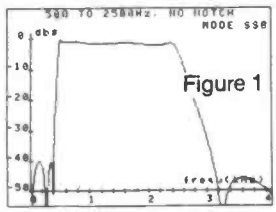
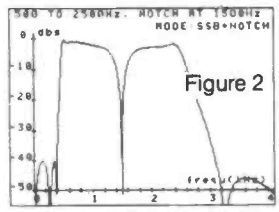


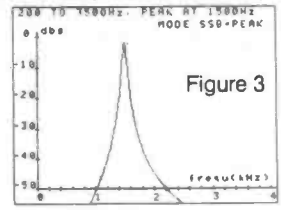
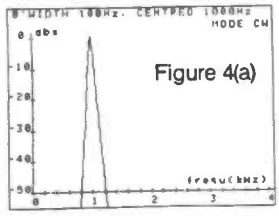
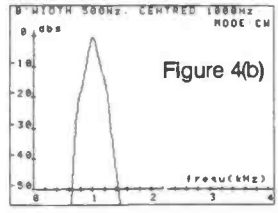




**Figure 1** *"SSB" – showing the steep skirts and the "flat-topped" response. Here only the low- and high-pass filters are in operation.*

**Figure 2** *"SSB + NOTCH" – same conditions as figure 1 but the notch filter is also in circuit and set to 1500 Hz.*

**Figure 3** *"SSB + PEAK" – conditions are identical to figure 2 but now the PEAK/NOTCH filter is set to PEAK instead of NOTCH. This mode is normally used simply as an aid in tuning the notch filter.*



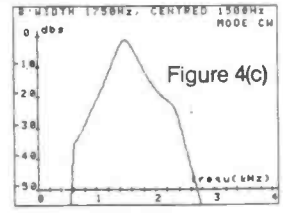
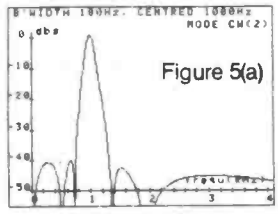
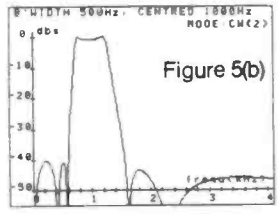




**Figure 4(a), (b), (c)** *"CW" – showing the response in "CW" mode with a bandwidth setting of 100 Hz, 500 Hz and 1750 Hz). Note the "peaked" response and very steep skirts.*



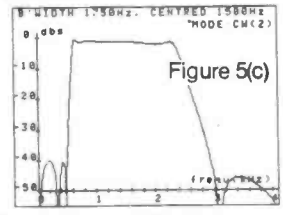
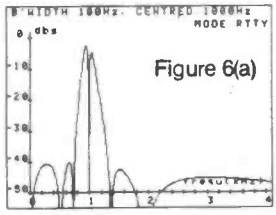
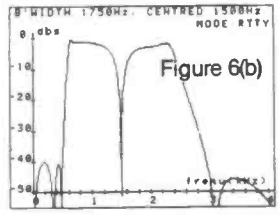




**Figure 5(a), (b), (c)** *"CW(2)" – three graphs corresponding to those of figure 4 except that "CW(2)" mode was selected. Note the "flat" rather than "peaked" response.*



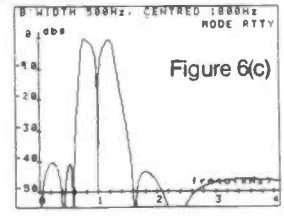




**Figure 6(a), (b), (c)** *"RTTY" – three graphs using "RTTY" mode but otherwise with same bandwidth and centre frequency settings as figures 4 and 5.*

An additional mode —"CW-(2)"— is available for CW, requiring the depression of two push-buttons. This removes the peak filter from circuit, to leave only the high- and low-pas filters, giving a flatter response (the calibration then applies to both controls), useful for CW nets where stations may not be on exactly the same frequencies, or where you would like to know what is going on each side of the frequency.

## RTTY

Depending on whether narrow or wide shift is received, there are two options for filtering. In the case of narrow, the CW(2) mode is advised by Datong, initially tuning using the CW mode with the filter peaked midway between the two tones. The CW(2) mode is then selected and the bandwidth adjusted to suit. For wide shift, a special RTTY mode is used.

The notch filter removed in CW(2) mode is now used, and placed in the centre of the passband, with the notch position remaining central as the bandwidth is varied. This enables the mark and space frequencies to be peaked, with steep skirts both sides of each signal.

## The FL3 in use

During the period of the review the FL3 was used with a Yaesu FT-102, equipped with both IF shift and passband width controls, together with a narrow SSB filter, and a vintage KW2000B, with none of these facilities was also used.

One of the most interesting results was that with the FT-102, the audio filter generally won compared to the shift and width facilities, and very infrequently was it incapable of at least matching the performance of the shift/width system. There was little doubt that the skirts of the FL3 filter were steeper than those of the FT-102, especially when the passband had been narrowed down on the 102. Evening conditions on 80 and 40 metres are a good proving ground for any filter system, and the ability to move either upper or lower cut-off frequencies proved a boon under difficult conditions, with the strength and frequency of the QRM varying from minute-to-minute.

The automatic notch filter is extremely effective on SSB, removing heterodynes within a second or so of their arrival, when many dB over S9. However, this part of the system did have one very annoying trait — the VCO appears to be locked to a multiple of the audio frequency actually being looked at, and was clearly audible at around 8kHz to the reviewer, and also to a shack visitor, as it hit the end of its range every second or so while scanning the audio spectrum. Hence it was only switched on when required and not left running continuously. Also, if the notch is locked to a heterodyne while receiving, then one transmits and returns to