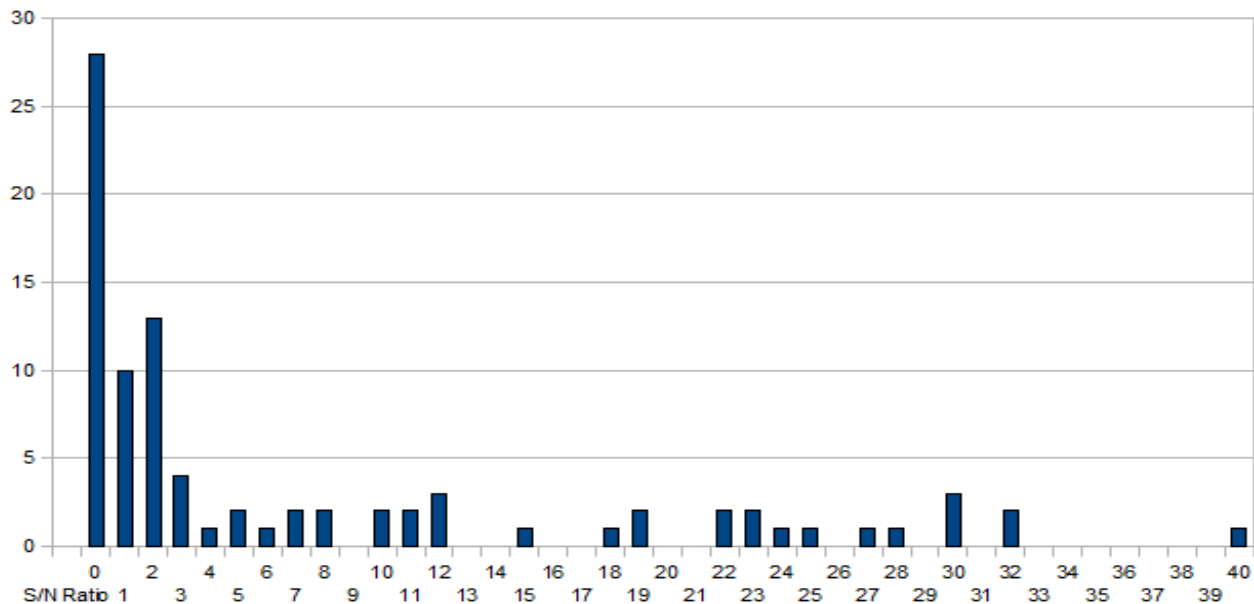


PL-390: FM DX King

This DSP-based radio shines on FM.

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The PL-390, using Silicon Lab's Si4734 low-IF DSP chip, is superb at FM DXing. Above is a plot of number of stations heard (y-axis) versus signal-to-noise ratio in dB (x-axis). The PL-390's ETM (Easy Tune Memory) was able to find 33 stations. Hand searching revealed 16 more (total is 49). Another pass revealed 10 more (total is 59). Working dusk and dawn revealed 16 more for a total of 75 stations! A folded 5/8 wave dipole was built using 42 inches of 300-ohm twin-lead wire supported with a cardboard tube. The dipole is directional: rotating it in three dimensions allowed for 13 more stations to be identified. The PL-390 was able to pick up a total of 88 FM radio stations.

The PL-390 was extensively tested against the DE1102, SW7600GR, DE1103, and RP2100 portables. The DE1102 is not really in the same league as the other four radios; although, it does have decent FM. The SW7600GR is very sensitive: the DE1103 and RP2100 are as well. Where the PL-390 shined was at selectivity and adjacent channel rejection. Time and time again, when parked next to stronger stations, the other radios experienced blocking. Faint stations were wiped out by the energy of the adjacent station. And this was not an isolated occurrence like it is on AM. Viewing the chart above: 25 stations have a S/N ratio of at least 10 and 14 stations have a S/N ratio of at least 20. Weak stations sound better on the PL-390. This is not trivial as the other radios are quite capable on FM. The Achilles heal of the PL-390 was that only 23 stations were resolvable in stereo. Tecsun engineers may wish to alter the value of the property "FM_BLEND_STEREO_THRESHOLD".

The PL-390 was also much easier to use due to its ergonomics. The RP2100 has no keypad and is heavy. The DE1103 and DE1102 have no volume wheel. The DE1102 and SW7600GR have no tuning knob. **If you love FM DX, Tecsun and Silicons Labs have produced a winner: the PL-390.** FM (88-108 MHz) reception using Silicon Labs' low-IF DSP chip is clearly superior to its analog competitors.



just_rtfm@<NOSPAM>yahoo.com
http://home.comcast.net/~phils_radio_designs

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