

Why is the K2 receiver single-conversion?

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Most commercial ham transceivers or SW receivers use multiple conversion because they up-convert the RF input (0-30 MHz) to a very high first I.F. (typically 60 MHz). This is done so that they can offer continuous receive coverage from 0-30MHz. They then have to shift that down using one or more lower I.F.s to get good selectivity on CW. Since the K2's receiver is based on down-conversion, not up-conversion, we get good CW selectivity at our one and only I.F., 4.915 MHz. This is a compromise: the K2 doesn't cover the entire 0-30 MHz range continuously, but it takes far fewer parts than a multiple-conversion design. In addition, a single conversion design is inherently less noisy and has fewer amplifier and conversion stages that need to handle wide dynamic range signal amplitudes.

Another interesting point is that most up-conversion rigs do not provide narrow ham-band filters at the RF input; some provide a set of "half-octave" filters that are extremely broad. The K2 does provide narrow input filtering, since it is not intended to be a general-coverage receiver. The per-band filtering explains in part why the K2 has excellent receiver specs. (2nd Order IMD)

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