SCHOOL AMATEUR RADIO COAXIAL CABLE PASS-THROUGH INSTALLATION

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EXTERIOR WALL: Chosen for a room suitable for emergency radio communications.

BASIC CONSTRUCTION: Two "2x4" electrical boxes, one on interior wall and one on exterior wall with a 3/4" PVC conduit between. See Figure 1.

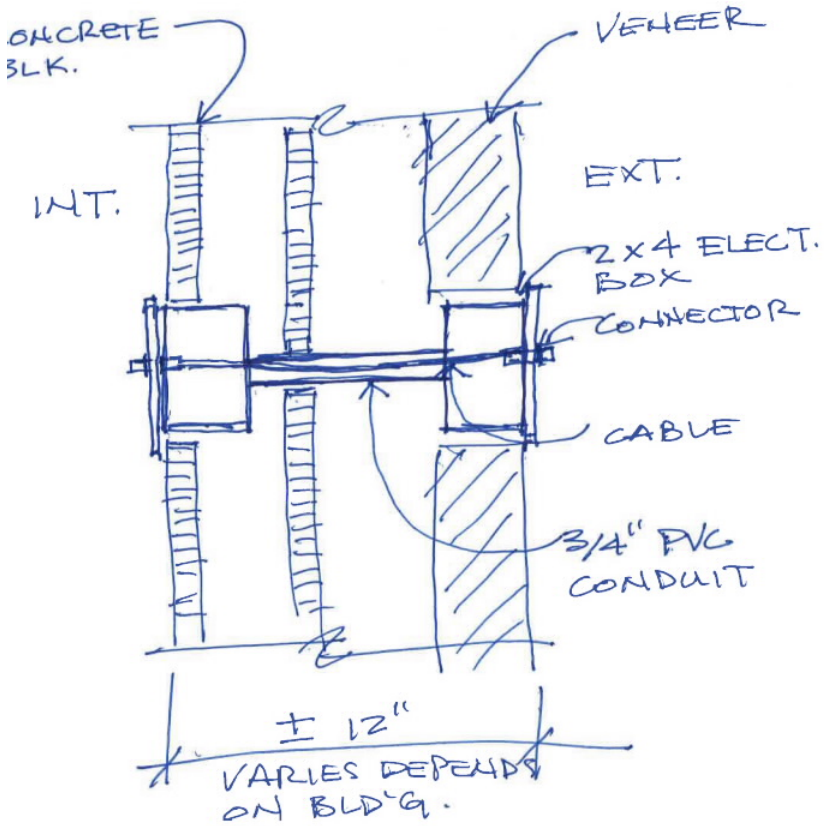

Figure 1. Basic Construction.

COMPONENTS: For each school, there are two nylon electrical box faceplates with two female coaxial connectors installed, which are known as "SO-239" connectors. This is to allow the use of TWO radio antennas. This allows simultaneous use of more than one system, such as shortwave amateur radio; VHF amateur radio; Weather Radio; UHF amateur radio; and if needed, any other radio

system that can utilize RG-8X 50-ohm type cable, with a power level roughly less than 250 watts maximum transmit power.

FIRST FACEPLATE

One nylon faceplate has two coaxial RG-8X gray cables soldered to the SO-239 connectors. One end of the faceplate is painted RED on the inside, and is intended to be the TOP connector when installed; the corresponding RG-8X cable is painted RED on its end, to allow identification after passage through the 3/4" PVC conduit.

> **CAUTION: The inner conductor of the RG-8X coax is solid #18 wire and does not bend well. Be cautious in applying significant force to the soldered connection to the SO-239 connector to avoid fracturing this insulated wire where it exits the cable.**

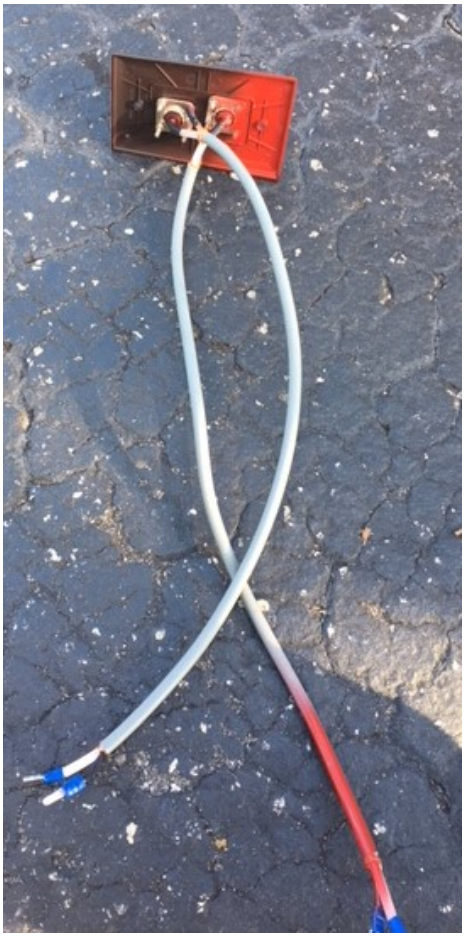

Figure Two: Nylon face plate with top end marked RED and top cable marked with RED paint.

The coaxial cables have two crimp connectors-- a male spade on the inner connector and a male bullet on the shield connector.

It does not matter whether this faceplate is installed on the inside or outside wall.

SECOND FACEPLATE

The other face plate has insulated, stranded wires, going to female connectors – a female spade receptacle and a female bullet connector. There may be a bit of dielectric grease inside the female connectors, which is intended to assist in weatherproofing.

Figure 3. The second faceplate of one school's pass through system.

One end of the faceplate is painted RED on the inside, and is intended to be placed on the TOP, so that the users will then know that the TOP connector on the inside connects to the TOP connector on the outside wall, and the bottom connects to the bottom.

INSTALLATION PROCEDURE:

Take the cable with red paint, pass it carefully through the 3/4” conduit, and then connect
a) the male spade plug to the female spade receptacle of the connector at the RED end of the faceplate;
b) the male bullet plug to the female bullet receptacle of the connector at the RED end of the face pla

Next pass the unpainted cable carefully through the 3/4” PVC conduit, and then connect
c) the male spade plug to the femaile spade receptacle of the connector at the UNPAINTED end of the faceplate;
d) the male bullet plug to the female bullet receptacle of the connector at the UNPAINTED end of the faceplate.

Carefully coil excess RG-8X coaxial cable within the electrical boxes, taking care not to fracture the solid RG-8X inner conductor. Screw the faceplates to the electrical boxes to complete the installation.

NOTE: It is important that both connectors from the RED cable, connect to both connectors of the SO-239 of the RED end of the faceplate --- do not connect the RED cable so that one of its connectors goes to a wire from the RED end, and the other goes to a wire from the UNPAINTED end.