystem health

Instead of digging through serial output on multiple MCUs or adding temporary debug code everywhere, this board aggregates and presents useful information.

Control / Interaction

Todo :D

Isolation of debugging concerns

Todo :D

Physical components

The exact hardware may evolve, but the debugging board generally consists of:

Ethernet interface

- Connects to the system network (switch / internal bus)
- Receives and sends packets (including protobuf-based messages)
- Acts as a bridge between the debugging interface and the rest of the robot

Display

- Shows system state, logs, or selected information
- It is a **ILI9341 SPI Display**

Used for quick, local feedback without needing a laptop.

Input interface (buttons / panel)

- Physical buttons or switches
- Used to:
 - trigger actions
 - navigate menus
 - send commands

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