Station Coax and Grounding

This is how VA7FI manages his coax runs into the house. It's meant as an example to help people get started. I'm not an authority on the subject. Feedback is always welcome.

Outside

On the coax side:[1)]

- LMR400 is used for most antennas to the transition box.
- The box shown here is 9“×9”×4½“, but I would probably use the next size up if I did it again: there's never enough antennas!
- Two pieces of flattened copper pipe are used as bus bars.
- The coax from the antennas connect into the coaxial lightning protectors[2)], which are mounted on the bus bars, which are grounded.
- From there, RG-8X coax is used to go inside the house.

On the grounding side:

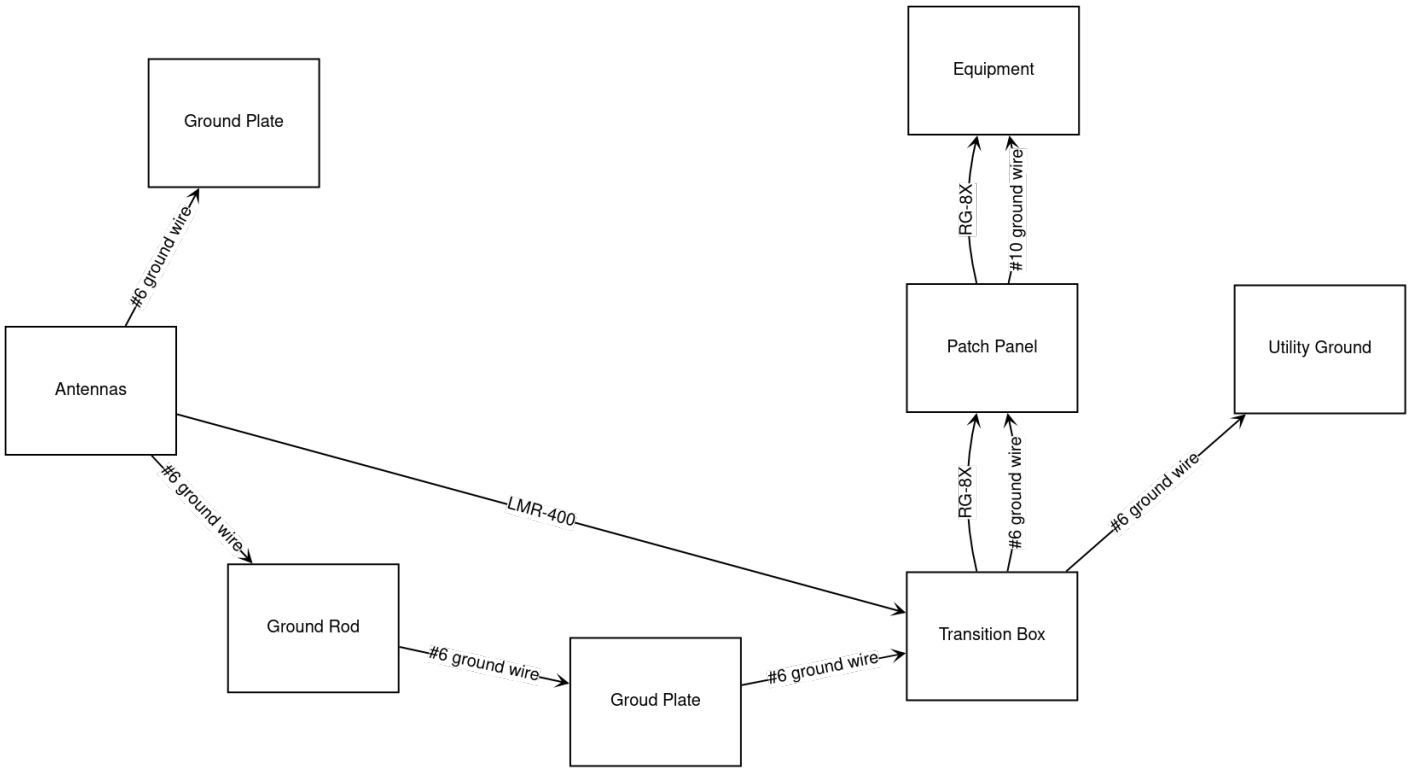
- The antennas up the tree are grounded to a ground rod and a ground plate.
- Those are bonded to the ground plate that connects to the transition box.
- That is also bonded to the utility ground of the house.
- And is bounded to a central grounding point inside the house.

Inside

- The RG-8X from the transition box connects to the back of a patch panel, and the front is labelled with which antenna is connected there.
- Radios connect to the front of the patch panel, and the patch cords are labelled with the radio.
- The patch panel is bonded to the transition box outside, and the radios are connected to the patch panel.

The patch panel makes it very easy to swap antennas between radios without ever having to disconnect anything behind the radio itself.

Flow Chart



1)

Click on any of the pictures to zoom in.

2)

Coax lightning protectors are also sometimes referred as *Polyphaser*, which is one of the brand names