Review:

Datong Auto Notch Filter

By Tony Bailey
G3WPO

Datong have been building themselves an excellent reputation over the years for quality products, and this latest addition to their range is no exception. In fact, with the change of styling from the usual Vero *G-Line* cases to a solid aluminium extruded cover in this model, the presentation is now very professional, with the contents matching the external appearance.

With three previous audio filters of various types, and now a fourth, there is obviously a good market for this type of aid — I wouldn't be surprised if the various transceiver manufacturers soon latched on to this and started incorporating automatic notch filters to back up the width/shift features which are now standard.

Background

The idea behind this new model has already been exploited by Datong in previous models, notably the *FL3,* but the circuitry and operation of this new version are much more sophisticated.

As they say in their blurb, "as the HF bands become more and more congested, there is a need for counter-measures over and above the facilities built into current transceivers. Model *ANF* is specifically designed to solve the problem of unwanted heterodyne whistles".

And it does solve this problem extremely well, of which more later. The unit is designed to be placed in series with the speaker output of any receiver. For that matter, it could be incorporated into the circuitry of a home built rig as the output stage — it includes an LM380N power amplifier to drive a speaker directly.

Running off 11 to 18V DC at around 400mA peak, it presents a compact appearance and a state of the art circuit using one of the newer integrated circuits — the MF10 dual switched-capacitor filter. With the addition of a PLL circuit for tracking unwanted heterodynes, you have a very sophisticated aid to eliminate 'tuner-uppers', or broadcast whistles on 40 metres.

The front panel has four push-buttons and only one rotary control — most of the time you are unlikely to actually touch the unit if it is being used, as intended, its automatic mode. The unit can be switched off with the input routed direct to the output. Or, by pushing the NOTCH and PEAK buttons together, the internal unity gain amplifier is used, but no filtering (well not much) is introduced. The fourth button is for selection of AUTOMATIC or MANUAL tuning.

In automatic NOTCH mode, there is nothing to do except wait for a heterodyne to appear. While waiting for this, the unit scans the audio range between 270 and 3500Hz continuously, this action showing on a bargraph LED display immediately above the controls. When the heterodyne does appear, it promptly vanishes with the bargraph showing its approximate frequency, and an indication of lock on a further LED at the extreme right of the display. If the interference moves, the filter tracks it almost instantly so there is no need to retune. And it is as simple as that.

Besides this automatic notch, you can tune manually if needed. The only time this is likely to be needed is if there are two interfering signals,