

Gray-Hoverman UHF DTV Indoor Antenna Construction

Needed:

Backboard: 3/8" or 1/2" plywood, 31" H X 25" W

About 6 feet of 12-2 Romex or 12 feet of #12 solid wire. Insulated or uninsulated is OK.

18 dowels, 1/2" dia, 100mm long. Cut from stock as necessary. 3/4" X 3/4" sticks are OK.

18 #6 X 1&1/4" wood screws or drywall screws to hold dowels to board.

1 300 Ohm/75 Ohm BALUN (About \$2.00 @ RS)

6 feet of 12" wide aluminum foil.

6 in of solid Cat 5 or phone wire.

Silicone or hot melt glue.

On the next page, the green lines are guidelines and the red lines are the wires.

Set up the guidelines:

1. Establish the center of the board
2. Draw the center horizontal guideline
3. Draw the other 6 horizontal guidelines
4. Draw the center vertical guideline
5. Draw the other 6 vertical guidelines

Everywhere a wire and guideline crosses, drill a small (~0.1") hole.

Put drywall or wood screws in the holes and use the resulting jig for bending the wires making sharp bends and keeping the wire as straight as possible between bends.

Remove the screws from the board and set the wires aside.

Drill/Cut a hole at the center of the board big enough for the BALUN to pass through.

If the BALUN has screw terminals on the ends of its 300 Ohm wires, cut them off.

Glue (3M Spray works well) the foil to the backboard starting at the outer edges.

An 8mm to 20mm gap between the two pieces is good. Not critical. Trim or fold over edges.

Find the centers of the dowels and drill pilot holes for the screws in one end.

Attach a dowel to the backboard at each of the previously drilled holes.

Lay one of the wires on top of its support dowels and staple them in place starting at the center.

Do that again in reverse. A T25 round-top wire stapler is ideal for this but flat staples will work.

Solder 6" extensions made of stripped Cat 5 or phone wire to the 300 Ohm leads.

Place the BALUN in the center hole so that the 75 Ohm connector protrudes from the rear of the board about 13mm. Silicone or hot glue it in place.

When the silicon or glue is dry, solder the wires from the BALUN to the center points of the antenna wires on top of the dowels.

Connect 75 Ohm cable between antenna and TV or DTV converter.

Mount and aim the antenna. Find your local stations transmitters at

<http://www.antennaweb.org/aw/welcome.aspx>

If your TV/Converter has an "Auto Add" function, let it find your stations.

3/8" Plywood - 25"W X 31"H

