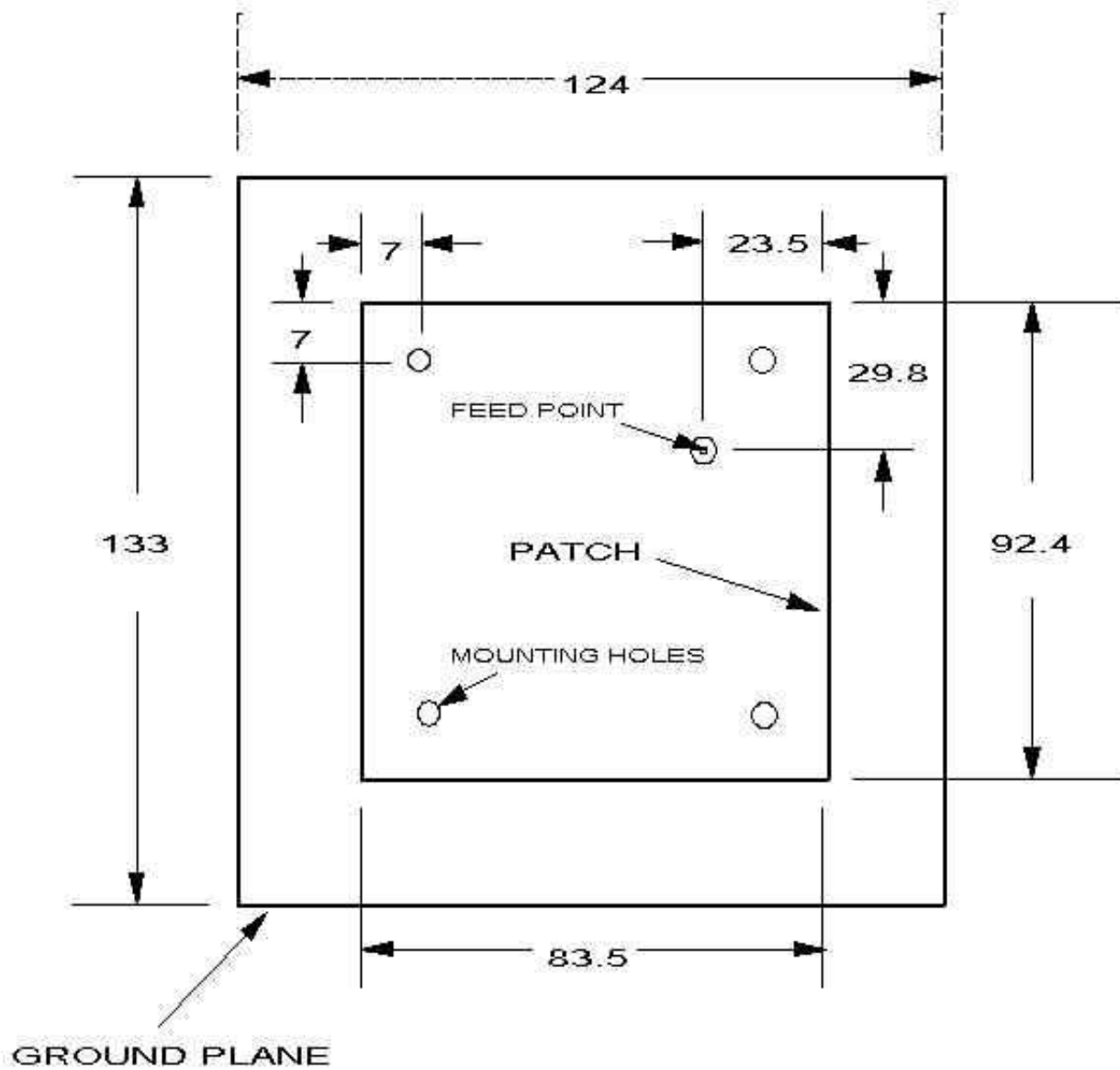


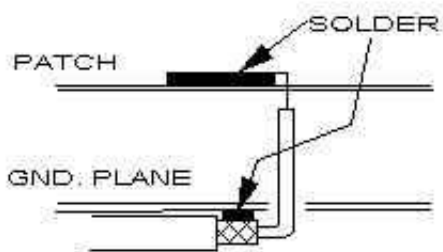


GPS Antenna. (DIY)

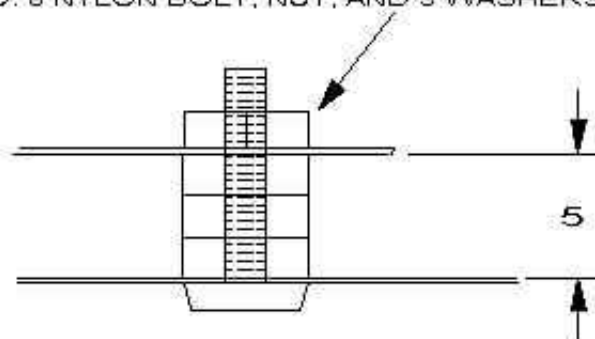




NO. 8 NYLON BOLT, NUT, AND 3 WASHERS



FEED POINT DETAIL



MOUNTING BOLT DETAIL

Note: Drawings are not to scale and all dimensions are in mm.

Construction

Build the antenna using copper sheet and use nylon bolts and washers to support the plates.

The critical dimensions are those of the plates and the location of the feed point. Separation of the patch from the ground plane is 5 mm (0.197 in) and is determined by the three No. 8 nylon washers. The copper sheet should be at least 1.27 mm (0.05 in) thick to provide sufficient mechanical strength but the exact thickness is not critical.

The first step is to cut the sheet metal pieces needed for the patch and the ground plane. One means of controlling the dimensions of the pieces is to scribe the exact dimensions on the surface, then cut the piece somewhat larger than the necessary dimensions and grind the edges to obtain the final size.

After the plate is cut to size, clamp the patch so that it is centered on the ground plane and drill the four 4.76 mm (3/16") corner holes for the #8 nylon bolts as well as the small 1.59 mm (1/16") hole in the patch for the center conductor of the coax at the feed point. Then separate the copper pieces and enlarge the ground plane hole at the feed point to 4.59 mm (3/16") diameter (for RG58/U coax). At this stage round the corners of the patch and the groundplane to a radius of about 4 mm (0.157") and then bolt the patch to the ground plane.

