TECHNICAL NOTES

TN120 Notch Filtering a Voter Port

Notch Filtering a Voter Port

When using 2175 Hz and 1950 Hz Status tone for voting, a brief momentary chirp on the transmitter and console ports can be heard upon return to squelch condition.

The chirp that is heard is a brief burst of the status tone used on a voter's receiver ports to return it to the squelched or un-voted condition. Upon return to squelch condition, the detect time for this tone is about 20 MS until squelch occurs and voting ceases. There are several different solutions to correct this. These include:

1. Changing receiver ports to use a COR input to initiate voting. Upon a return to squelch condition (no COR) no tone will pass out the transmitter or console ports. If changing to COR is not practical and if using 2175 Hz squelch tone, the notch filter on the console and the transmitter ports can be enabled. **Caution:** *If using keying tones to key the transmitter from the console, enabling the notch filter on the transmitter port will notch the 2175 Hz HLGT and LLGT thus preventing the transmitter from keying. You may still enable the notch filter on the console port.*

2. If using 1950 Hz squelch tone, and changing to COR or 2175 Hz tone is not an option, you must contact Raven Technical Support for a firmware upgrade. The firmware upgrade involves replacing a chip(s) inside the Blade. The chip is installed in a socket, so it is simple to replace with no soldering required. An IC extraction tool is helpful in removing the chip. **Caution:** *You must not enable the 1950 Hz notch filter on the transmitter port if you are tone keying from the console and using 1950 Hz as a transmitter function tone. You may still enable the notch filter on the console port.*

3. To enable the notch filter connect the Blade to the M4x software. Bring out the transmitter port(s) and the console port. Go to the tab labeled **"DSP"** and check the box in the center left area labeled **"Enable Notch"** (See screen shot below). Next, click **"Save"** in the lower right and close the box from the desk top. Repeat this for the remaining ports that are transmitter or console ports that you want to notch. When done, test the Blade to ensure the notch filter is working. When done with testing, save the new Blade settings to firmware (refer to Raven Tech Note TN102), and test again.