

THE UNIDEN CR-2021 vs THE SONY ICF-6500W

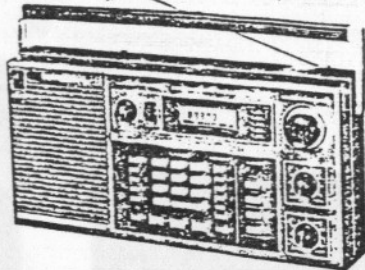
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Well, it's happened again---another multi-band portable with digital read-out for under \$100. First the Sony ICF-6500W began selling at bargain basement prices about a year ago; now it's the Uniden CR-2021. (This situation is great for radio fans but try explaining your desperate need for another radio to your wife when she knows you already have seven radios, hi.)

The Uniden CR-2021 is, in reality, a worked over Sony 2001 (originally \$329) and is virtually identical to Radio Shack's DX-400 (\$299.95). The Uniden initially also listed at \$299.95 but was later reduced to \$229.95. It is now available for under \$100 (\$89 from Missouri Radio Center, 2900 NW Vivion Rd., Kansas City, MO, (800) 821-7323; \$99.95 from EEB, 516 Mill St. NE, Vienna, VA, (800) 368-3270) at close-out prices. I called Uniden to see if they were discontinuing the CR-2021 and they said, "No, we're still making them," so they either have a tremendous backlog of the radios or they've found that they can still make a profit at those ridiculously low prices. At any rate, after about 10 seconds of deliberation and rationalization, I was on the phone to Missouri Radio Center and eight days later had a CR-2021.

A Quick Overview of the CR-2021

The Uniden CR-2021 is a microprocessor-controlled, triple conversion portable continuously covering 150 kHz to 29,000 MHz plus FM. It comes with six frequency memories (eight, if you count the scan limit memories), dual selectivity, scanning capability, dial light, sleep function, RF attenuator, antenna trimmer, battery check circuits, and built-in AC transformer. It measures about 12" long by 6" tall (handle down) by 2-3/4" wide and weighs about four and a half pounds with its six C-cells (and two AA's for the memory circuit). Audio shaping is performed by a single tone control knob.

General Operating Considerations

Once you get over "knob withdrawal," entering frequencies by key press and tuning by pushing "up" and "down" buttons should become pretty comfortable. Unfortunately, I constantly catch myself reaching for a knob to turn to fine tune a station (thank goodness for the antenna trimmer, hi). I've always routinely tuned off frequency by one to two kHz for better audio on the radios I've owned; luckily, the Uniden can be "tuned" in 1 kHz (or three or ten kHz) steps so nothing significant has been lost in this regard.

The scan function is really neat; you set the scan limits, press "scan" (or "auto" and "scan" if you want the scanning to stop when a station is encountered) and sit back. This is great but the "auto scan" can skip over weaker stations and scanning on the entire MW band requires concurrent antenna trim adjustment.

One potentially invaluable feature of the CR-2021 is the memory function. Checking for parallels is a cinch and I can see that loading several UNID's in memory and checking back for ID's will be very useful.

Performance on MW

Okay, the bells and whistles are nice but what about performance? After all, it's things like sensitivity, selectivity, and overload susceptibility that determine whether a station is heard or not.

***Sensitivity---This is a potential problem area with the Uniden, particularly on MW (and LW). First of all, background noise (apparently from the microprocessor and IC amps) is much higher than on the Sony ICF-6500W, for example. This noise isn't noticeable on strong locals but approaches the "intrusive" level on semi-locals and can significantly degrade weak signal reception. This problem is compounded by the fact that MW signal levels aren't all that great to begin with. Even though there is room in the cabinet for a much longer ferrite

rod, the CR-2021 uses a diminutive 2-1/2" (!) antenna for MW and LW signals. Because the AC transformer and whip antenna are coupled to the RF stage, you are apparently supposed to use them to increase signal strength. This is fine, and they succeed in boosting levels to normal, but by so doing the ability to null is completely destroyed!

This situation can be remedied by adding a larger outboard ferrite antenna, however. I tried a Hot Rod and signals that were reading "1 LED" (the Uniden measures signal strength with five LED's) jumped to four or five LED's. Unfortunately, the folding handle on the Uniden prevents permanently mounting the 15-inch Hot Rod on top; perhaps a smaller version would work. (Incidentally, I'm now completely out of Hot Rod components and, unless popular demand warrants, will not be re-ordering in the near future.)

Given the noise and tiny antenna situation, I suspected that performance on weak signals (especially those on the low end of the band) would be pretty poor. To check this out, I ran a quick side-by-side test with the Sony 6500:

Frequency	Uniden				
	Sony	Batts	AC	Batts-whip	AC-whip
540 kHz	Fair	Nil	Nil	Poor	Fair
1090 "	Fair	Nil/Poor	Poor	Vy Poor	Fair
1250 "	Vy Poor	Nil	Nil	Nil	Vy Poor
1600 "	Poor/Fair	Vy Poor	Poor	Poor	Fair

These were all in-the-clear stations and, as can be seen, the Uniden required AC power and the whip antenna to equal the Sony's barefoot, battery-powered performance. Several stations, especially on the low end, were simply not present on the Uniden in its other modes.

This sensitivity/noise problem is really a shame because the Uniden does quite well on other performance variables; read on...

***Selectivity---Stock selectivity for AM reception is pretty impressive. The CR-2021 uses a muRata CFW-455H (listed at 6 kHz at -6 dB and 18 kHz at -60 dB but sounds much narrower) for the wide position and a muRata CFM-455I (4 kHz at -6 dB and 10 kHz at -60 dB) for the narrow mode. The narrow muRata is equivalent to the Vernitron VTD-3-1, a filter used in several portable and table top modifications. In the narrow mode, the Uniden consistently presented interference-free audio on such splits as YSS-655, the Caymans on 1205 and 1555, etc. Deep skirt selectivity is also pretty decent, especially for a portable. At present, I'm sufficiently satisfied with the narrow mode that I don't anticipate making any changes (although SSB and CW SW DX'ing might require a narrower filter).

***Overloading susceptibility---The Uniden is also pretty good in this regard provided the antenna trimmer is accurately adjusted. The first night I had the radio I detected a carrier on 565 kHz and thought I really had something. A check on the R70, FRG-7, and 6500, however, revealed nothing. It turned out that the antenna trimmer was improperly adjusted. I haven't tried a really long antenna with the Uniden yet but my 50-foot inverted-L hasn't presented any problems at all.

The Uniden vs the Sony

I've reviewed the Sony ICF-6500W in the past so I won't go into great detail here. Instead, I'll list some critical feature and performance differences between the Sony and the Uniden.



1. Frequency coverage--Uniden the winner hands down. The Sony covers only MW, SW 3.9 - 10 MHz, 11.7 - 20 MHz, 20 - 28 MHz, and FM. If you DX LW or the tropicals, the choice is easy.

2. Tuning ease--largely a matter of personal taste. Entering a number and adjusting the antenna trimmer isn't really that much faster than using Sony's two-speed knob. Also, the Sony allows tuning between 1 kHz points.

RS1-2-2

RS1-2

- 3. Miscellaneous operating features--Again the Uniden with its memory, scan, battery check, and sleep functions. A plus for the Sony is its analog signal strength meter.
- 4. Sensitivity--Essentially equal on SW and FH; the Sony is decidedly better on MW (if you want to retain nulling ability).
- 5. Selectivity--The Uniden takes it easily in its stock form. Sony's only selectivity position is far too wide and requires IF filter substitution for good performance (not a difficult or expensive mod).
- 6. Overloading immunity--The Uniden again, provided the antenna trimmer is properly peaked.
- 7. Digital read-out accuracy--My Uniden's on the button; my Sony's about 600 Hz high on SW; no biggie.
- 8. Power consumption--I measured 35 mA current drain on the Sony with the volume set at a comfortable, one meter distant, listening level. The Uniden at a similar setting drew about 105 mA! Similarly, the Sony manual predicts 24 hours of battery life; the Uniden, eight hours. The Sony by three-to-one.
- 9. Audio quality--The Sony's audio tends to be bassy; the Uniden's is also but less so. Out-of-the-box the Uniden sounds better to me but I've added a cheap high-pass filter to my Sony which I think is superior to both stock passbands.

That about wraps it up. I've only had the Uniden a few days so these initial impressions might change with time. For the MW DX'er, deciding between the two comes down to whether correcting the Uniden's MW deficiencies (i.e., adding an external antenna booster) is easier than correcting the Sony's IF passband (both mods cost about the same) and whether the Uniden's operating niceties make up for its much higher battery drain. The domestic-only MW DX'er would probably find the Sony's IF passband less a problem than the Uniden's noise/insensitivity whereas the foreign DX'er would likely choose the Uniden's narrower passband.

At any rate, either of these radios represents an excellent value and should be given a close look if you're in the market for a digital portable.

Best DX....73's--GT