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Notes:

Any input or output (I/O) line can carry surge current that can harm equipment. Of the primary I/O lines (power, phone, and coax), the coax line(s) from the tower can bring in more surge current to equipment than any other source. The large surface area of the shield, the correspondingly low inductance of the coax line, and the proximity of the coax to the tower present the fast rise time lightning current pulse with an ideal path towards the equipment.

If the bottom coaxial cable ground kit (where the coax leaves the tower) is at any elevation above the earth, the inductance of the tower section between that ground kit and the earth is sufficient to cause a substantial voltage drop. The resultant voltage on the coax will drive current on the coax line to the equipment where the electrical safety ground provides a path to ground. Once the surge is inside the building and on the equipment chassis, it is almost too late to try to protect the equipment.

The best way to prevent such coaxial currents from reaching your equipment is to keep them from entering the equipment building. This may be accomplished by installing, on the outside of the building, a panel connected to the ground system with large surface copper strap(s). The large surface area strap is necessary to provide a low inductance path to ground for the surge energy as well as provide for the high frequency component of the strike energy. Each coaxial line as it enters the building is attached to the panel with an additional ground kit before connecting to a protector.

A PolyPhaser bulkhead entrance panel provides all of the necessary attributes required above. The bulkhead panel has a weather protected built-in grounding kit that will handle a wide range of coax lines. The low inductance ground connection is provided by multiple 6 inch [152.4 mm] wide copper straps attached with a sandwich bar to the 0.125 inch [3.2 mm] thick solid half-hard copper bulkhead. The panel is designed to mount/ground a PolyPhaser coaxial protector facilitating cable installation. The overall physical installation of a bulkhead entrance panel is shown in the PolyPhaser online catalog. Please note the below grade interconnection of the bulkhead panel with the other elements which comprise the grounding system.