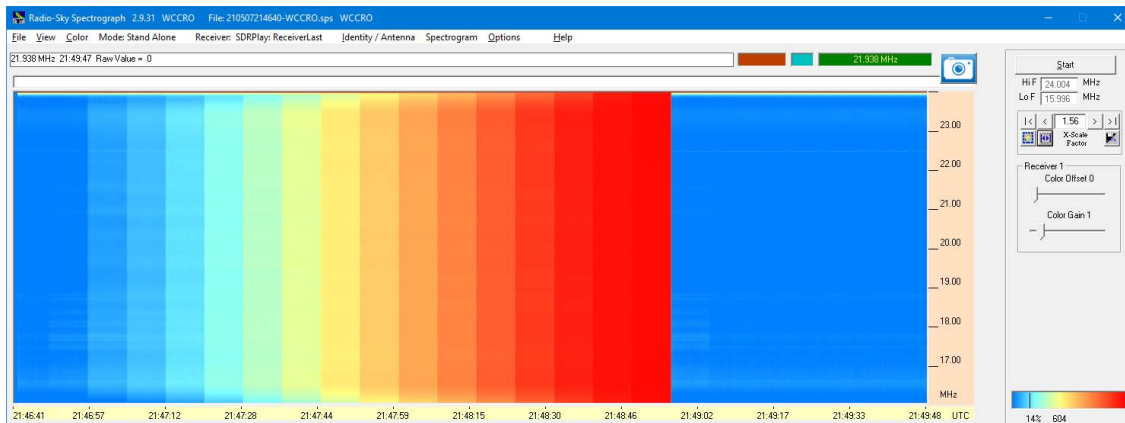
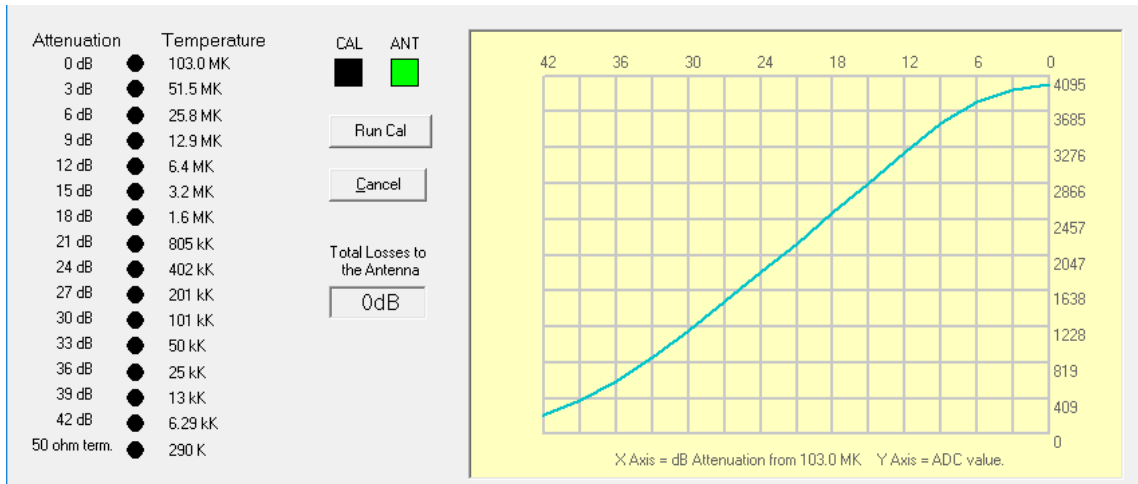
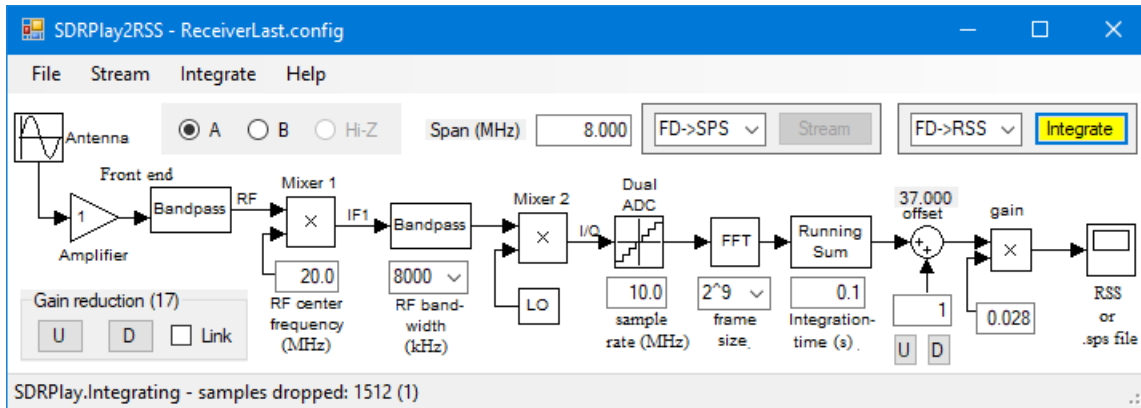


# RSS Gain and Color offset Effects on the Visual Dynamic Range of the RSP1A

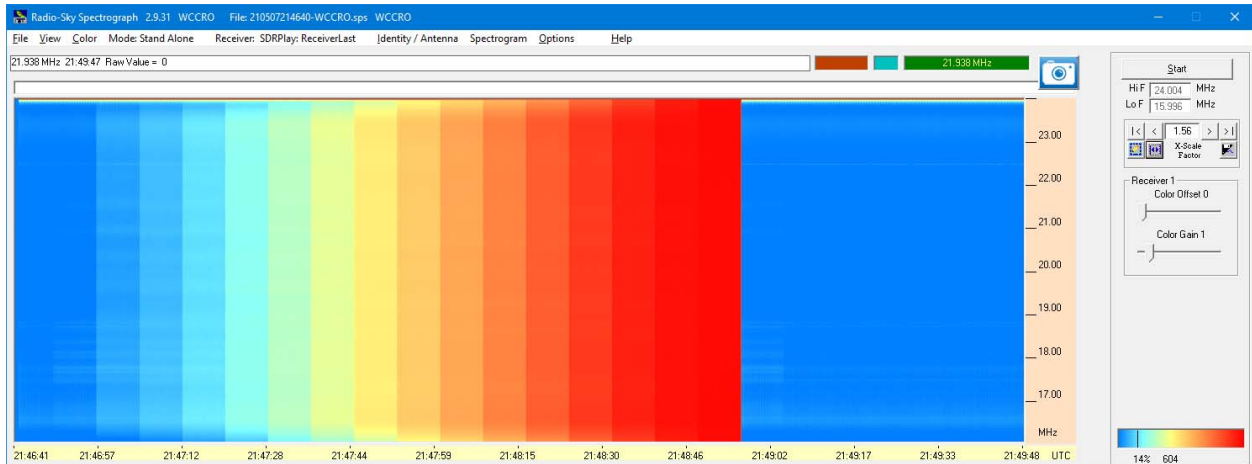
R.S. Flagg July 2021

The purpose of this experiment is to show how color gain and color offset settings in RSS effect the visual dynamic range of the display. Simply put, how many 3 dB steps can be discerned in the display for a given setting of gain and offset. The higher the color gain the bigger color change for a given signal strength change, but the lower the visual dynamic range.

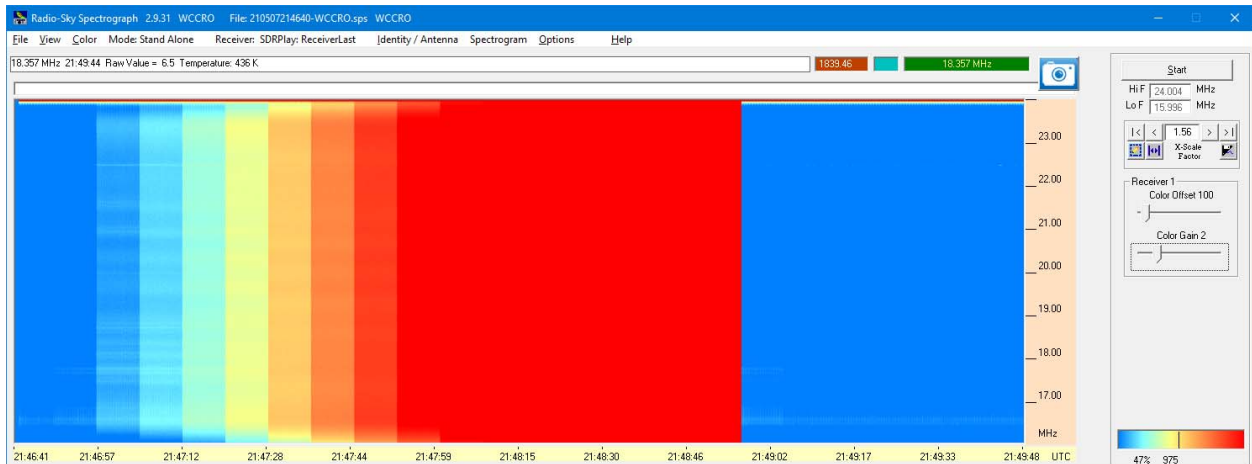


RSS Color offset 0, color gain 1, visual dynamic range about  $3 \times 12 = 36$  dB, blue/yellow/red pallet

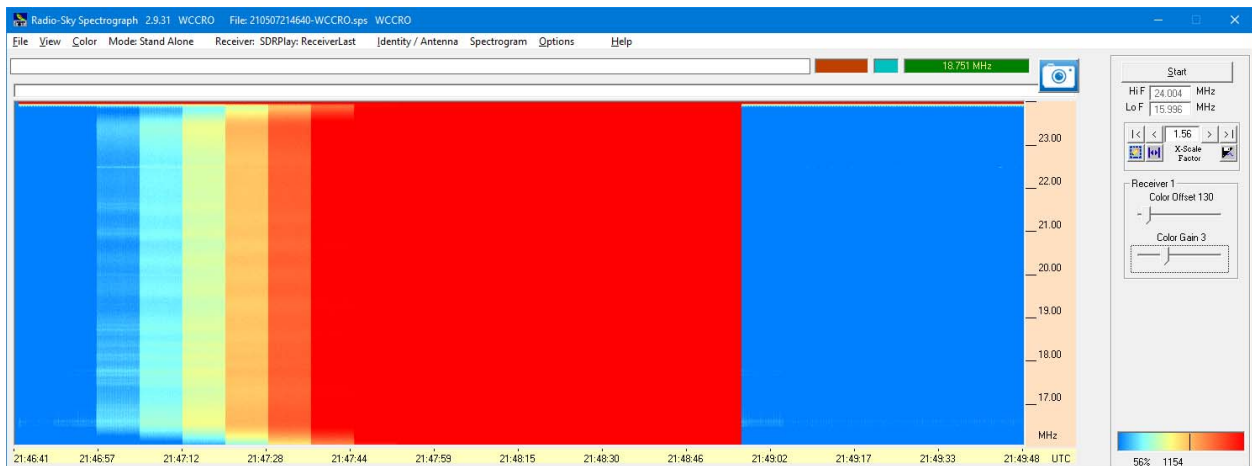
Below are we see the effect of 3 different settings of RSS color gain and offset with the blue/yellow/red pallet



RSS Color offset 0, color gain 1 (same as on previous page), visual dynamic range  $3 \text{ dB} \times 12 \text{ steps} = 36 \text{ dB}$

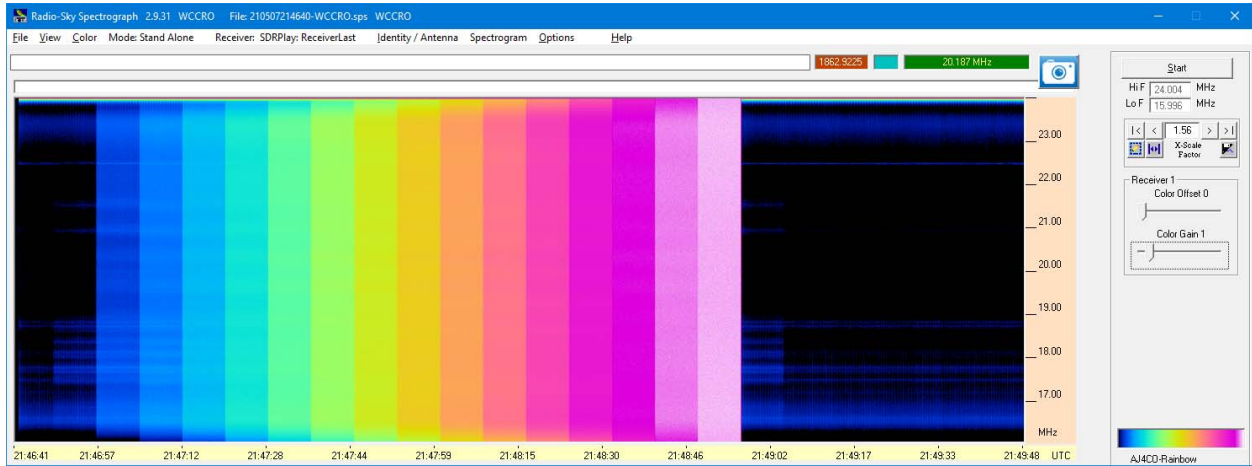


RSS Color offset 100, color gain 2, visual dynamic range  $3 \text{ dB} \times 8 \text{ steps} = 24 \text{ dB}$

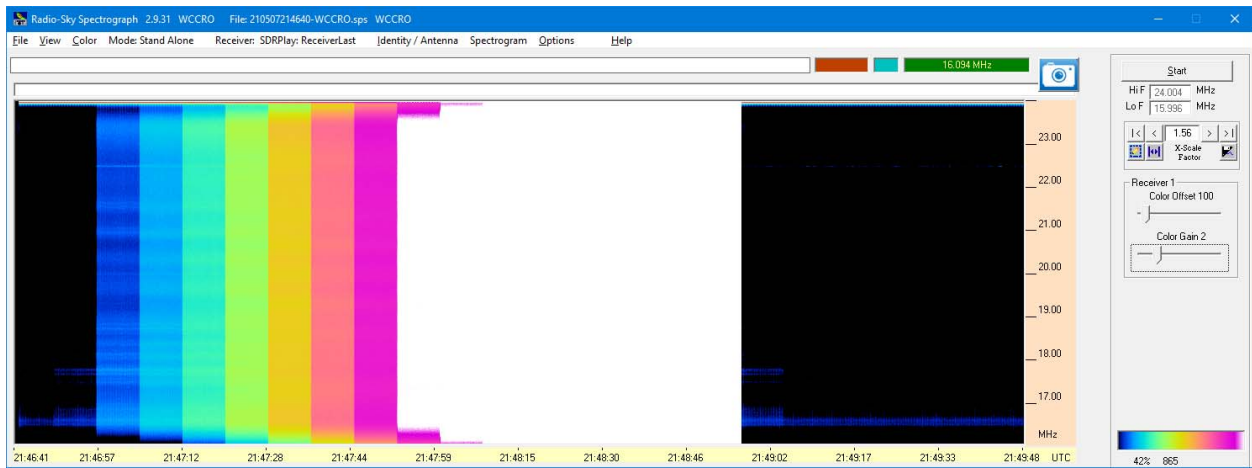


RSS color offset 130, color gain = 3, visual dynamic range  $3 \text{ dB} \times 6 \text{ steps} = 18 \text{ dB}$

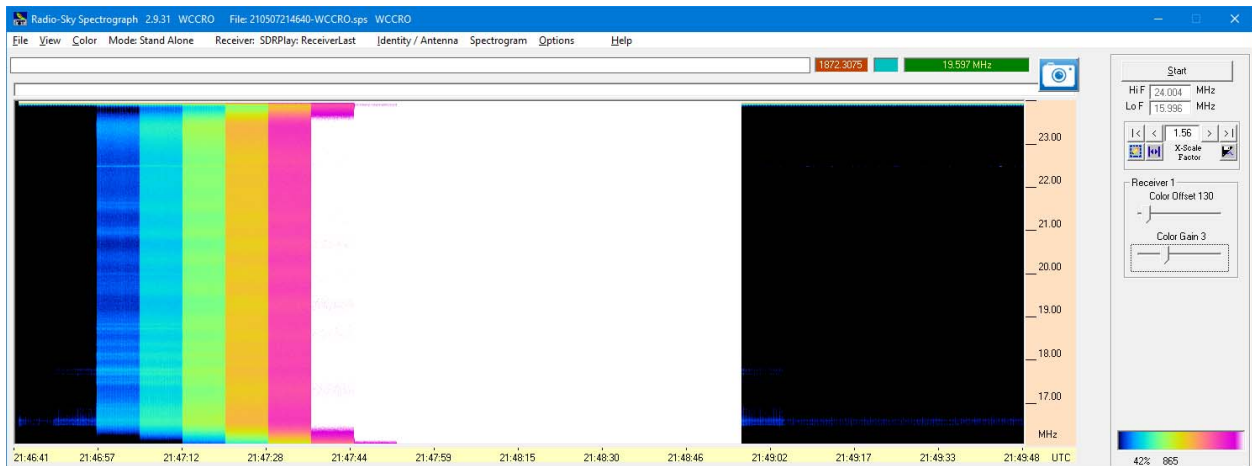
This page shows 3 different RSS color gain and offsets using the AJ4CO color pallet



RSS color offset 0, color gain 1



Color offset = 100, color gain = 2



Color offset = 130, color gain = 3