

Eton E1 SWL Tips

VERSION 1 ©2008



The information below is not guaranteed to be error free.

1. Introduction

For SWL I recommended the [Eton E1](#) over other portables and tabletops¹. Its \$500 price buys [Drake](#)-engineered circuitry mated with consumer grade packaging, buttons, and knobs. The E1 is good for DX provided the antenna does not cause overload. The tips below pertain to SWL.

2. Turn DX Mode OFF

The DX mode turns on the +10 dB post-BPF RF-amplifier. For SWL the DX mode should be [OFF](#) because: 1) weak [S2](#) (0.40 μ V) signals can still be heard; 2) the [s-meter](#) is only accurate with DX mode off; 3) 5-kHz DR and IP3 limitations (worse than Eton quotes) are less pronounced; and 4) unknown to many, the [AGC threshold](#) is better. When DX mode is ON the threshold is no longer ideal. For SWL it is vital to use the [slow AGC](#) (3 second release; or "auto" mode) to reduce fading related distortion. An indoor tuned loop can null out local noise and prevent IP3 related problems.

3. Use Enhanced SSB

The E1 is great on SSB with its 10 Hz tuning steps, "Enhanced SSB" ([audio phasing](#); 30 dB of opposite sideband attenuation), high stability (better than quoted ± 10 ppm), and PBT. The E1 SAM is great for music; however, SSB works very well on voice programs. I discussed how [ECSS](#) (tuning [DSBc](#) signals as [SSB](#)) can be superior to SAM during heavy selective fading². Many do not know that SSB on the E1 offers [~70% less audio distortion](#) than SAM mode. Note: turn "Enhanced SSB" off via menu during frequency alignments (screw is inside the leftmost rear ventilation slit).

4. Use 7-kHz filter with PBT

The 7-kHz filter is [wider](#) in bandwidth and [tighter](#) in shape than quoted. This is perfect for usage with the ± 2 kHz PBT. Moving the filter away from the adjacent rejected sideband increases fidelity; moving towards decreases fidelity. The 7-kHz filter and PBT can simulate [AM](#) bandwidths of ~ 3 kHz to ~ 10 kHz (audio filtration limited). The 4-kHz filter simulates from ~ 1 kHz to ~ 8 kHz.

REFERENCES

¹ Phil's SW Radio Buying Guide

² Tuning Tricks Challenge SAM

http://groups.yahoo.com/group/phils_radio_articles/

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