

# Review of Kiwa's 3.7 kHz Filter for the CC Radio

by Harry Helms

The C. Crane Radio (CC Radio) manufactured by Sangean and offered for sale by C. Crane and other dealers is a controversial receiver among DXers because of its high unit-to-unit quality variability. Some DXers have reported such problems as 49-meter shortwave signals on their CC Radios, for example. Other DXers, such as myself, are very pleased with the CC Radio's performance as a domestic DX receiver. In side-by-side tests with an unmodified Sony ICF-2010, I have found the CC Radio to be more sensitive and have superior audio (thanks to its larger speaker and variable bass/treble controls) than the ICF-2010 and to be as selective as the ICF-2010 in the "wide" selectivity mode. If I had to use just one for domestic DX, I would chose the C. Crane.

Gerry Thomas has sent an advance copy of an upcoming article on proper alignment of the CC Radio, which should remedy many of the image problems associated with it. However, the relatively wide 6.2 kHz bandwidth of the CC Radio makes it unsuitable for DXing splits and can make listening to frequencies adjacent to your local 50 KW powerhouse an "adventure" in the worst sense of the word!

Recently, Craig Siegenthaler of Kiwa Electronics announced a new 3.7 kHz filter and preamp board for the CC Radio. This modification includes a push button switch, installed on the left side of the radio (as seen from the front), to select between the stock 6.2 kHz and new 3.7 kHz bandwidth. The preamp board supplies extra gain to compensate for filter insertion loss. Unlike the relatively simple ICF-2010 filter modification offered by Kiwa, the CC Radio modification requires drilling of holes for the push button and to mount the preamp board (Kiwa includes a drilling template) as well as more soldering. Since I'm no good working in the cramped spaces of today's solid-stage gear (that's what happens when you learn to solder on vacuum tube Heathkits!), I took advantage of the optional installation offered by Kiwa.

The modified CC Radio is at first glance almost indistinguishable from a stock unit; the push button and preamp mounting screws barely protrude from the top left of the radio. In fact, my biggest objection to the modification is how small the push button is—it took me a little while to get used to it. However, the button and board mounting both seem to be rugged and up to the jolts and bumps encountered when using this radio as a portable.

So how does it work? The preamp really does cancel out the insertion loss normally encountered when going to a narrow filter. I made no measurements, but to my ears there was no perceptible loss when using the narrow filter. By cutting the bass and boosting the treble, the audio in the narrow mode could be restored to almost the same quality as the stock bandwidth.

A good test of receiver selectivity during evenings in southern California is 680/690, where KNBR and XETRA take turns QRMining each other's sports talk formats. Another good test is how clean 630 and 650 are from KFI-640 splash. In side-by-side tests with the ICF-2010, the modified CC Radio was superior in both the wide and narrow modes. This is to be expected, since the modified CC Radio gives bandwidths of 6.2/3.7 kHz compared to the 10.4/4.3 kHz bandwidths of an unmodified ICF-2010. However, these raw numbers don't give the full story, as the superior audio and variable tone controls of the CC Radio mean it is easier to recover intelligible audio, especially in noisy conditions.

The bottom line? I think a CC Radio with the Kiwa 3.7 kHz filter is a better AM DX receiver than a stock ICF-2010. The cost of a new CC Radio and the Kiwa filter modification is less than the cost of a new ICF-2010, and would represent a better dollar value if AM DX is your main interest. As mentioned earlier, Kiwa also offers narrow filters for the ICF-2010, and I suspect they would greatly narrow, or possibly eliminate, the performance advantage of the modified CC Radio. At any rate, I consider the addition of the Kiwa filter to my CC Radio to have been well worth the money; my

modified CC Radio is now my primary AM receiver for portable use. I was also pleased with Kiwa's service and turn-around time on the installation work.

The 3.7 kHz filter, preamp board, push button, and mounting hardware is \$70; installation by Kiwa is \$50. Kiwa's web site is [www.kiwa.com](http://www.kiwa.com) and their mailing address is 612 South 14th Avenue, Yakima, WA, 98902, USA.