

Astro-Physics

Replacing Your GTO Keypad Battery

**For keypads starting with S# 1568GTO
(and some earlier keypads that have been repaired)
Battery: Astro-Physics part # E0334
(CR2430 with 2.5" soldered pigtail) #91393**

Warranty considerations The manufacturer warrants the Astro-Physics GTO Keypad for three years. If your keypad is still within the warranty period, you may void the warranty by opening the keypad to make this repair.

Tools and parts needed

- ☆ Small Phillips screwdriver size #00
- ☆ Small Flat Blade Screwdriver
- ☆ Keypad with Keypad Protector removed (partially removed is OK - see KEYPRO instructions)
- ☆ New battery: AP # E0334 (CR2430 with 2.5" soldered pigtail) - MUST be purchased from Astro-Physics!

Additional Helpful Documents in Technical Support

- ☆ Removing and Installing the KEYPRO Keypad Protector - PDF
- ☆ Opening up and re-closing the keypad - PDF
- ☆ Identifying Your Keypad Battery - PDF
- ☆ Keypad Database Corruption and Reloading - HTML or PDF
- ☆ Cleaning Your Keypad's internal Plug Contacts - PDF

Please review the following instructions thoroughly. If you are not comfortable with the procedure, please consider sending the keypad in to Astro-Physics for service.

Your keypad should be UN-plugged for this procedure!

1. Remove the KEYPRO, silicone-rubber keypad protector, following the instructions in the document referenced above. The KEYPRO does not need to be removed completely.

2. Lay the keypad face down on your work surface. Locate the six small screws in the corners. Undo these screws using a #00 Phillips head screwdriver. Be careful not to strip the screw heads. The screws do not need to be removed completely. Just back them out until you feel that they are no longer engaged.

Note: Screws are torqued to 2.0-2.5 in-lb

3. Carefully open the keypad, taking care to make sure that the white plastic spacer-washers on the screws are not lost. These spacers are vital to maintain separation of components and to protect the case from damage. Lay both halves of the keypad with the wires still connected flat on your workspace. See Opening and Re-closing the Keypad PDF.



Be extremely careful of the fiber-optic-cable bundles throughout this procedure! They are easily damaged. DO NOT crush or sharply bend the fibers!

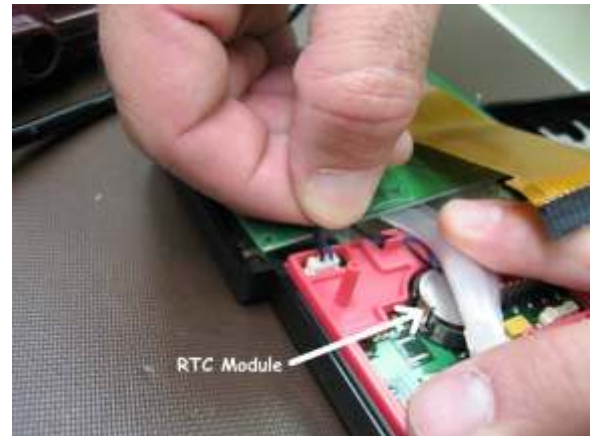
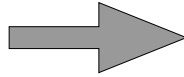
4. Unplug the display's ribbon connector as shown. Gently work the connector off of the display header. Be very careful not to damage the connector or the pins of the display header that are on the main circuit board.

Note: Connector will be snug. Do not pull on connector carelessly. The display header pins may bend

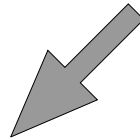




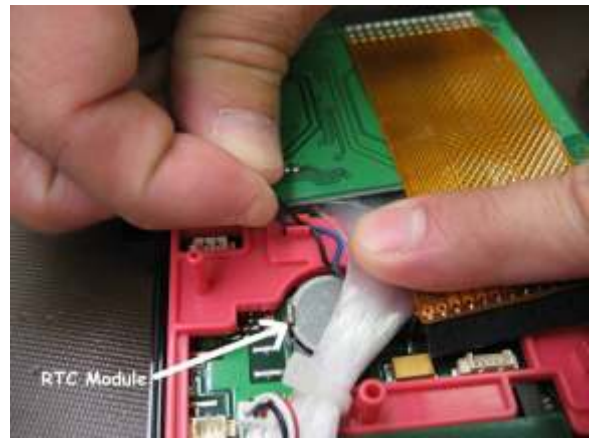
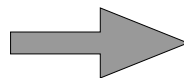
View of display connector unplugged. At this point, the display can be carefully removed from the keypad. Lay the display aside on a soft surface. Be very careful not to scratch the glass on the front of the display.



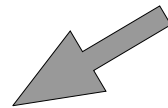
5. Unplug the lithium battery connector. Note the Real Time Clock (RTC) Module. This is **NOT** the battery!! Do **NOT** attempt to remove this!
Please note: ideally, the display would have already been removed from the unit for this and the next two pictures.



View of lithium battery cable connector unplugged

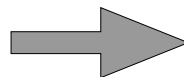


6. Remove lithium battery wires from the red plastic spacer's molded clamp.



7. First, take note of the pigtail wire positions relative to the sides of the battery holder so that you orient the new battery correctly. Carefully remove the battery from the battery holder as shown with your small flat blade screwdriver.

Note: Display is removed from window area



View of lithium battery being removed

Be careful not to drop anything on the display window.



8. To completely remove the lithium battery: CAREFULLY guide the lithium battery wires under the fiber-optic cable as shown in the next few pictures . . .



9. Guide the lithium battery wires under the fiber-optic cable and plug it into the battery connector. The black lead is normally to the outside.

*Note: Battery connector is keyed to prevent plugging it in backwards. In the proper orientation, it plugs in quite easily. **DO NOT force the plug!** You could damage the pins on the receptacle!*

Snap the battery into its carrier.



Installing Your New Battery

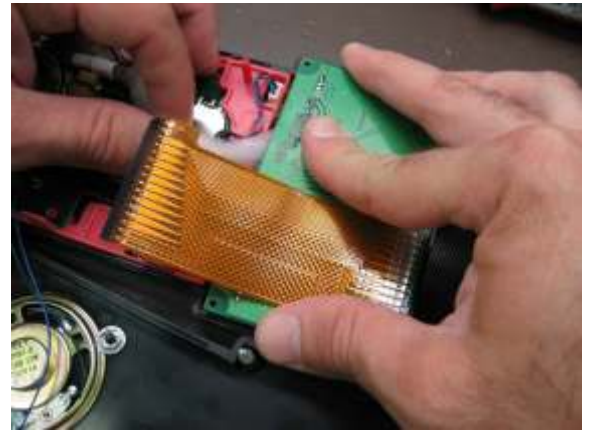
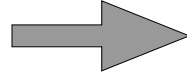
Be sure that you are installing the correct battery! The Astro-Physics part number is E0334. The battery is a CR2430 and will have a 2.5" pigtail soldered to it. This battery must be purchased from Astro-Physics.



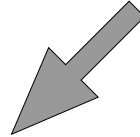
10. Snap the battery wires into position by pushing them into the spacer's molded clamp. Be careful not to catch any fiber-optic cables!



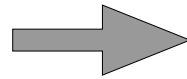
11. Gently pull the fiber-optic cable away from the window before replacing the display. You do not want to crush or sharply bend any of the fibers.



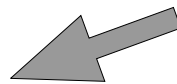
Use care when replacing the display to not scratch the window or to damage any of the optical fibers. Carefully place the display in the front of the case



12. Plug the display cable into the display header making sure the pins are aligned

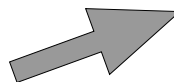


13. When placing the back on the unit, first be sure that all six spacers are in place on the screws. Then, make sure the screws are aligned with the proper holes. Start by aligning the two screws on one side of the display. Make sure that all wires fibers and cables will be safely inside the unit. Line up the display end before moving to the cable end of the keypad.



The cable strain relief may need to be held and guided gently into the cutout in the case to finish mating the two halves.

Make a final check to be sure that no wires, fibers or cables are caught between the front and back halves of the keypad.



14. Carefully apply a small amount of pressure to hold the back down while tightening all six screws to 2-2.5 in-lbs (torque).

Replace the KEYPRO Keypad Protector following the instructions in the document referenced on page 1. You should now be ready to re-install your database.