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#PRP1786E

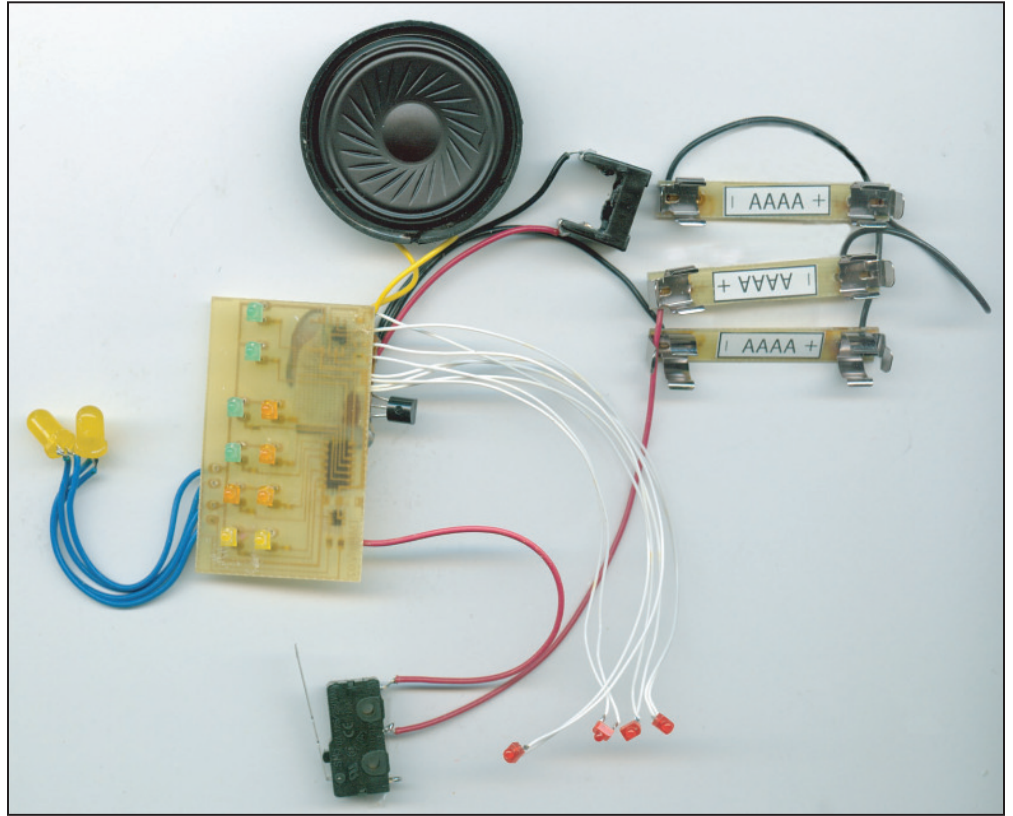
***Star Trek: The Motion Picture* Tricorder Electronic Upgrade Manual**



- **WARNING:** The speaker and small magnet used in this kit could interfere with the operation of pacemakers, hearing aids, etc. Please use caution when handling.
- Please read this manual completely and familiarize yourself with these electronics **before attempting to hook any power to electronics** or installing this upgrade kit.
- This electronic upgrade requires solid prop building and soldering experience.
- 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 Motion Picture Tricorder prop kit manual for prop assembly.
- Requires 3 AAAA batteries and 3 LR1130 batteries.

TOOLS REQUIRED:

- Dremel and/or Drill w bits
- Hobby knife
- Hot glue gun



EXAMINE ALL PARTS AND READ THIS MANUAL COMPLETELY BEFORE HOOKING ANY POWER TO ELECTRONICS:

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

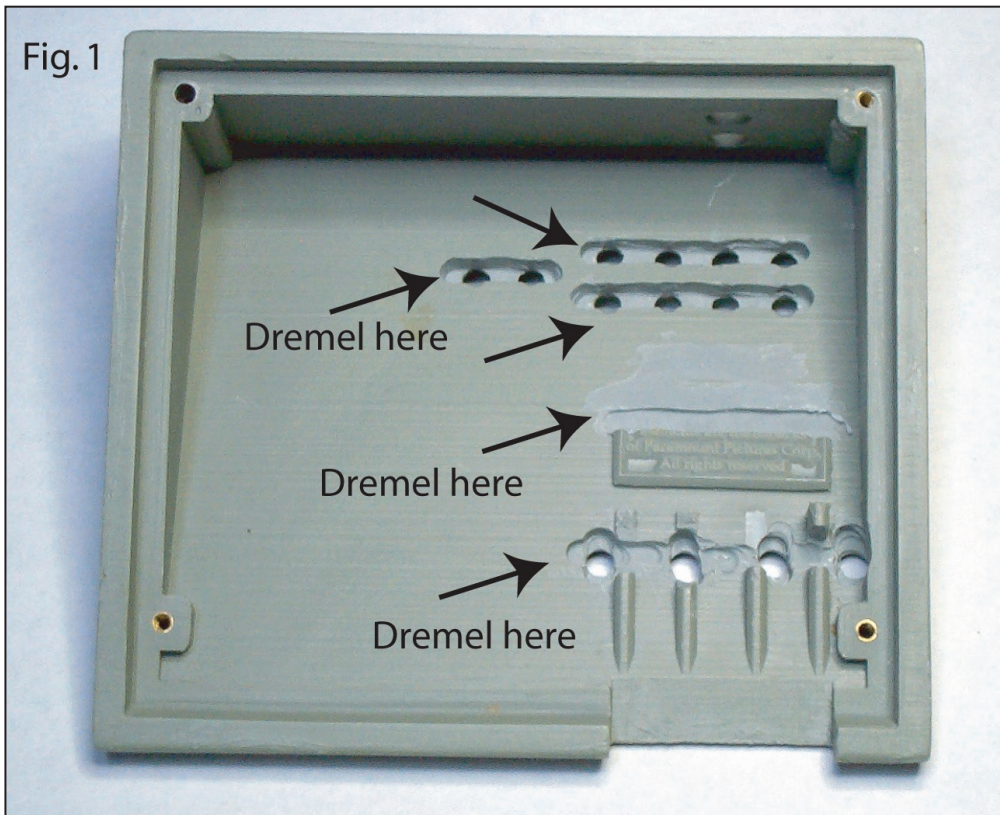
Do NOT solder or modify the electronic circuit board in any way!

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.

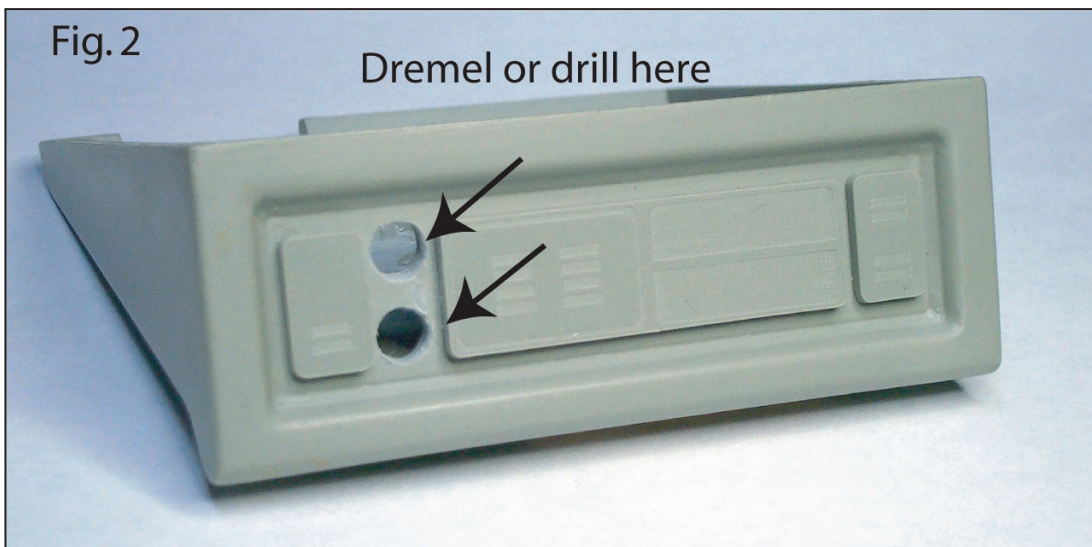
Begin by taking the electronics out of the package and laying them out similar to the above photo.

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.

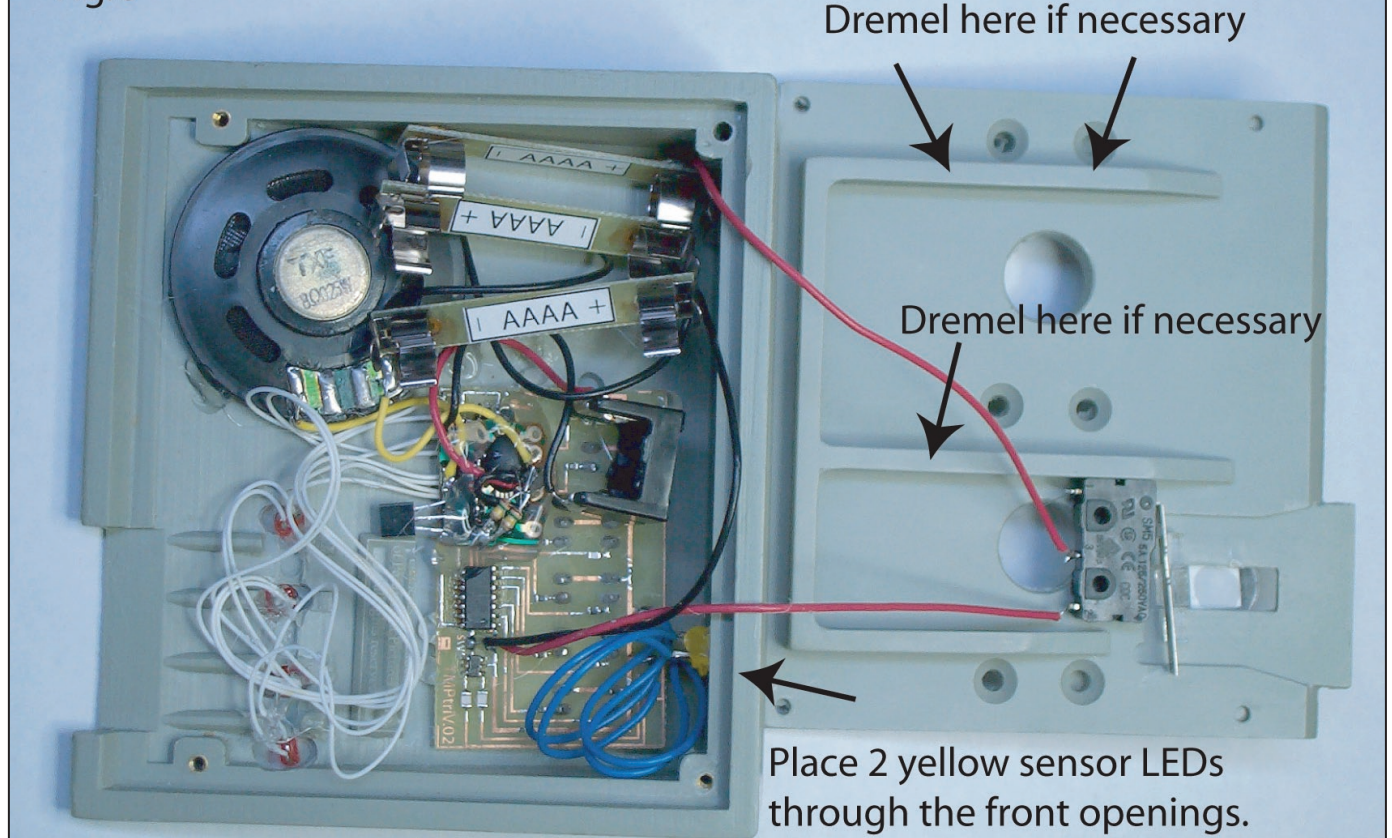


Step 1: Dremel areas as seen in Fig.1. This will allow the LEDs to protrude through further. Do not dremel all the way through; about half way is fine.



Step 2: Dremel or drill 2 - 3/16" to fit the 2 sensor LEDs. See Fig.2 for details.

Fig. 3



Step 3: You also may need to dremel away the rib areas of the top shell. See Fig. 3. This will allow more room for the batteries and their holders.

Now is a good time to try out the electronics.

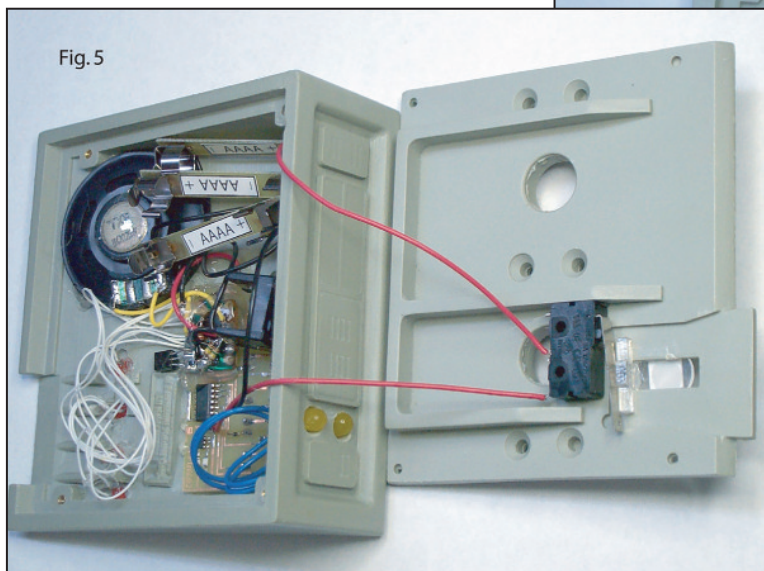
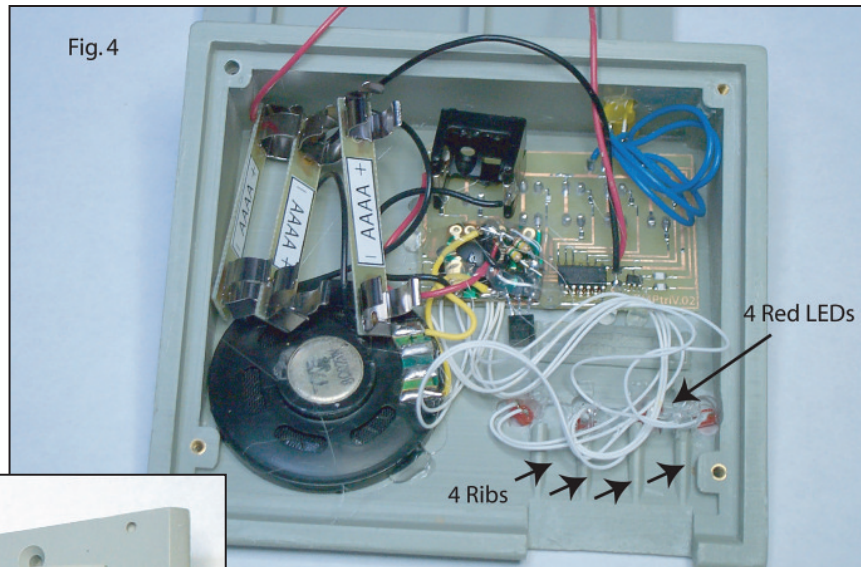
Place 3 AAAA batteries in their respective holders noting correct polarity. Place 3 LR1130 batteries in their holder also noting their correct polarity. The black holder has + and - marked inside the compartment.

Depress the lever on the black switch and the tricorder activates. To activate lights only (no sound) remove the 3 LR1130 batteries. Make sure no metal from the holders touch any other metal or you can damage the electronics. Use electrical tape to insulate the batteries from each other and PCB.

Arrange electronics as seen in Fig. 3. Place the 2 sensor LEDs through the openings.

Next mount the switch like in Fig. 3. When the memory card is inserted, it will activate the tricorder. You may need to add shims (plastic strips) to tighten this area. Basically you build up the internal area. This way the card won't pop back out unless you pull it out.

Mount the switch with hot glue, making sure not to glue the lever or plunger. (Fig. 6 Shows a close-up.)



Step 4: You may need to build up the 4 ribs seen in Fig.4 to make the memory card fit tighter.

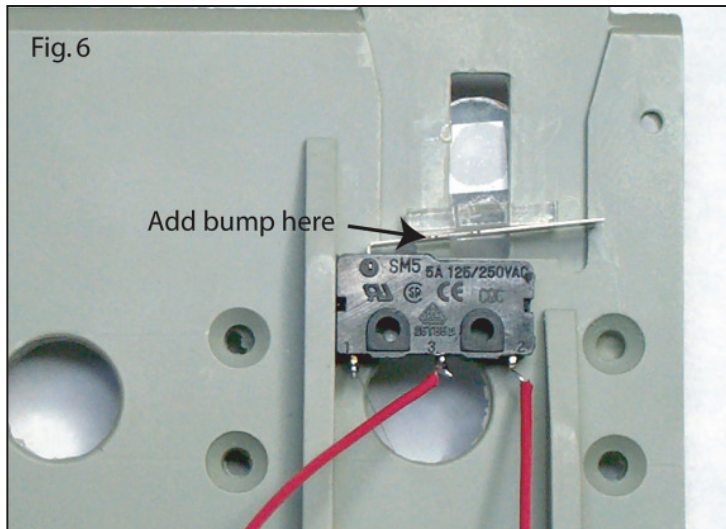
The card is inserted and the unit turns on. When the card is removed, the unit turns off. Without this added friction, the memory card can pop out on its own.

Note: When mounting the speaker, make sure it does not interfere with the top shell plate when closing the top up. You can dremel the top plastic shell a little, making sure not to blow through the top.

Important note: After inserting batteries into their holders, use electrical tape to insulate them from each other and the PCB (printed circuit board). All metal should be covered. If the metal contacts touch each other or the PCB, you can damage the PCB!

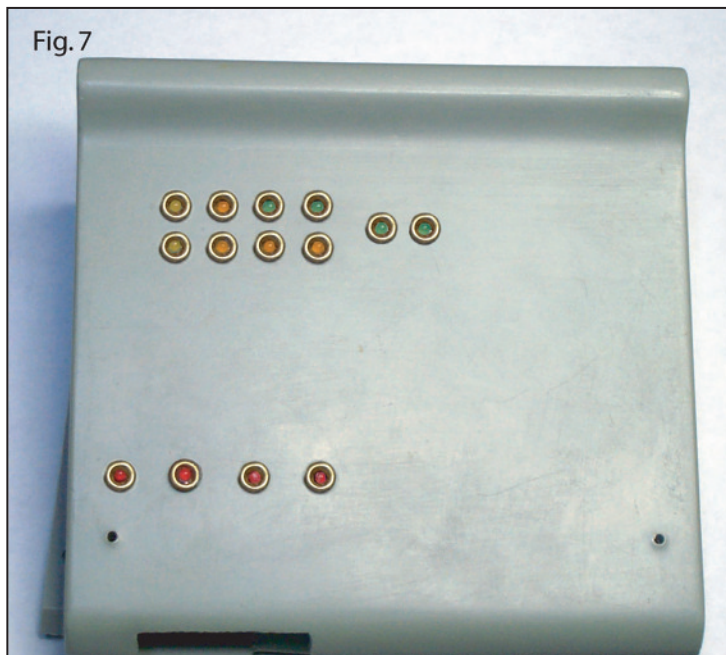
Some people use heat shrink tubing (unheated) and simply slide over the battery holder to insulate them.

Locate the 4 red LEDs (on long wires). See Fig. 4. When you turn on the tricorder, watch the sequence. The effect is like a "volume meter" that fills then empties. Make a note which one is #1, 2, 3 and 4. You can mark the wires to make this easier. Place them like Fig. 4. Use hot glue to secure. Make sure to set them straight so the metal eyelets (brass ring) will also set straight. You can place these in any order you wish. The intended effect is the fill pattern starts at the left and fills to the right. Remember to install them so they are oriented correct looking at the prop's face.



Step 5: Fig. 6 is a close-up detail of the switch assembly.

Note: You can add a small “bump” of plastic to make the switch travel easier. This step is not crucial but just a suggestion.



Step 6: After the above is accomplished you can assemble the prop using the PRP1786 manual.

You may need to cut or file the underside of the brass eyelets that come with your prop kit. They may stand up off the face too much if they are not altered. They need to sit flush as seen in Fig.7

TIP: You can use a razor saw and remove the lower portion of the eyelets, but be careful! Don't cut your fingers! You can use small needle nose pliers to hold them while cutting but make sure not to bend the delicate brass by using too much force.

Congratulations! You have finished this upgrade!