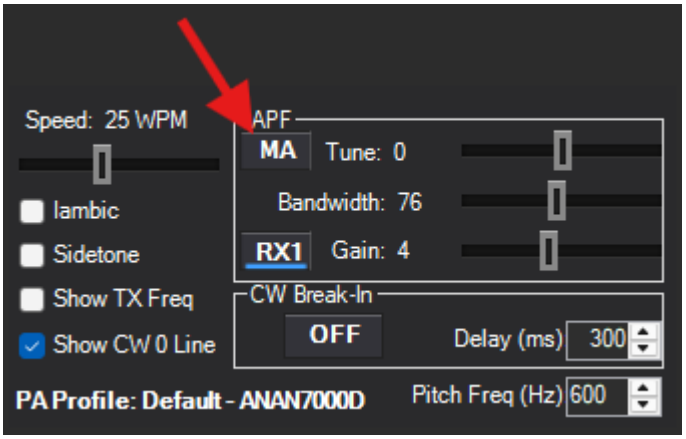
v2.10.3.12 - New Audio Peaking Filters (APF)

Three new Audio Peaking Filters for CW have been added to v1.29 of WDSP which is used by Thetis v2.10.3.12, in addition to the Bi-Quad APF that was already available. The new filters are **Double-Pole**, **Matched**, and **Gaussian**. Each of these filters has different characteristics.

Note in particular that the “Matched Filter” is very specialized and it must be tuned to “match” the pitch frequency for proper operation.

The following is some guidance from Paul, N2PK, who has been a major contributor to this project and has done substantial testing of the various filters.

- Warren, NR0V



The goal of these options is to improve weak signal CW copy by ear. Since all of our ears and brains respond to potentially varying signals in potentially varying noise differently, no "winner" will be declared. That is up to each user to decide. There are however some general recommendations at this point.

1. Set the main receiver bandwidth within the 100 to 300 Hz range.
2. Set the CW pitch to whatever you prefer but many lowband CW DXers prefer around 350 Hz.
3. Only set the APF Bandwidth to 10 Hz if the CW is 12 WPM or less.
4. Use an APF minimum bandwidth of 20 Hz for about 25 WPM and wider for higher speeds.
5. Some users find that their preference depends more on how the noise sounds as it may sound like CW.
6. Listen to weak CW signals with each of the four APFs.
7. Also compare the APFs at 10 or 20 Hz bandwidth to the main receiver bandwidth set to 10 to 20 Hz.
8. Try BINaural to see if that improves CW copy by ear.

But again, as the saying goes "your mileage may vary", so these are just a starting point.

- Paul, N2PK