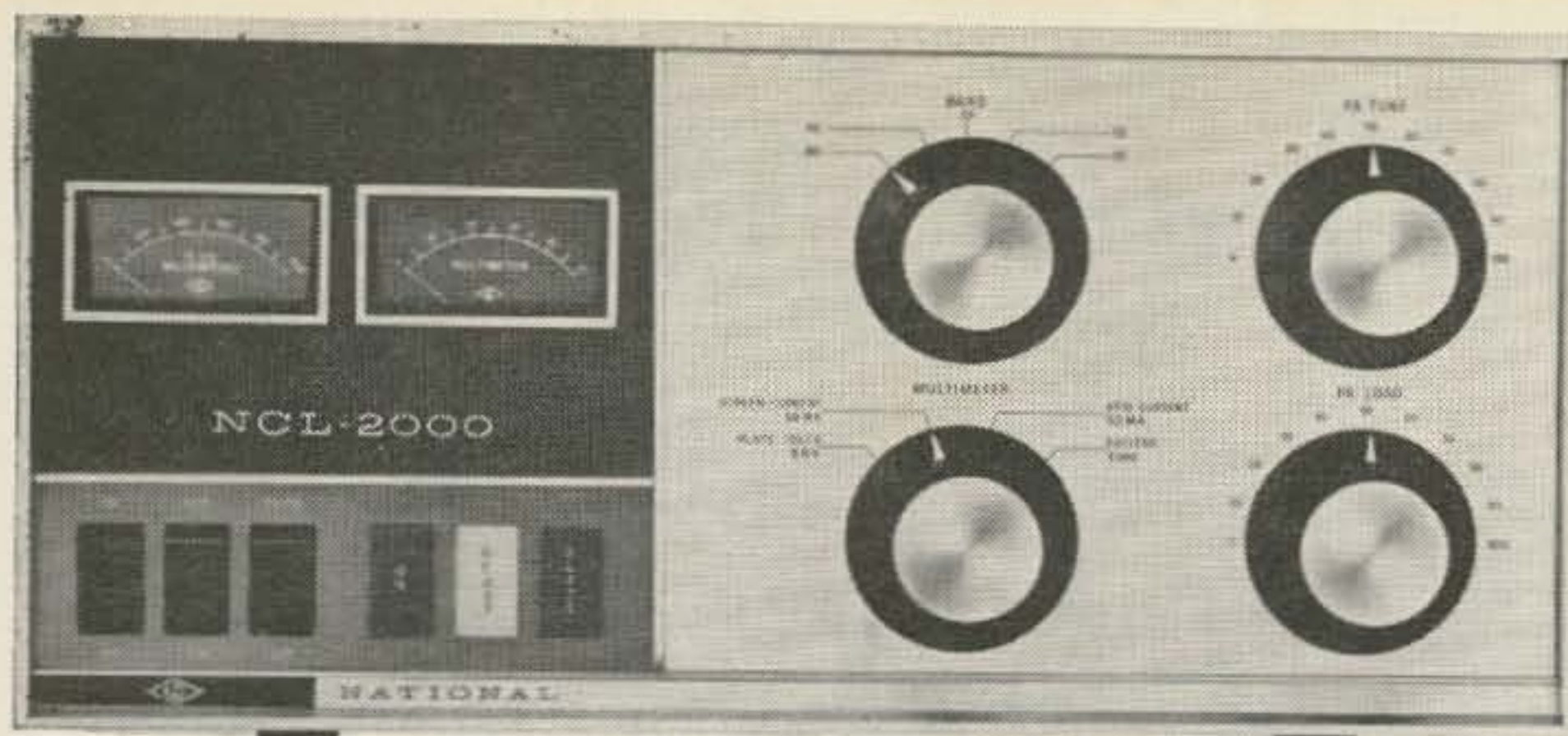




The NCL-2000

Val Barnes W1ALU

It can't be that small! A 2000 watt PEP amplifier with power supply just would not fit in that little cabinet! These were some of the initial comments made by on-lookers as I unpacked the white carton that had just arrived by truck from Melrose. I must admit that it did seem a bit improbable.

Pushing aside a pile of QSL cards the NCL-2000 was placed next to the NCX-3, which was used as the exciter. Hmm, same blue cabinet and extruded aluminum, anodized front panel that resists scratching. Installation took only a couple of minutes, consisting of connecting a piece of coax for the exciter output, a short length of zip cord for the relay interconnection, an antenna, and plugging in the power cord.

Setting the Band Switch to 20 meters, I pushed the primary power switch and waited for the ready lamp to light, indicating that the tubes were warmed up enough to apply plate power. These boys at National think of everything. After about a 60 second delay the ready lamp blinked on and plate power was applied. A quick adjustment of the PA TUNE and LOAD controls and I was ready to call F7GA in Paris to maintain our usual Friday schedule. Hmm, 40 db over S9 in France, well guess I don't have to worry about signal strength. Frank made a tape recording of my transmission and played it back to prove it.

The NCL-2000 covers the 80 through 10 meter bands with a 1000 watt average, 2000 watt PEP power input. The amplifier was not used on 15 or 10 however, as the exciter available did not cover these bands. Two 8122 miniature ceramic tetrodes are used in parallel, which provide 800 watts of available plate dissipation, thus allowing the amplifier to be operated at full legal input without straining anything. It will operate at 1000 watts steady carrier input for AM, CW, FM and RTTY service.

The NCL-2000 uses a passive untuned grid circuit, which allows the amplifier to be driven to full output by an exciter providing between 20 and 200 watts output. This means no fooling around with those attenuators to reduce the output of the exciter to a desired level. Also in the grid circuit is a 100 watt non-inductive resistor which may be used as a dummy load when tuning the exciter.

The relative output can be read on the amplifier's multimeter.

The amplifier has the necessary built-in relay and coax jacks for using it with transceivers, or separate transmitter-receiver combinations, making any other controlled relays unnecessary.

A jack is provided so you can connect the amplifier ALC circuitry to your exciter if it has an ALC input.

In addition to primary fusing, a plate overload relay is included to preserve the tubes. The safety interlocks, of which there are two, idiot-proof the amplifier and make it virtually impossible to receive an unpleasant jolt of high-voltage. A lid interlock breaks power to the plate relay and a spring-actuated mechanical shorting bar discharges residual plate voltage to ground when the lid is raised. The shorting bar also gives protection against the possibility of plate interlock failure or an open bleeder resistor.

The amplifier may be used with either a 230-volt, 3-wire or 115-volt, 2-wire power main. The NCL-2000 may draw in excess of 10 amperes from a 230-volt line or in excess of 20 amperes from a 115-volt line under peak power input conditions. The 115-volt service in our shack is already well loaded and since 230 volts provides superior regulation to a normal 115-volt circuit, I used it for our test.

With an NCX-3 as an exciter and a 3-element Cushcraft 20 meter beam on a 70 foot tower, the amplifier was given a good workout for a period of about a month. Numerous quality checks were made on the air with both state-side and DX stations, with only favorable comments being received. A number of questions about the amplifier and its operation were answered over the air.

The station log shows that I was more active than usual during the time the NCL-2000 was available for test, with the addition of about a dozen new countries to my check-list.

Only after numerous threats of bodily harm from Wayne, did I finally pack the NCL-2000 in its white carton and call the Railway Express truck to take it back to Melrose.