Manufacturing Plan

P10231 UAV Telemetry
Mounting system:

The mounting system consists of 4 Aluminum rods 3/16 inches in diameter and 2.25” in length, 4 #8 nuts, 2 (6” x 6” x .25”) sheets of lexan, and 1 (6” x 6” x 1.5”) sheet of foam.

1.) Drill holes 3/16 in diameter into both sheets of lexan as specified in figure 3.
2.) Cut 4 holes in the foam that aligns with the holes in the lexan.
3.) Thread the top 1/4” of the aluminum rods to fit a # 8 nut.
4.) Place the foam between the two sheets of lexan with all holes aligned and slide the aluminum rods through the holes so that the threaded portion of the rod is on the top.
5.) Screw a # 8 nut onto the rod to secure everything together (A nut is not needed on the bottom because the floor of the compartment will secure the bottom when in use).

Installation into UAV:

1.) Drill holes 3/16” in diameter into the floor of the compartment that will align with the holes in drilled into the lexan.
2.) Lay industrial strength Velcro onto the floor of the Compartment and the bottom of the mounting to secure the system into the compartment.
3.) Lay industrial strength Velcro onto the top sheet of lexan, the bottom of the radio and the bottom of the battery to secure those components to the mounting (where they should be placed on the lexan in shown in figure 2).

Power System:

The Power system consists of two 11.1 V Li-Polymer batteries rated at 2000mAh. These batteries need to be modified in order for them to properly interface with both the radio and the battery charger. This is accomplished through RadioShack brand 9.6V RC Vehicle connector repair kits.

1) The connector repair kits must first be modified to have the "Tamiya" or white plastic connector on one end, with bare wire on the other. Simply clip and strip the wires on the other end.

2) The exposed ends then need to be soldered onto the batteries and 5.5/2.1 coaxial plugs and the battery connectors, making sure that the female ends are placed on the bare battery wires and the male ends on the coaxial connectors. Care must also be taken at this point to ensure that red cables are soldered to red cables and black cables are soldered to black cables. Any mistake in this portion could lead to fire and other dangers due to misuse of the batteries.
Appendix:

(Figure 1: Side view)

(Figure 2: top view of mounting)