AXIOM Remote

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Outline

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Introduction

- ► A remote control with buttons, dials and an LCD for menu/settings
- ► Hardware prototype based on a PIC32 CPU and 320x240 pixel LCD
- ► The software runs "bare metal"
- ► There is no graphics acceleration
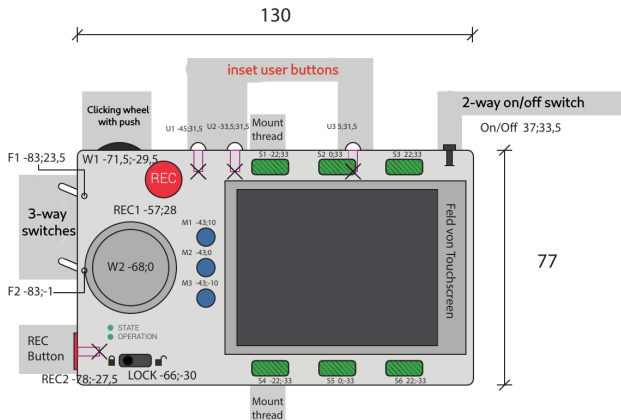
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Figure: AXIOM Remote Button Positions

Figure: AXIOM Remote

- ▶ Six buttons - to select the options
- ▶ Currently in the new design - only "home" and "back" buttons are present
- ▶ In the older version - there are left/right buttons to change the pages, a page number button to goto a particular page and for the menu items which are not self-explanatory there is a "?" (help) button

- ▶ PCB Version 2 Prototype
  - ▶ The second knob is removed
  - ▶ Remove left side rocker switches
  - ▶ Remove top side pushbuttons
  - ▶ Having one white LED per pushbutton
  - ▶ 4 more holes to PCB
  - ▶ Replace slide switches for ON/OFF and LOCK with pushbuttons

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Figure: PCB

- ▶ PIC32MZ was chosen as core processor, two PIC16 are used for handling push button, rotary encoder and LED IO
- ▶ 2.8" 320x240 TFT from Adafruit as a display
- ▶ USB-C Connector
- ▶ Currently powered externally via 5V DC supply
- ▶ The firmware is programmed with a PICkit2 directly into the flash memory

Figure: Color Scheme

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