Ultimate Solar Keyboard

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Research question: Can an affordable solar powered keyboard help struggling music programs?

Research Methods:

- Build a prototype based on past experiments
- Trial and error until solar panels power keyboard
- Test the amount of power from the solar panels
- Refine the solar panels and overall design
- Test the length of time the keyboard can be powered

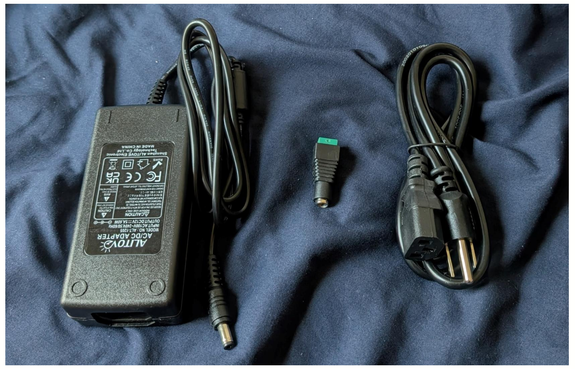


Figure 1
DC Adapters

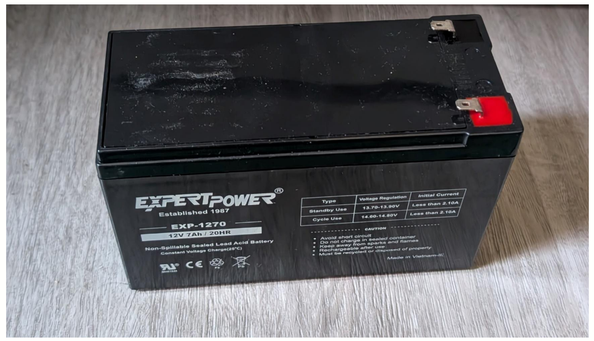


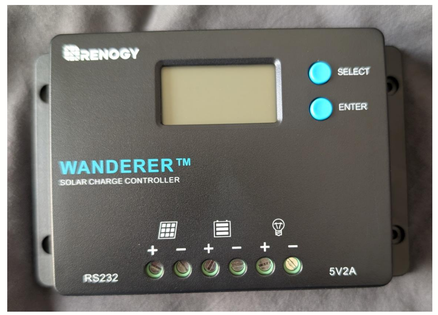
Figure 2
Sealed Lead Acid Battery

Findings and Progress:

- The DC adapter must be cut to connect to the solar controller
- Solar Panels must be connected to photovoltaics slot in the solar controller
- Battery can then be connected to the solar controller which should give power
- Solar panel needed to be change to 12V to produce enough power

Obstacles Overcome:

- Time constraints
- Researching how to connect everything up to the solar controller
- Ensuring enough power is supplied



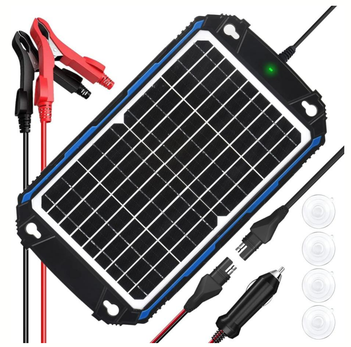


Figure 3
Solar Controller + Panel

Materials:

- Yamaha PSR-E283 Keyboard
- SUNER POWER Waterproof 12W 12V Solar Battery Charger
- ALITOVE DC 12V 5A Power Supply
- Renogy PWM Solar Charge Controller
- Expert Power 12V 7ah Rechargeable Sealed Lead Acid Battery

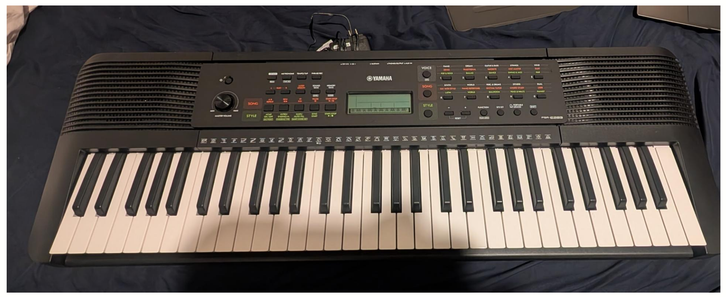


Figure 4
Yamaha Keyboard

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