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# OSU HART User Interface

*Release v1.0.0*

OSU HART

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## INTRODUCTION



The launch controller is the user interface of the Launch System. It is used to send the launch signal to the launch ignition box, thereby triggering the rocket booster ignition from a safe distance.



## PROJECT OVERVIEW

### 2.1 Goals

The user must be able to ignite booster from safe distance.

### 2.2 Requirements

- The system must transmit a user-triggered signal to trigger an igniter at a distance of more than 1000 ft.



## PARTS LIST

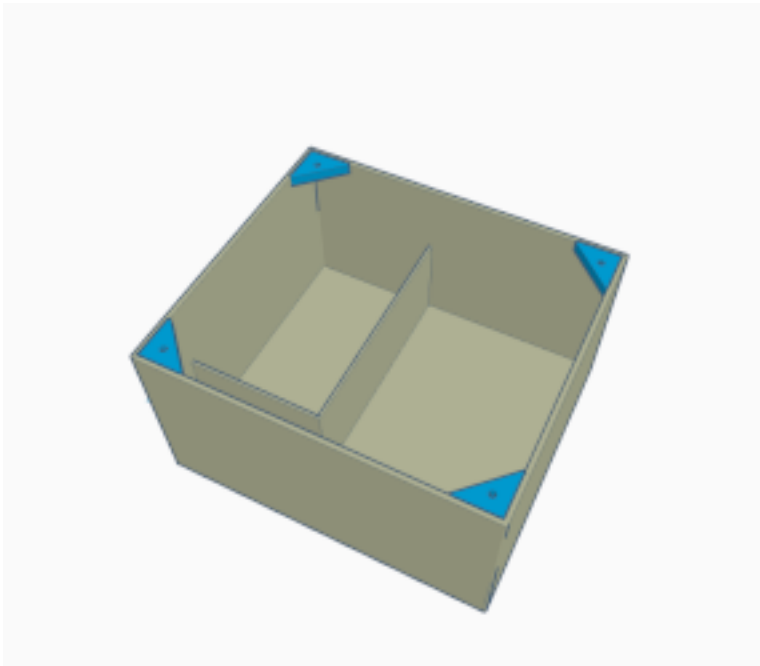
- Electrical wire
- Compact 12v battery
- Teensy 4.0
- Buck boost converter
- Key-operated switch
- Dual-position selector switch
- Big red button
- Green indicator LED
- Yellow indicator LED
- Red indicator LED
- Xbee Pro S3B
- 3D-printed enclosure
  - Enclosure
  - Lid
  - Corners (x4)
  - Screws (x4)



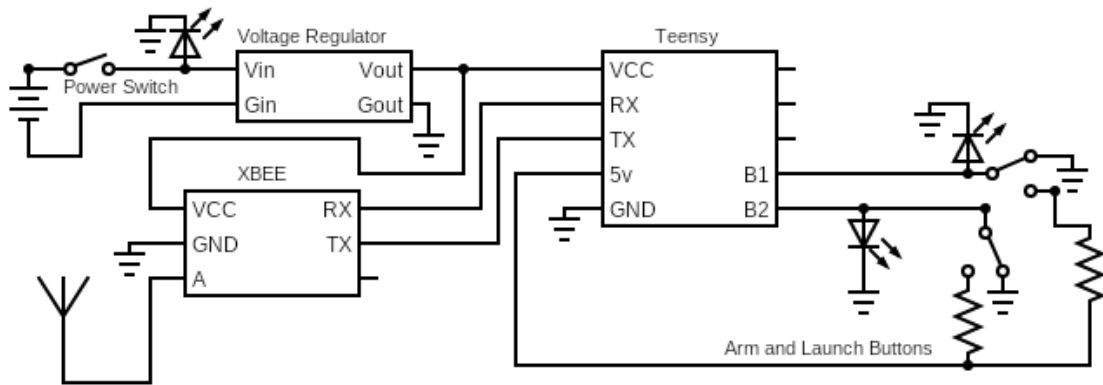
## GETTING STARTED

### 4.1 Assembling the Controller

1. Print the enclosure
2. Glue the corners onto the enclosure



3. Wire electronic components together according to the wiring diagram



4. Put the electronics in the enclosure
5. Screw the lid onto the enclosure

## 4.2 Using the Controller

1. Make sure that the launch ignition box is armed & ready and everyone is a safe distance away from the launch pad
2. Power on the launch controller by turning the key switch in the clockwise direction



3. Turn the black arming switch to the upward position in order to arm the system; once a connection to the launch ignition box has been established, the safety siren on the launch ignition box should activate



4. Press the large red button to launch the rocket when ready





**DOWNLOAD**

Project artifacts are available at <https://github.com/HART-Avionics/OSU-HART-User-Interface/releases>.



## CONTRIBUTING

Contributions are what make the open source community such an amazing place to be learn, inspire, and create. Any contributions you make are **greatly appreciated**.

Contributions to the project are primarily done through modifications to the system structure, improvements to documentation wording, and evaluation of potential solutions. This includes adding, modifying, or restructuring blocks and interfaces as well as correcting spelling/grammar mistakes and writing research reports on a new design.

### 6.1 How Can I Contribute?

#### 6.1.1 Report Bugs

To report a bug, [create a new Bug Report issue](#).

#### 6.1.2 Suggest Features

To suggest a feature, [create a new Feature Request issue](#).

#### 6.1.3 Create a Pull Request

If you want to add a few quick changes or are adding changes related to an issue,

1. Fork the project
2. Create your feature branch (`git checkout -b username/amazing-feature`)
3. Commit your changes (`git commit -m 'Add some amazing feature'`)
4. Push to the branch (`git push origin username/amazing-feature`)
5. Open a pull request onto the `develop` branch of the official repository

Otherwise, [create a new Feature Request issue](#) and include a comment requesting to be assigned to that issue.