

New PLL Options for ECSS and SYNC AM demodulation

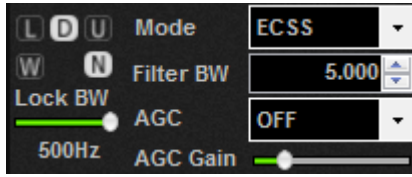


Figure 1: PLL options in ECSS mode

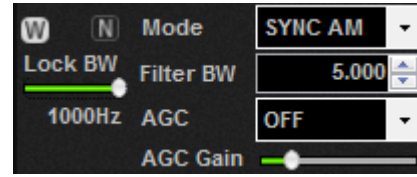


Figure 2: PLL options in SYNC AM mode

“Wide” Button

When the “Wide” mode is selected (the **W** button is highlighted) the PLL initially is set in “UNLOCK” state and it works with the wide filter; this filter is larger as the demodulation filter:

- Figure 1: in ECSS mode the demodulation filter and the PLL’s wide filter are set $\pm 5\text{kHz}$;
- Figure 2: in SYNC AM mode the demodulation filter and the PLL’s wide filter are set $\pm 2.5\text{kHz}$.

When the frequency error becomes smaller than the PLL narrow filter, the PLL goes in “LOCK” state and it start to work with the narrow filter.

If the frequency error increase, the PLL return in “UNLOCK” state.

“Narrow” Button

When the “Narrow” mode is selected (the **N** button is highlighted) the PLL initially is forced to operate in “LOCK” state and it works with the narrow filter regardless of the frequency error.

“Lock BW” Slider

“Lock BW” slider allows the user to set the bandwidth of the narrow filter of the PLL:

- Figure 1: in ECSS mode the PLL’s narrow filter is set $\pm 500\text{Hz}$;
- Figure 2: in SYNC AM mode the PLL’s narrow filter is set $\pm 500\text{Hz}$.