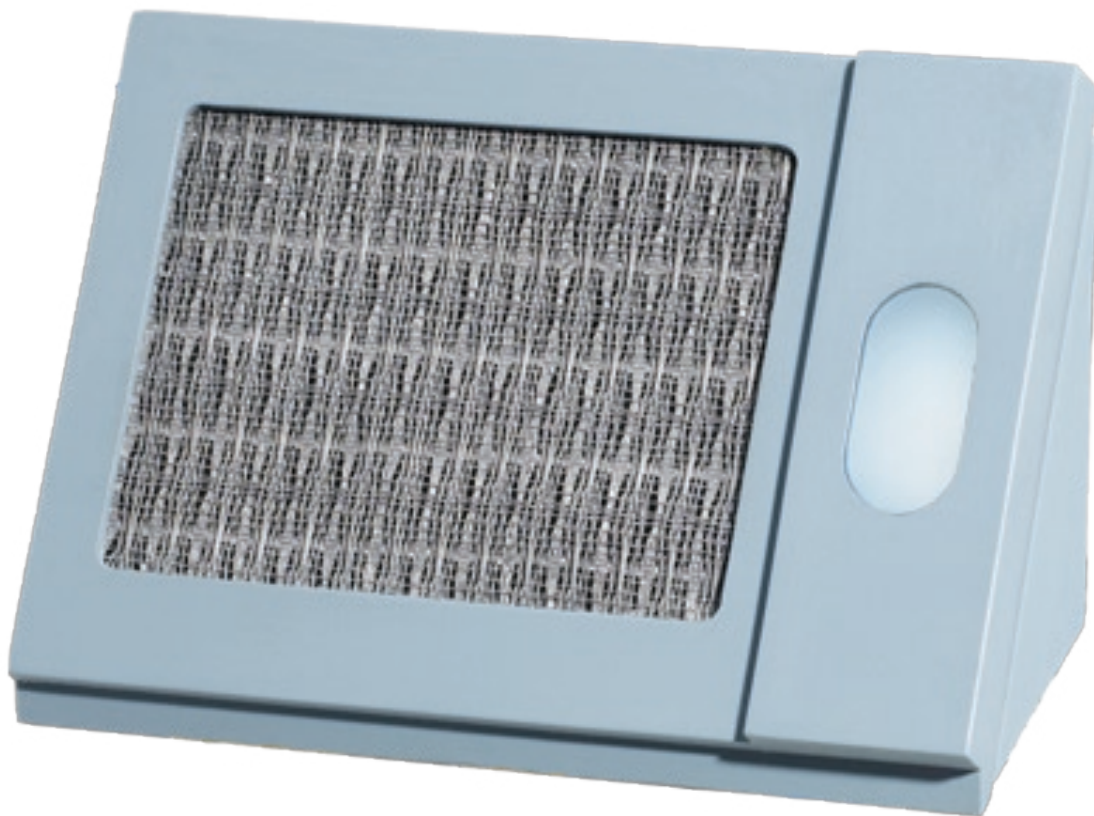




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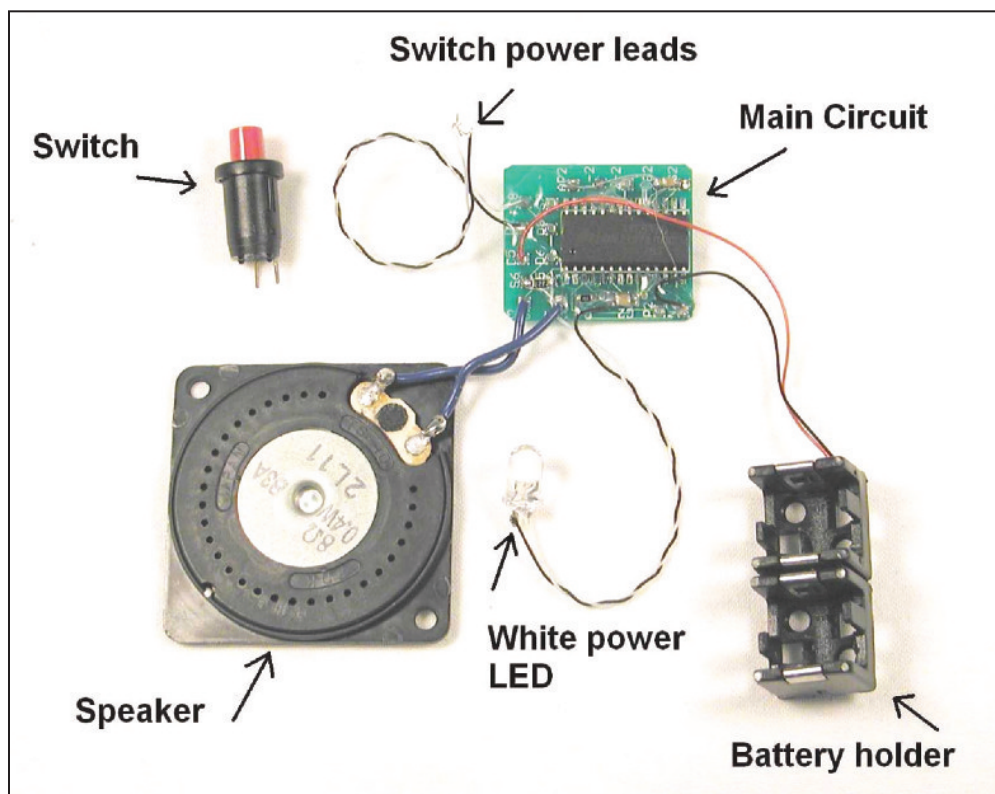
# ***Star Trek TOS Desktop Communicator Electronic Upgrade Manual***



- **WARNING: Small magnets used in some electronic kits 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 TOS Desktop Communicator prop kit manual for prop assembly.
- Requires 2 standard CR1/3 cell batteries (6V).

## TOOLS REQUIRED:

- Dremel tool (a dremel flex arm attachment is very helpful)
- Various modeling files
- Hobby knife
- Soldering iron and rosin core solder
- Scissors and wire cutter/stripper
- Hot glue gun and glue



## 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.

The wires are color coded in order to minimize any confusion.

Always match up wire colors (i.e. black/black, red/red, etc.) unless otherwise stated.

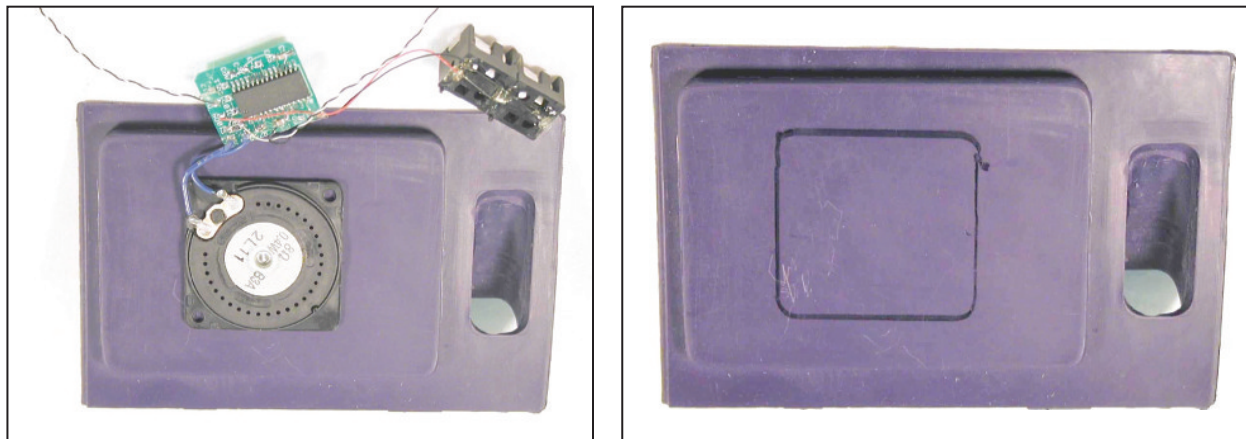
Begin by taking the electronics out of the package and laying them out similar to the above photo.

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.

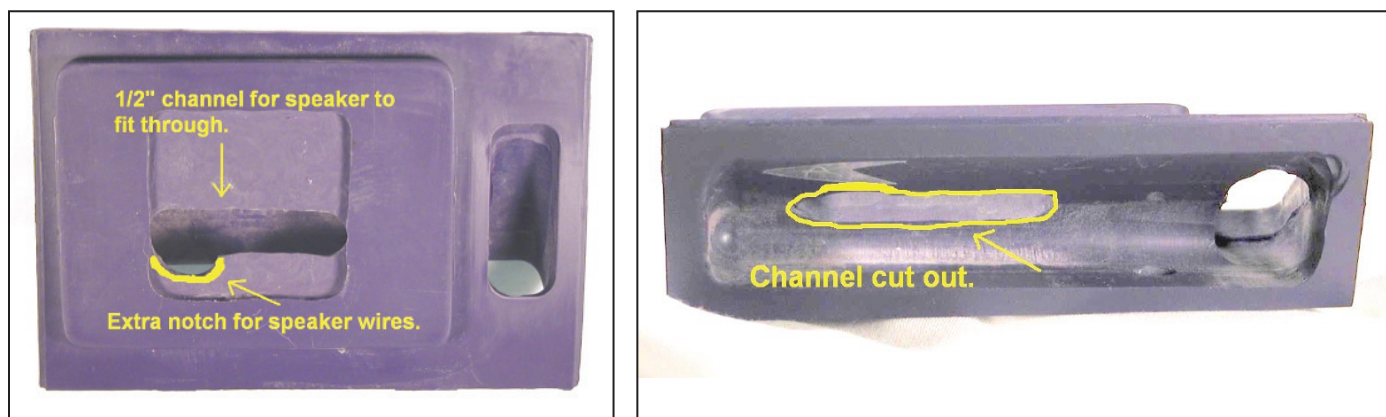
The following steps and pages will go into more detail for electronics installation. Use the prop kit building instructions as the “main” source for prop assembly, in conjunction with steps from these manual pages.



## SPEAKER:



**Step 1:** Place and hold the speaker onto the body with it nicely centered (see photo on the left). Take a felt pen and trace the speaker, for use as a template guide while dremeling out the space for the speaker to be installed into (see photo on the right).

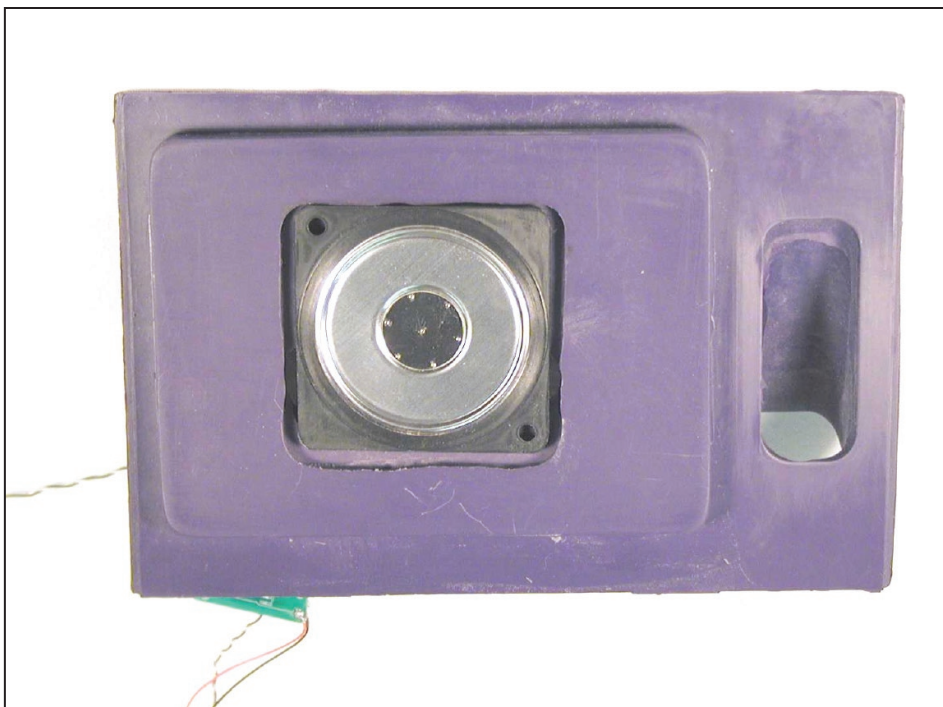


**Step 2:** Dremel out the speaker cavity, using the traced lines as your guide. The depth of the cavity should be  $\frac{1}{8}$ " and done evenly so that the speaker will lay flat as well as flush with the speaker panel of the communicator when installed.

Next, dremel out a channel from side to side, approximately  $\frac{1}{2}$ " tall and all the way through to the inside of the communicator body. This is for the speaker to be inserted through.

You will also need to make an extra cut out at one end, so as to leave room for the speaker wires/connections when the speaker is laid flat (see photo on the left).

**Note:** The channel cut out should be even with the top of the inside cavity of the communicator body as shown in the photo on the right.



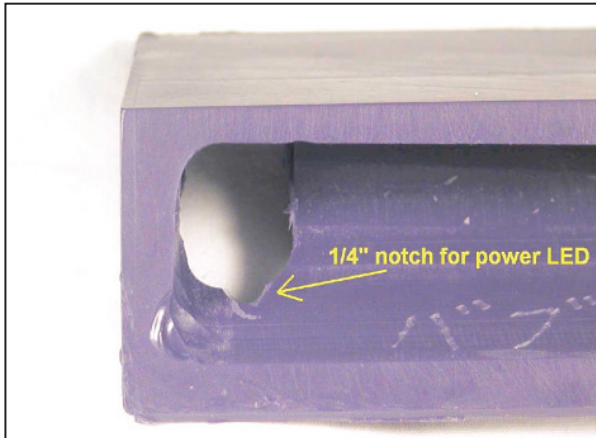
**Step 3:** Insert the speaker through the channel cut out, outward from the inside of the communicator body cavity.

When properly in place, the speaker wire connections will be at the corner of the extra notch, and the speaker will lay nice and flat, as well as flush with the speaker panel (see photo above).

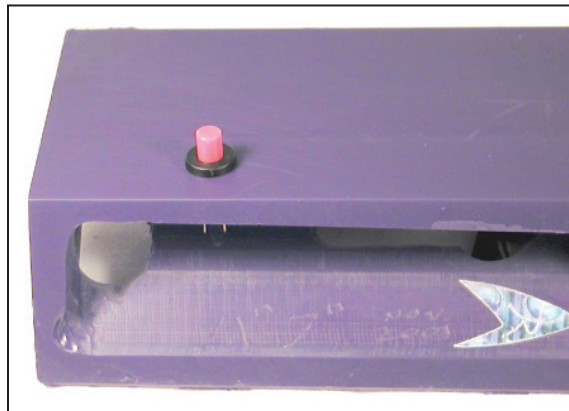
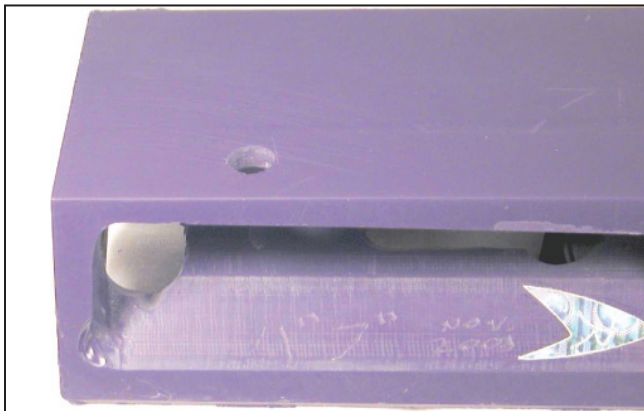
Do NOT glue the speaker into place yet. Remove it in order to complete the next steps.



## SPEAKER:



**Step 4:** Dremel out a 1/4" notch in the lower end of the light opening on the inside of the main body cavity. This will allow a place for the power LED to "sit" while aiming and gluing it into place for the correct projection angle



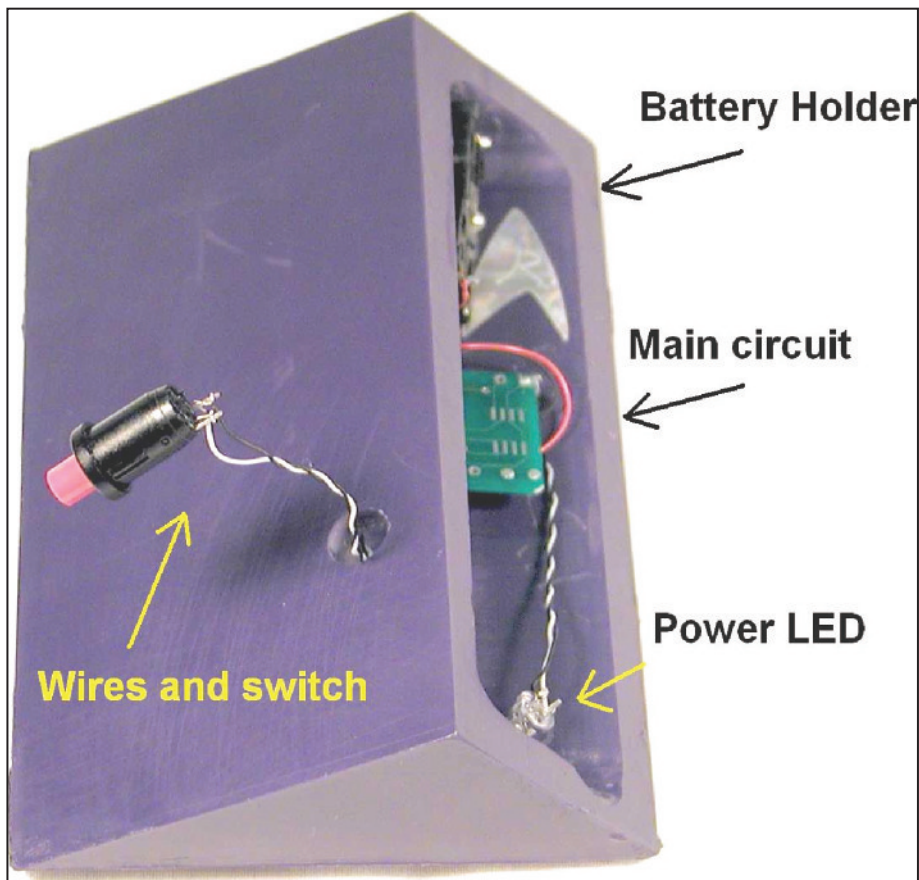
**Step 5:** For the power switch, you will need to drill out a 5/16" hole, making sure to drill the hole straight through to the inside cavity (see photo on the left).

Place the switch into the hole in order to familiarize yourself with how it will be positioned when it is installed (see photo on the right).

Cut out a square piece of paper larger than the speaker; it will fit under the speaker cloth on the speaker panel. Paint it with the same paint the main body will be painted with. You will glue it into place to hide the speaker once the electronics are installed.

***At this point and before permanently installing the electronics, it is recommended that you do all the body work and painting of the communicator body, as well as installing the white acrylic power indicator lens. Refer to your prop kit instructions for these steps.***

## FINAL INSTALLATION:



**Step 6:** Test fit all of the electronic components where they will be glued into place.

Once you are satisfied, begin permanent installation, starting with the speaker. Refer back to Step 3 for how the speaker should look when properly in place.

Hot glue it into place, making sure it lays flat and is flush with the speaker panel. Once in place, glue the painted piece of paper over the speaker.

Hot glue the main circuit into a good location.

Next, put batteries into the battery holder and connect the two switch power wires together so the LED stays lit. Hold the LED into the notch made earlier for it, and aim it to get the best projection onto the power indicator lens (provided with your prop kit). Once the best angle is achieved, hot glue the LED into place and disconnect the switch wires for the next step.

Finally, thread the switch wires through the switch hole, and carefully solder them to the two contact posts on the switch. There is no polarity issue, so either wire can go to either post. Then hot glue the switch into the hole.

Congratulations! You've just completed your electronics upgrade – Enjoy!!