

testing the NCX-1000

by Wayne Green W2NSD/1

After five years of making waves on the DX bands with a transceiver plus great big linear amplifier, it takes some getting used to, making virtually the same waves with a little box that I can lift with one arm... well, two arms... it weighs 59 pounds. And that includes the built-in power supply and loudspeaker.

The NCX-1000 is sure a far cry from the first National rig that I owned way back in the dim, dark past. The National 600 was a 600 watt transmitter first marketed back in the late 30's. I still use the indestructible power supplies and modulator from the 600 in my two meter kilowatt. The rf sections are, sadly, no longer state of the art.

Well, to get back to the 1000, National has come up with a real beauty in this rig. It is all solid state except for the final stages of the transmitter and it works like a dream.

Being a knob buff, a fellow that enjoys having dozens of knobs to twiddle, I was at first taken aback by the simplicity of the front panel of the 1000. Surely National must have left off some controls that I would need. If they did I still haven't missed them.

How does the 1000 compare with other rigs? Well, I stacked it up against three other transceivers on my operating desk, all working through a nice linear amplifier, and started making comparison checks all around the world, through poor conditions, monumental interference, and such. While there did turn out to be times when the extra power of the big rig surmounted pileups a little faster than the 1000, these times were satisfyingly few. Generally the

report is that the 1000 is better copy

If I had been using different types of microphones it might account for the better voice reports, but I used identical mikes for the tests. The engineers at National have emphasized the higher range of the voice a bit more than the other rigs with the result that there is more punch and, other things being equal, the 1000 is more readable.

The NCX-1000 covers the amateur bands from 10-80 meters and provides sideband with either side, AM, and CW. The receiver works so well that I suspect that National must have borrowed more than considerably from their very successful HRO-500 receiver for the design.

They have a clever speech processor built into the transmitter (switched on from the front panel) which operates at rf. In this circuit the single sideband of the first i-f is clipped by a diode limiter and then filtered to remove the unwanted distortion products. This increases the average power by a factor of two, resulting in almost the same average power output as a two kilowatt PEP transmitter. My tests, by the way, were made with this clipper off when I was comparing the 1000 with other rigs. With the clipper on the signal is even louder, and though it loses a bit on voice quality reports it certainly gains on punch through pileups.

CW operators will appreciate the vernier control which displaces the receiver ± 3 kHz from the transmitter. This is also handy on sideband when the other op misses your frequency or drifts away from it during the contact. It can keep you from chasing someone with a displaced trans-

mitter on down or up the band. An accessory vfo is available if you want to work split frequency more than 3 kHz. Hopefully, now that Gus is back in the U.S., little split frequency operation will be needed for a while.

It is strange that it has taken so long for solid state circuits to come to amateur sideband equipment. You don't find tubes in much new gear these days, except for amateurs. My car radio, FM receiver, television set, tape recorder, hi-fi, etc., are all solid state. Even the silly pencil sharpener is solid state! Out of one dozen 2m FM sets on the market, all are completely solid state except two....and both have one tube which will be superseded soon by an all solid state unit. Judging from the small size and light weight of the National 1000, solid state is certainly the way to go.

The 1000 covers all five amateur bands, 10-80 meters. An accessory 100 kHz oscillator plugs in for calibration of the tuning dial. The front panel meter functions as an S-meter on receive and reads plate current, screen current or plate voltage on transmit. AALC? Of course, and quite effective it is. The screen current meter function is excellent for rapid loading of the transmitter. I was able to tune it up in seconds...like the time I switched up from 80m to 20m and just happened to catch XT2AA (rare) calling CQ. Within three seconds I was tuned up and calling him. I made it.

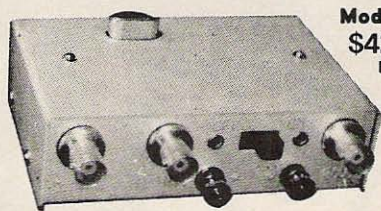
The accessory 100 kHz calibrator also provides sidetone for CW operation. It can even be used for code practice, if needed! Obviously National has kept the CW ops in mind in the design of this rig...it covers all CW bands...and runs close to the legal limit to the 8122 final in this mode.

In all, the National 1000 seems to be well in keeping with the long history of excellent equipment that National has provided us down through the years. Many of us were concerned recently when their overdependence on government work forced them into bankruptcy. The company seems to be in pretty good shape now and is paying its bills, so perhaps they have weathered the depression.

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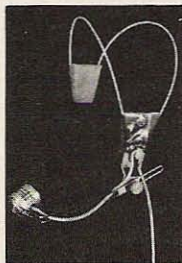
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