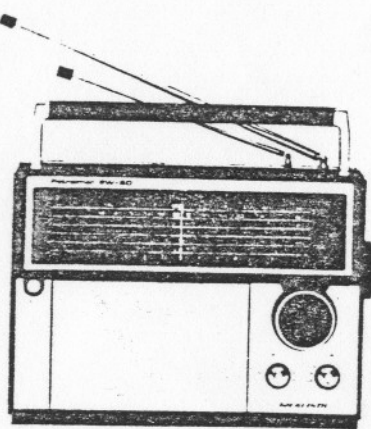


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**THE RADIO SHACK
PATROLMAN
SW60**
by Pete Taylor

The SW60 is a relatively new Radio Shack product which costs about \$60. My initial attraction was that it had a bunch of weird bands for which I did not previously have receivers. And as well all know, if it emits a signal, I want to be able to pick it up...

FEATURES: 6 bands, including AM; FM; SW 6-18MHz; two VHF bands, 30-50 and 108-174MHz; and UHF, 450-512MHz. Two swivel antennas: FM/SW/VHF, and UHF. Internal Ferrite loopstick for AM. Dial light button. Large jack for headphones (as opposed to mini). Fine tuning

control. Squelch control. Battery (4 C cells) and AC operation.

PERFORMANCE. I have been quite pleased with the set. The audio quality is good (even I can occasionally hear the 10kHz whistle between adjacent channels). And while there is fine tuning, AM signals are generally wide enough so as to be able to use only the regular tuning control.

As far as "other" band operation goes, the FM has non-optional AFC, so you miss a few weak stations. VHF and UHF TV stations pop in from time to time on the high VHF and UHF bands, which is sort of fun. And the airplanes, utilities, and other signals are also fun. However, the SW band is useless. I have yet to pick up any signal between 6-18MHz. There is nothing but FM/TV induced noise.

As for AM DX, the internal loop is good. For example, I can null KSTN/XEEX on 1420 and hear only KITI. KBAI is in the clear with proper set orientation. I can null out both KEST and KRE. It is not as effective below 1MHz as it is above; the signals are just too fat. Above this, however, I can hear stations on all the frequencies which are first adjacent to locals. It is virtually image free (on the ICF2001 & ICF 6700W, KABL-960 is on 860, 1010, 1150). There is some FM/TV related white noise between 1000-1100kHz, but it is not too bad.

As far as loggings, KYXE-1020 came in stronger on the SW60 than on the adjacent ICF2001, and outperformed it in most other instances. KYAK-650 was noted at 2:15am PLT the other morning, after I nulled KFI. Since there is no external antenna connection, it obviously isn't designed to handle that, and would probably overload.

All in all, I am really pleased with it, and am amazed at the instances where it is a superior DX instrument compared to some of the other more expensive sets in the house. It won't replace your main set, and you probably won't find it picking up TA/TP splits too often, but for the price, I think you will be pleasantly surprised; I certainly was!

The Realistic 12-650

by NHH

R39-1

labeled as "the finest, high performance AM/FM portable radio we've ever offered", the 12-650 is also described in the Elert as "a super radio", and yes, it does look a lot like the SC 7-2890 Superadio. The designers obviously had the Superadio in mind when they created this one; bass and treble controls, big dial, AM and FM both with RF amplifiers, lots of audio power and large speaker. Cosmetically, it is quite a nice radio, but it has this big knob on the front which is the volume control, right where you'd expect the tuning control. The tuning knob is on the side of the radio, and usually the volume ended up being adjusted when I intended to vary the tuning. No doubt one would get used to the knob arrangement with time.

In this review, the 12-650 was compared (perhaps unfairly) to the Realistic 12-655 "TR7", with added "Shotgun" loop and transfilters in the IF stages.

First, a quick peek at the schematic. As in the Superadio, IC technology is used, but the circuitry is radically different from the Superadio. A transistor RF amplifier with AGC is fed by a ferrite rod antenna (size unspecified), then a transistor converter circuit feeds a single element ceramic filter (rather like the one in the 12-655) which runs to an IC containing two IF stages, AGC and a detector. Another IC provides power audio amplification. FM circuitry involves a transistor RF amplifier, mixer and oscillator stage followed by IF amplification in the IF IC, but using separate internal circuitry from the AM IF section. Power is provided by 120 volt AC or 6 "D" cells.

Audio quality of the 12-650 is good, and the bass and treble controls provide a good adjustment of the tone of the sound--certainly better than

the 12-655. Audio power is variously given as 1 and 1.5 watts, but the radio has lots of oomph. But nice audio does not make a DXer's radio. What about sensitivity? Well, it certainly gets out of town stations, but on the summer evening we listened, there were no signals on 820, 830 or 840. The 12-655 with Shotgun dug out a weak WEAF-820. The Shotgun held up to the back and tuned up increased the noise level on 820, but no WEAF appeared. Without the Shotgun, WEAF was inaudible on the 12-655 also.

Selectivity is the real downfall of this radio, and a glaring design fault appears as a result of poor selectivity, at least on this one sample. You could hear 10 kHz hets (due to the good audio response and poor selectivity) on any channel which had a reasonably strong adjacent channel. Either a 10 kHz audio notch is needed for hi-fi audio, or better IF selectivity is needed. Naturally, strong FVI on 645 kHz mangled KFI-640 quite badly. The modified 12-655 showed no TVI interference on KFI at this point (both sets were using batteries). KDMN-720 was clean and easy to hear with minimal slop on the 12-655, but was virtually unreadable on the 12-650 due to a mix of audio, not splatter, from semi-locals KIRC-710 and CKLG-730. Some improvement in selectivity is definitely needed, but transfilters would not be practical in this circuit; better selectivity might involve replacement of the stock IF filter.

On a positive note, although the dial is not accurately calibrated for AM, it is large and has a log scale. A FCIM-177 readout could probably be hooked up the 12-650, but there's not much space available in the front for the module. Signal handling seems reasonable; the only birdie was on 890 (2 x 900 - 2 x 455 = 890) under CJVI-900, but that appears on the 12-655 and other radios as well.

FM performance seems reasonable with the whip antenna, but dial readings were about .5 MHz off calibration. Only overload noted was within a few miles of a 100 kw transmitter. External antenna terminals are provided for FM (75 and 300 ohm) and AM, and 4 uV sensitivity is claimed for FM at the terminals, 15 uV for AM. With a 75' random wire, AM signals did increase in strength, but many birdies appeared. A random wire tuner or loop antenna would be best when using this terminal, unless no strong stations were nearby.

Overall, a nice-sounding and looking radio, but one which might need an external antenna, and definitely, a selectivity modification to make it truly useful for the DXer.

Thanks to Colin Newell for getting this radio for his mother on Mother's Day, and to her for letting me play with the device for a bit.

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