FT-2000 Noise Blanker

Introduction

There have been some comments on the operation of the Noise Blanker in the FT-2000 Transceiver.

The Noise Blanker in the FT-2000 does work and is very effective against short duration pulse type noise, provided that the correct settings are selected.

The Noise Blanker, like most others works by detecting short duration pulses at the IF and either shorts the signal path to ground for the duration of the pulse or opens the signal path to prevent the pulse from passing further down the receiver. Zero threshold switches are commonly used in the signal path so that there are no clicks when the signal path is opened or closed.

The ability of the Noise Blanker to detect the short duration pulse is affected by the RX bandwidth. Short duration ignition type interference has by its nature a very wide bandwidth (Fourier Analysis) and so if the RX bandwidth is reduced, then the pulse cannot be detected and so passes through the noise blanker switch.

Bandwidth

The FT-2000 has three roofing filters of different bandwidths and selecting the wrong filter can have a dramatic effect on the effectiveness of the noise blanker.

If Roofing Filter bandwidth is set to Auto, when the NB button is pressed, the 15KHZ Roofing filter is automatically selected irrespective of which was previously being used and the noise blanker is then very effective on both short and long duration pulses depending on which NB setting is selected (see below).

If on the other hand the user has selected one of the narrower roofing filters, then the ability of the Noise Blanker to detect the noise pulse is much reduced and the noise blanker is therefore less effective.

Noise Blanker Control

Like a lot of buttons on the FT-2000 the NB has two functions to the button.

A quick press and release selects the short time constant NB mode and a press and hold selects the longer time constant NB mode.

Which mode is selected can be determined by watching the NB LED indicator when the button is pressed. If the LED indicator flashes for five seconds then stays on, then the long duration pulse noise blanker mode has been selected, if however the LED indicator just comes on and does not flash then the short duration pulse noise blanker mode has been selected.

Pressing the NB button when the LED is on will turn off the NB from either mode.

Selecting the long duration pulse NB will have absolutely no effect on short duration pulses like car ignition as they will pass straight through the NB circuits.

The NB attack level for the Main RX can be adjusted by moving the NB control on the front panel.

The Sub RX NB level can also be adjusted, either to a fixed level via Menu 036 or to be linked to the main NB level control by the same menu.

The Noise Blanker in the FT-2000 is very effective against short and long duration noise bursts when the correct mode and RX bandwidth are selected.

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