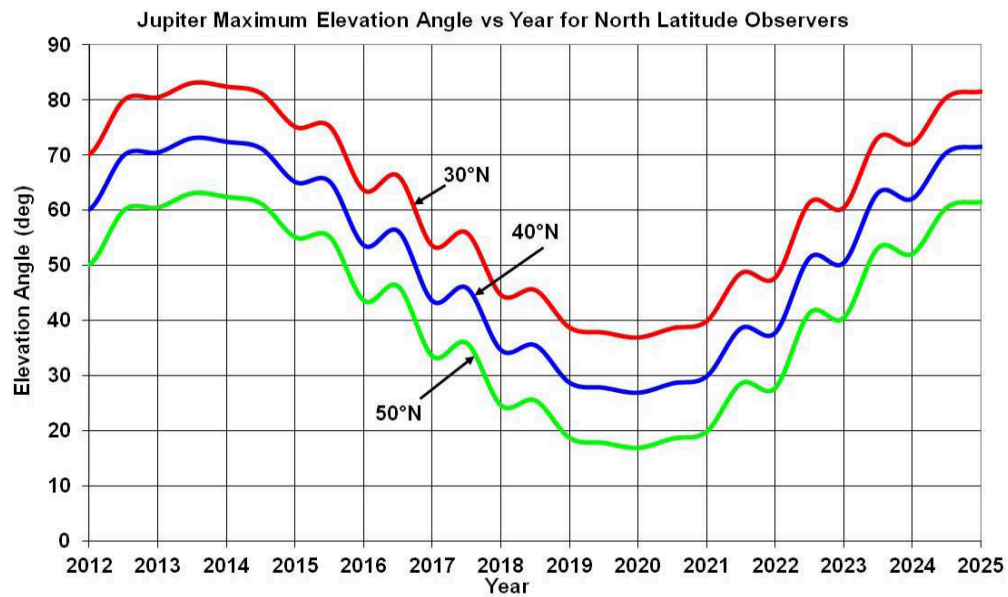


# Radio Jove Antenna Notes

From Page 4 in the manual

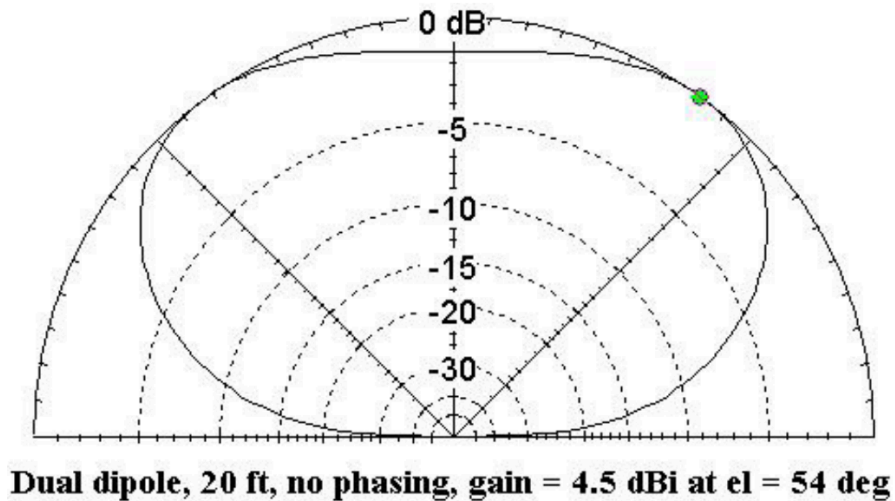
( [https://radiojove.gsfc.nasa.gov/radio\\_telescope/manuals/RJ\\_ant\\_manual\\_2.0.pdf](https://radiojove.gsfc.nasa.gov/radio_telescope/manuals/RJ_ant_manual_2.0.pdf) ):

“The following ~~two~~ plots show Jupiter’s maximum elevation for northern hemisphere (Figure 1.3) ~~and southern hemisphere (Figure 1.4)~~ observing sites for the coming years:



From the plot, in 2023 at 40 degrees north latitude, Jupiter will be between 50 and 63 high in the sky.

From Page 18 of the manual, an antenna plot for a 20 foot high antenna shows that with no phasing cable, both antenna lines at the same length into the combiner, the elevation angle of maximum gain of the antenna is 54 degrees. So, this is the best compromise for 2023.



From page 21, paragraph 5, it says:

“The cable running from the power combiner to the receiver should be a multiple half wavelength long.”

Since a dipole antenna has an impedance of 75 ohms and the cable has an impedance of 75 ohms, there is no real reason for this. They may be trying to make this simple. So the two 32 foot long cables can be used.

They also have a chart of loss for RG-6 on page 22 and say that up to 350 foot of cable can be used. LMR 400-75 has a loss of 0.5 dB/100 foot at 20 MHz, so we could use up to 600 feet of it to meet the 3 dB number the manual says.

## Final Answer:

For 2023 we do not need a phases cable so our antenna looks like:

(see next page)

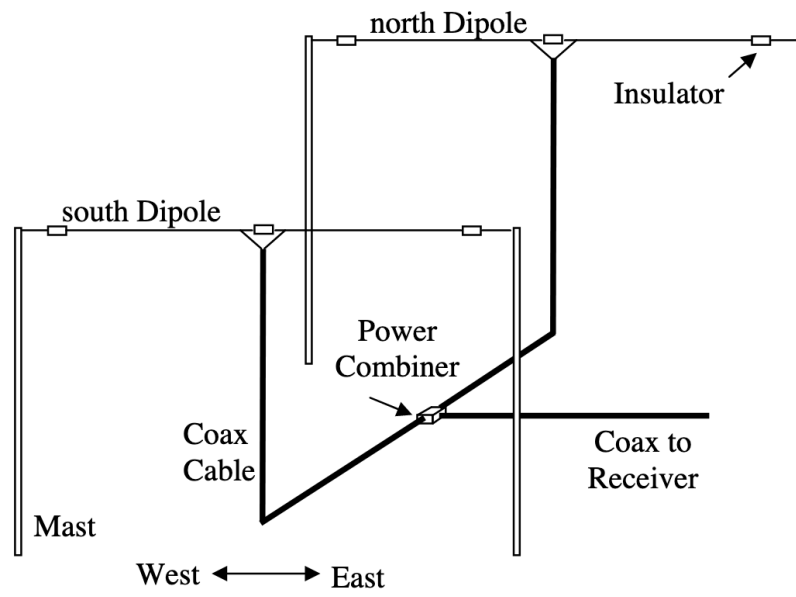


Figure 3.5. The Jove dual dipole antenna, shown with equal lengths of transmission line connecting each dipole to the power combiner.