



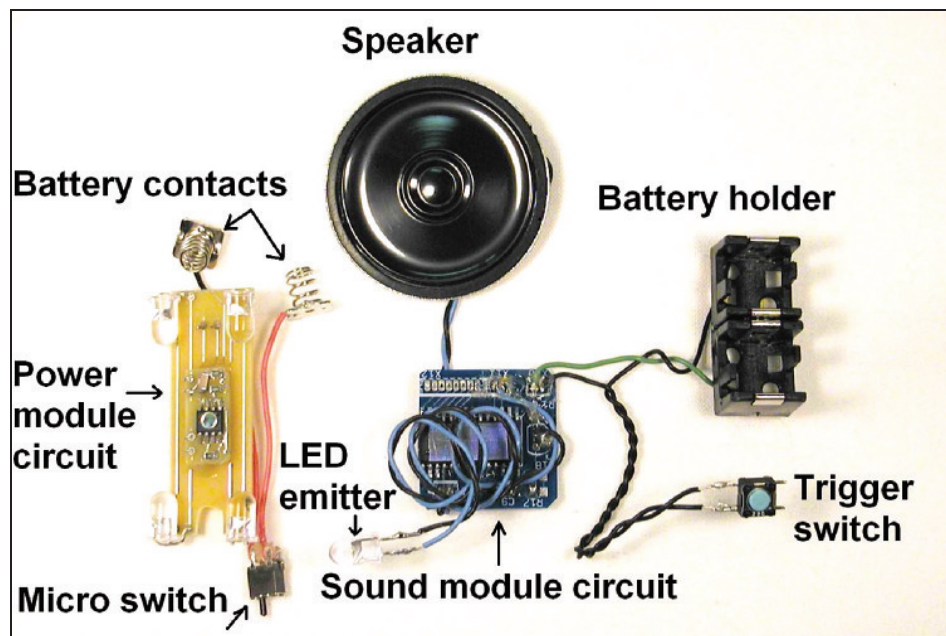
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**#PRP1700E**

# ***Star Trek: Enterprise Phase Pistol Electronic Upgrade Manual***



- **WARNING:** The small magnet used in this kit could interfere with the operation of pacemakers, hearing aids, etc. Please use caution when handling.
- This electronic upgrade requires some prop building and soldering experience.
- Please read this manual completely and familiarize yourself with these electronics before attempting to install this upgrade kit.
- Do not attempt to modify the electronic circuits in any way.
- This manual is only intended as a guide for the installation of the electronics. Please use the Enterprise Phase Pistol prop kit manual for prop assembly.
- Requires 2 standard CR1/3 N batteries (6V) for the sound / emitter.
- Requires 2 standard AAAA batteries (3V) for the power module.



## TOOLS REQUIRED:

- Dremel tool (a dremel flex arm attachment is very helpful)
- Drill
- Various modeling files
- Hobby knife
- Scissors and wire cutter/stripper
- Hot glue gun and glue
- 3M mounting tape and electricians tape

## EXAMINE ALL PARTS AND READ THIS MANUAL COMPLETELY BEFORE BEGINNING ANY WORK:

These instructions have been written so that when followed correctly, your electronics upgrade will go smoothly and the communicator will look and sound just like the prop on the show upon completion.

Begin by taking the electronics out of the package and lay them out similar to the picture above.

To start with, it is best and easiest to prepare for installing the electronics by drilling, cutting, or filling any required holes BEFORE doing anything else. That way you will be familiar with a plan, and also each installation step can be done without having to stop and drill or cut at those points during the build up.

Also, it is always best to “test fit” whenever possible, to ensure proper alignment and that the action of the assembled parts is smooth and without obstruction.

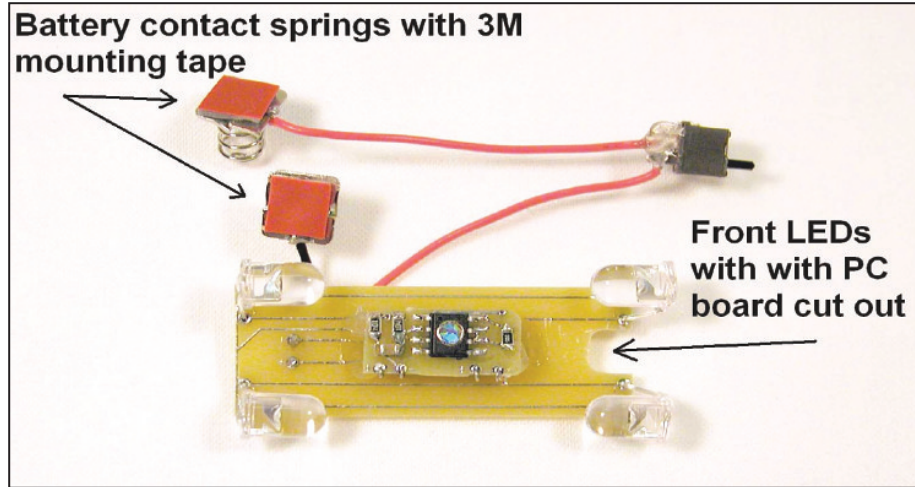
The following steps and pages will go into more detail for electronics installation.

Use the prop building instructions as the “main” source for prop assembly, in conjunction with steps from these manual pages.

## POWER MODULE:

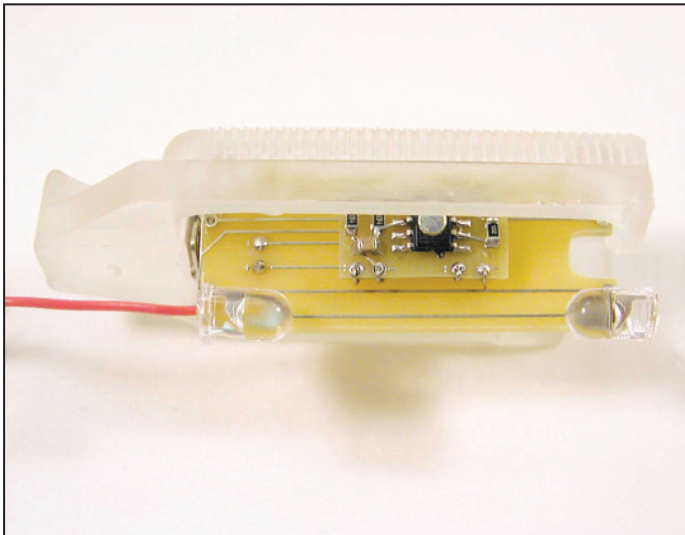
Battery contact springs with 3M mounting tape

Front LEDs with with PC board cut out



**Introduction:** The power module circuit has 4 LEDs, timer, battery contact springs, and the micro power switch. It is designed so that little or no modification will be needed for installation. Gray 3M double sided mounting tape works well for installing the battery contact springs, but hot glue can be used as well.

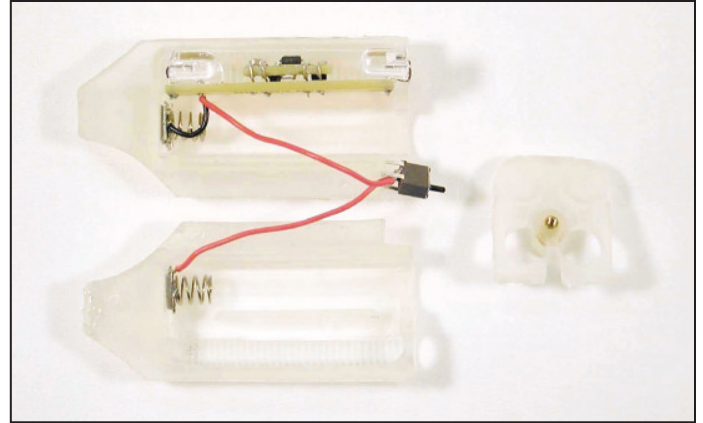
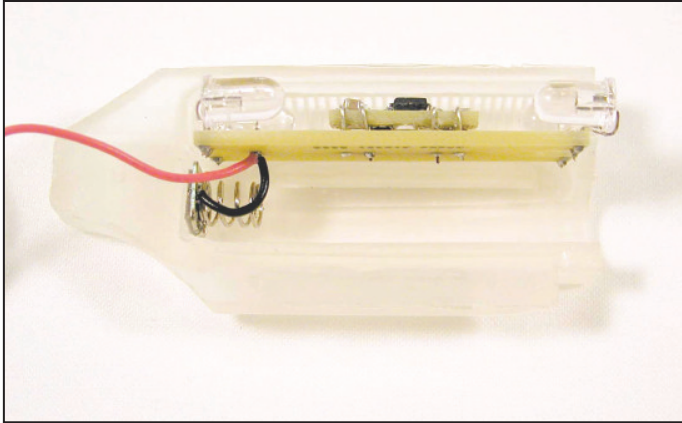
*Notice the two Front LEDs with the cut out on the PC board.*



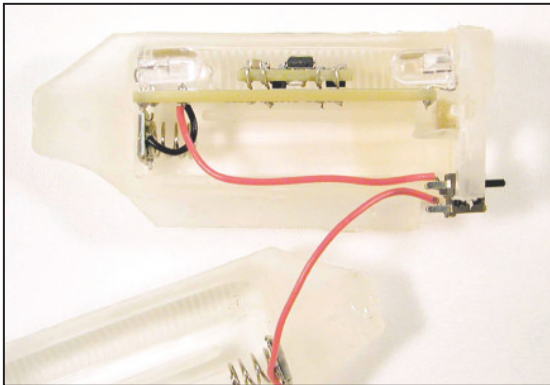
**Step 1:** Slide the front of the power module circuit with the cut out into the LED hole in the front of one of the clear resin module halves as shown, then follow with the rear of the circuit. The small timer chip should be facing up towards the outside of the module half (see photo).

The circuit only fits in one way and should install with ease and without force and with no use of glue required.

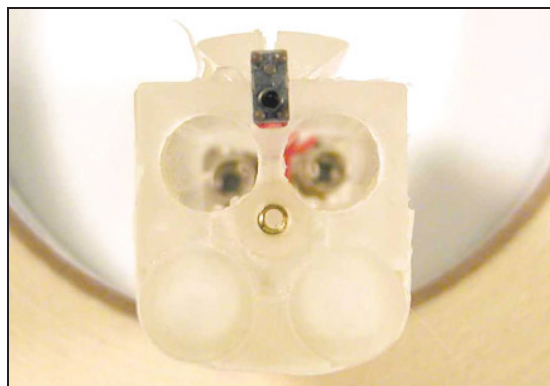
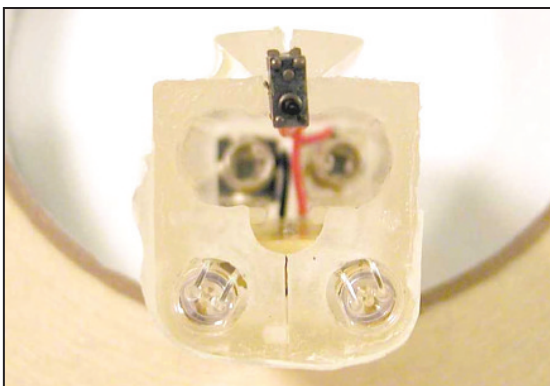
Once installed in one side, slide the other half onto the circuit in the same fashion. Then fit the end cap onto the module. Check for board and LED alignment. You may need to remove the circuit, carefully tweak the LED positioning, then reinstall the circuit.



**Step 2:** Permanently install the negative spring (short black wire) into the left half, and the positive spring (longer red wire) into the right half using 3M mounting tape or hot glue, making sure they are straight and do not interfere with the closure of the module halves.



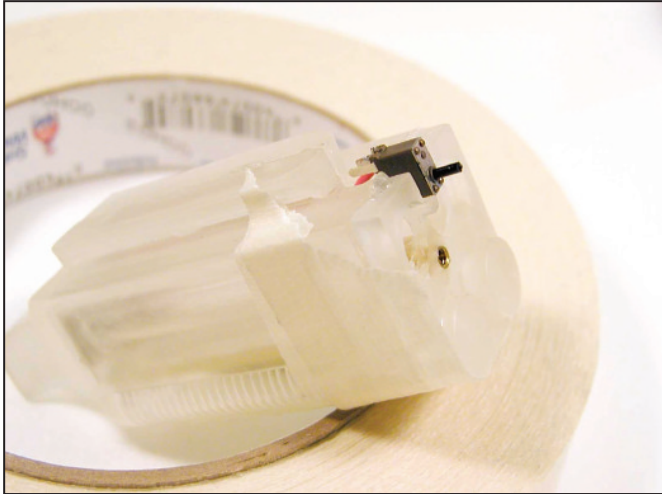
**Step 3:** Install the micro switch into the end cap using hot glue. Refer to the prop kit assembly instructions for this step. **This is important, as the proper position and alignment of the micro switch is critical to the clean and smooth operation of the power module.**



**Step 4:** The above pictures show views of the assembled power module before (left) and after the installation of the end cap (right). Use masking tape to hold everything into place during these steps for testing the operation of the module electronics.

**Notice the positioning of the contact springs, the LEDs, the micro switch and finally the end cap when properly in place.**



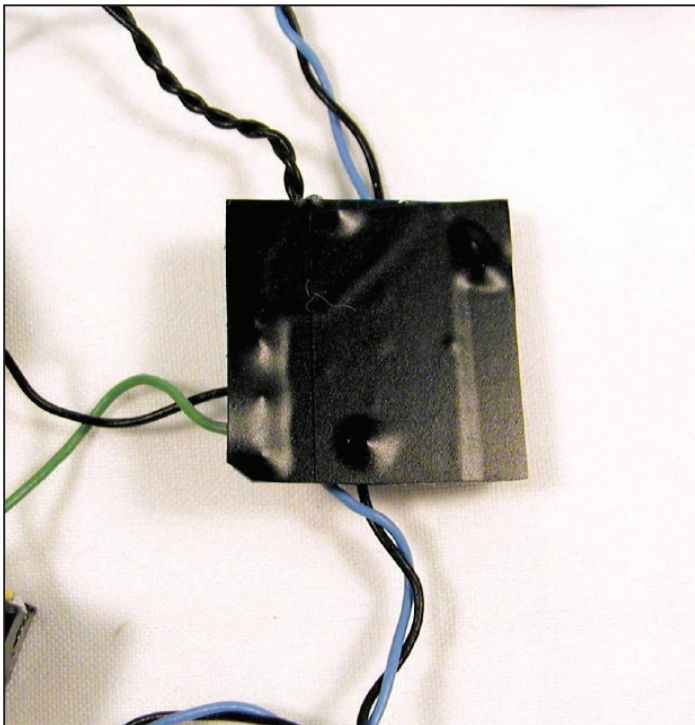


**Step 5:** The photo of the left shows the micro switch in the proper position with the end cap in place. The photo of the right shows a pair of batteries installed with the switch pressed and the module lit.

Once you are satisfied with the alignment of everything, refer again to the prop kit assembly instructions for completing the power module assembly with glue and paint.

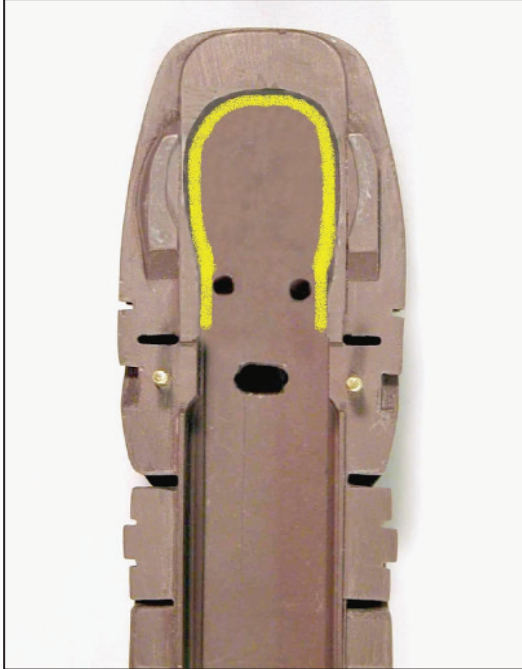
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## SOUND AND EMITTER :



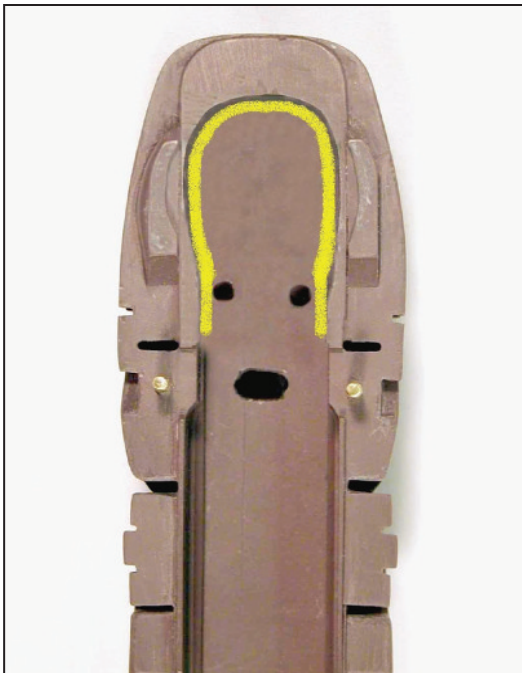
**Step 6:** Begin preparing for the sound and emitter installation by covering the back (flat) side of the circuit board with a piece of black electrician's tape.

Use a small scissors or knife to trim the tape to the size of the circuit. This will insulate the circuit from the battery holder later on in these steps.



**Step 7:** Route out the rear cavity of the main receiver body using a dremel tool, referring to the yellow guide line in the photo. The routed out portion of the cavity needs to reach to the same depth as the rest of the cavity, so basically you route straight back. Also notice that the yellow lines get a little wider than the forward cavity, and that is preferable (see photo). It is best to route a little bit at a time, being careful to watch the outside of the body so you don't go too far. In the end result, the cavity needs to be deep and wide enough for housing both the sound circuit and the battery holder.

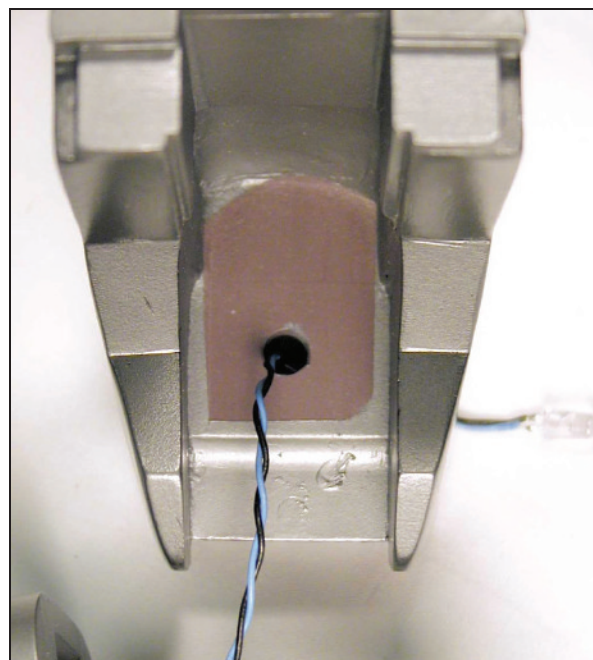
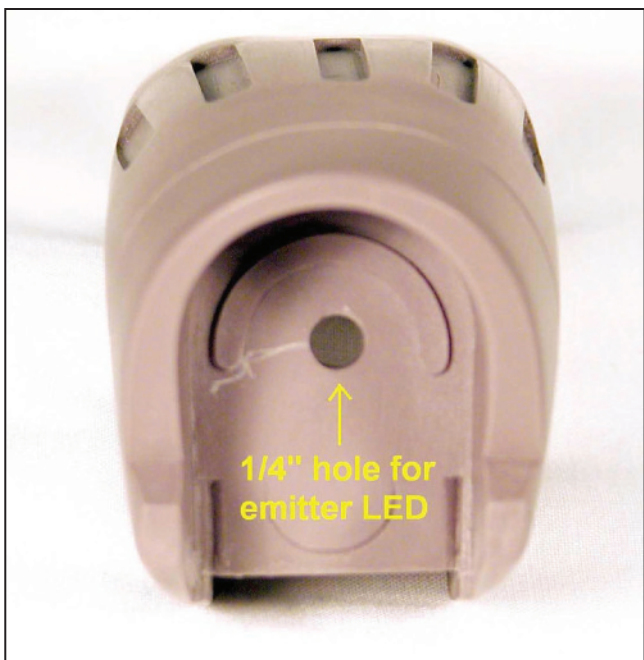
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**Step 8:** Drill or route out a hole big enough (approx.  $\frac{1}{4}$ " ) for the trigger switch to go through. Placement of the hole is directly behind the mounting protrusion for the handle

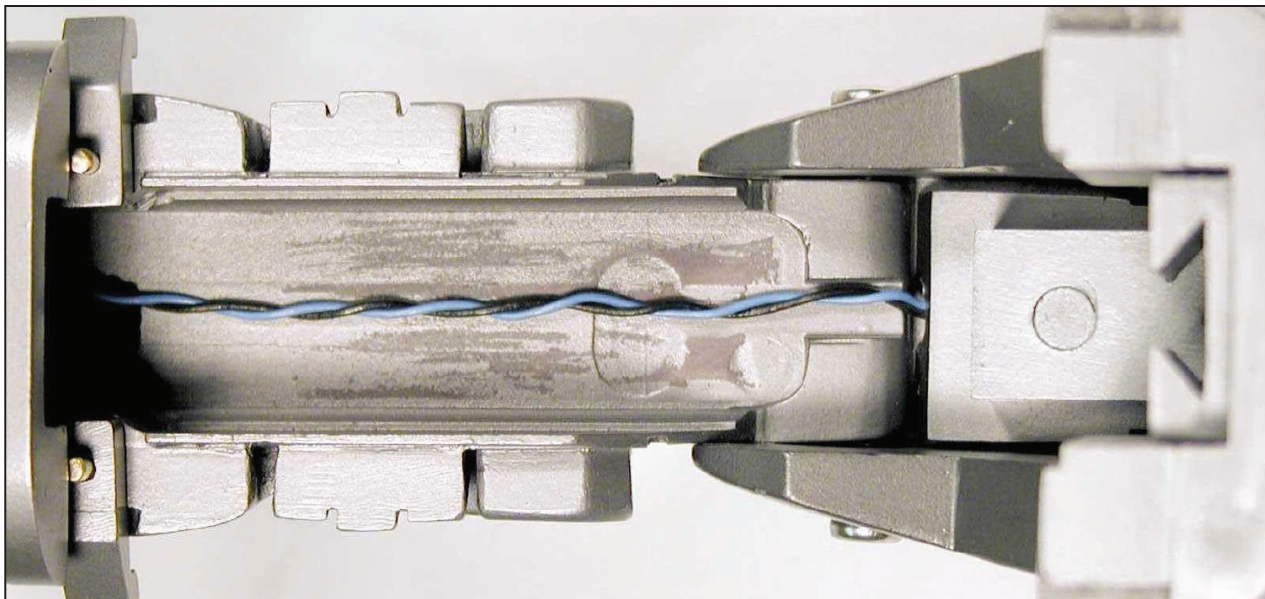


**Step 9:** Thread the trigger switch through the hole. Hot glue the switch into position as shown, with the two metal tabs directly against the base and the switch button facing up. This position should center the switch directly behind the trigger button. Refer to your kit assembly instructions for completion of this step.



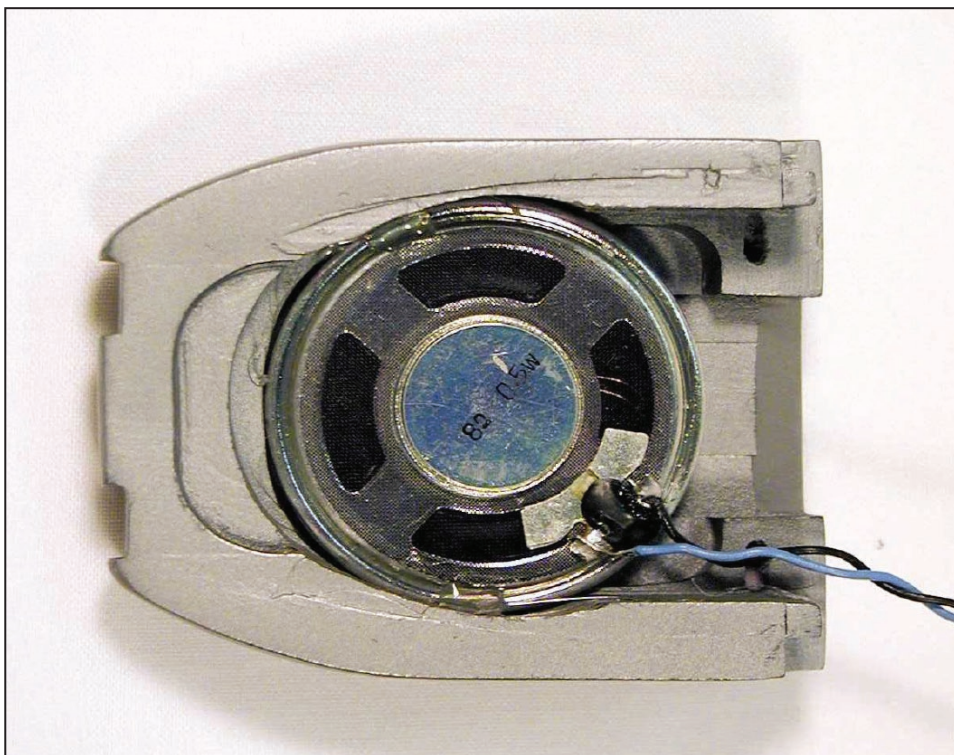
**Step 10:** Drill a 1/4" hole in the hinged hood for the LED to go through. Be certain to center the hole as much as possible (as shown). The emitter LED will be hot glued into place directly behind the clear emitter insert in the emitter nozzle. Refer to your kit assembly instructions for completion of this step.





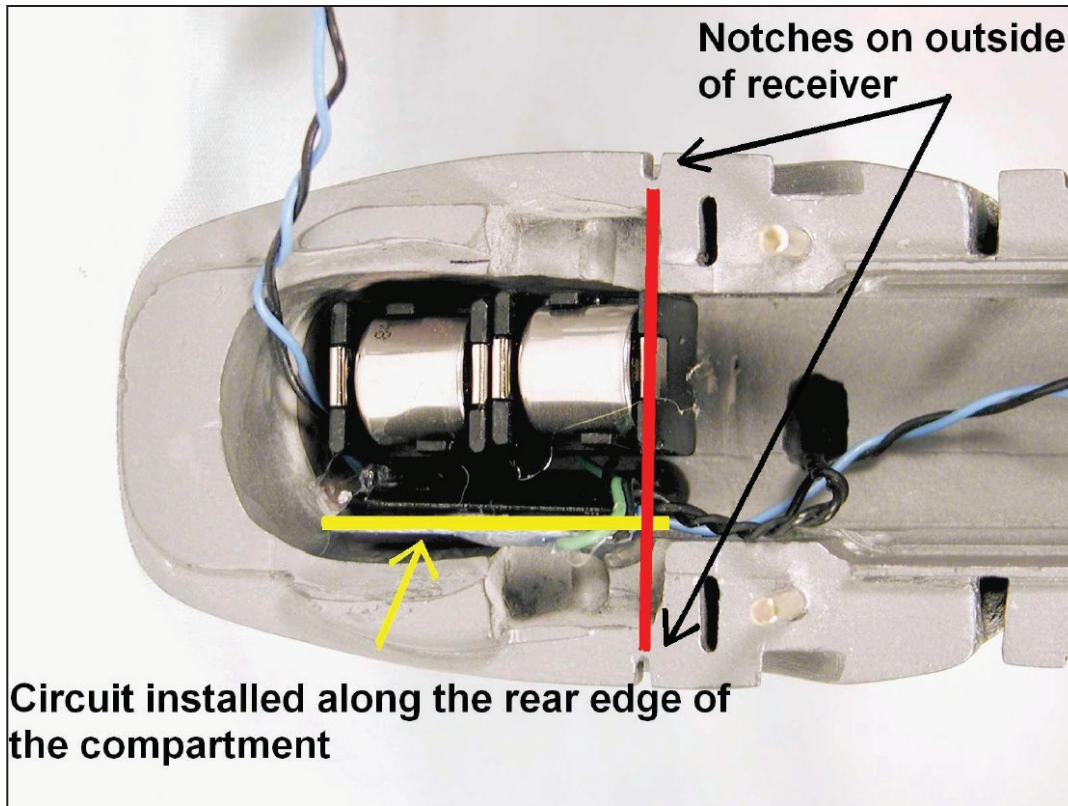
**Step 11:** The emitter wires should be laid flat and straight along the compartment base, allowing the interior plate to be installed on top of the wires and hiding them. Refer to your kit assembly instructions for completion of this step.

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**Step 12:** Hot glue the speaker into its place inside the rear top, with the audio side facing against the top of the piece.





**Step 13:** Carefully hot glue the sound circuit into place along the rear right side of the compartment, with the chip side of the circuit against the wall and facing AWAY from the battery holder when installed (see the **yellow line** in the photo above).

Then install the battery holder, and test fit everything to ensure that the top can be installed without the speaker touching the battery holder or the sound circuit.

**Make sure that when installed, the circuit and batteries are far enough back so that they do not protrude past the notches on the outside of the main receiver (see the **red line** in the photo above). This is to keep them from interfering with the power module when opening and closing the phase pistol.**

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Your phase pistol electronics upgrade is now complete. Refer to your prop kit assembly instructions for completion of the painting steps and the assembly of your prop.

Enjoy!