

## W255BO WQOR 90w H and 180w V Composite Antenna Description

This proposal is for a composite antenna consisting of 2 Scala CA2 style antennas, one polarized vertically and one polarized horizontally. Here is the antenna layout:

1. One Scala CA-2V (FCC pattern 16130) pointed at 100 degrees true north. This is a vertical only antenna and the ERP on this antenna will be 180 watts.
2. One Scala CA-2D (FCC pattern 16126) pointed at 210 degrees true north. This is a horizontal only antenna and the ERP on this antenna will be 90 watts.

This translator will incorporate a 66.6/33.3 splitter in the transmission line prior to the antennas.

### Transmitter Power Output Calculation:

Vertical ERP=180 watts (Ant Gain 2.512) --- Antenna Input=71.656

Horizontal ERP=90 watts (Ant gain 2.512) --- Antenna Input=35.828

Antenna Splitter is 66.6/33.3 Splitter --- Splitter Input= 107.484 watts

Transmission Line is Cablewave FLC12-50J 1/2 in. coax.

Length of Line=130 ft. or 39.624 meters

Line Efficiency (Based on FCC Line Efficiency Program) = 0.8121 or 81.21%

Final Calculation --- (Splitter Input) 107.484 divided by (Line Efficiency) 0.8121 =  
132.4 Watts TPO