
THE COMMUNICATIONS RECEIVER

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THE NATIONAL COMPANY'S NC-57

Introduction — To those of us who associate the National Company of Malden, MA, with the princely HROs and sliding coil receivers of the 1930s and 1940s, the arrival of the NC-57 probably created little or no interest. However, it appears to have filled a need for an extended-range receiver which could be used for either casual short-wave listening or monitoring of the SW bands by the various communications services. In this article, author Wayne Childress introduces us to this common but underappreciated and little known set.

— K3ZJW

By Wayne Childress*

Before the end of World War II, National's receivers came in two basic sizes, small and large, and even its medium-priced receivers had quite a bit of bulk to them. The end of the war brought more streamlined cabinets and smaller packages to the world of communications receivers, and facing some stiff competition from Hallicrafters and its S-40 receiver, National designed a streamlined, medium-priced, mid-sized receiver, and dubbed it the NC-57.

The NC-57 was first advertised in the November 1947 issue of *QST* with a price of \$89.50. At the time it was National's low-end superhet (the NC-33 would appear early in 1948.) The cabinet sported the new National gray enamel paint, rounded corners, and was dramatically downsized. The half-moon dial and smaller bandspread dial added to the NC-57's modernized styling. The round knobs

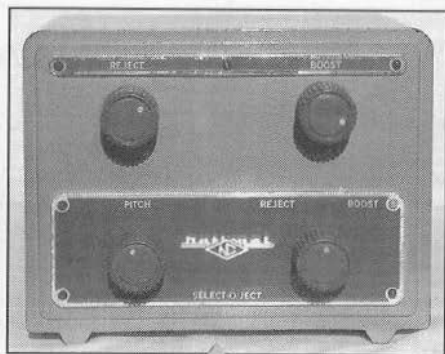
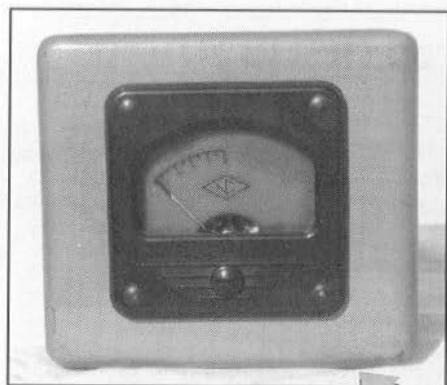
were also new, as the company stepped away from the traditional bar knobs. In keeping with the older models, the NC-57 retained the lift-up lid for easy access to the tubes.

The original NC-57 was a five-band, nine-tube superhetrodyne covering 0.54 to 54 mc. The model number was probably derived from "5" bands and "7" tubes, as the manual describes it as a seven-tube receiver plus voltage regulator and rectifier. ⁽¹⁾ The tube complement is: 6SG7 rf, 6SB7Y converter, 2 6SG7 ifs, 6SL7 1st audio/bfo, 6H6 detector/avc/noise limiter, 6V6 audio, and the OD3 VR tube and a 5Y3 rectifier. Earlier models may have used a 6SN7 in place of the 6SL7, as some chassis have 6SN7 stamped on the chassis, but has been inked out.

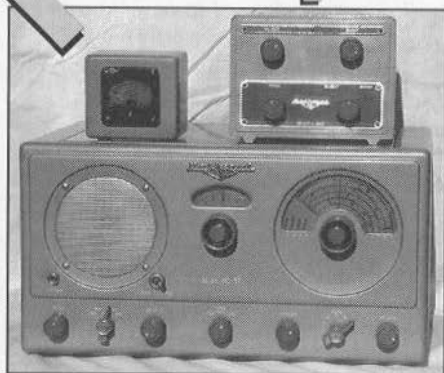
The RF gain, tone, antenna trimmer, band, on/AF gain, send/receiver, CWO/MVC/AVC/ANL, pitch, main tuning and bandspread are controlled from the front panel. Switching to the ANL (automatic noise limiter) position automatically employs the AVC. The headphone jack is also

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At right is the NC-57 with the matching SM-57 S-meter (left) and National SOJ on top. Above are enlarged views of each.



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on the front panel and supplies audio from the output transformer. The main tuning dial is gear driven, while the bandspread dial has two dial cords separated by a counterbalance.

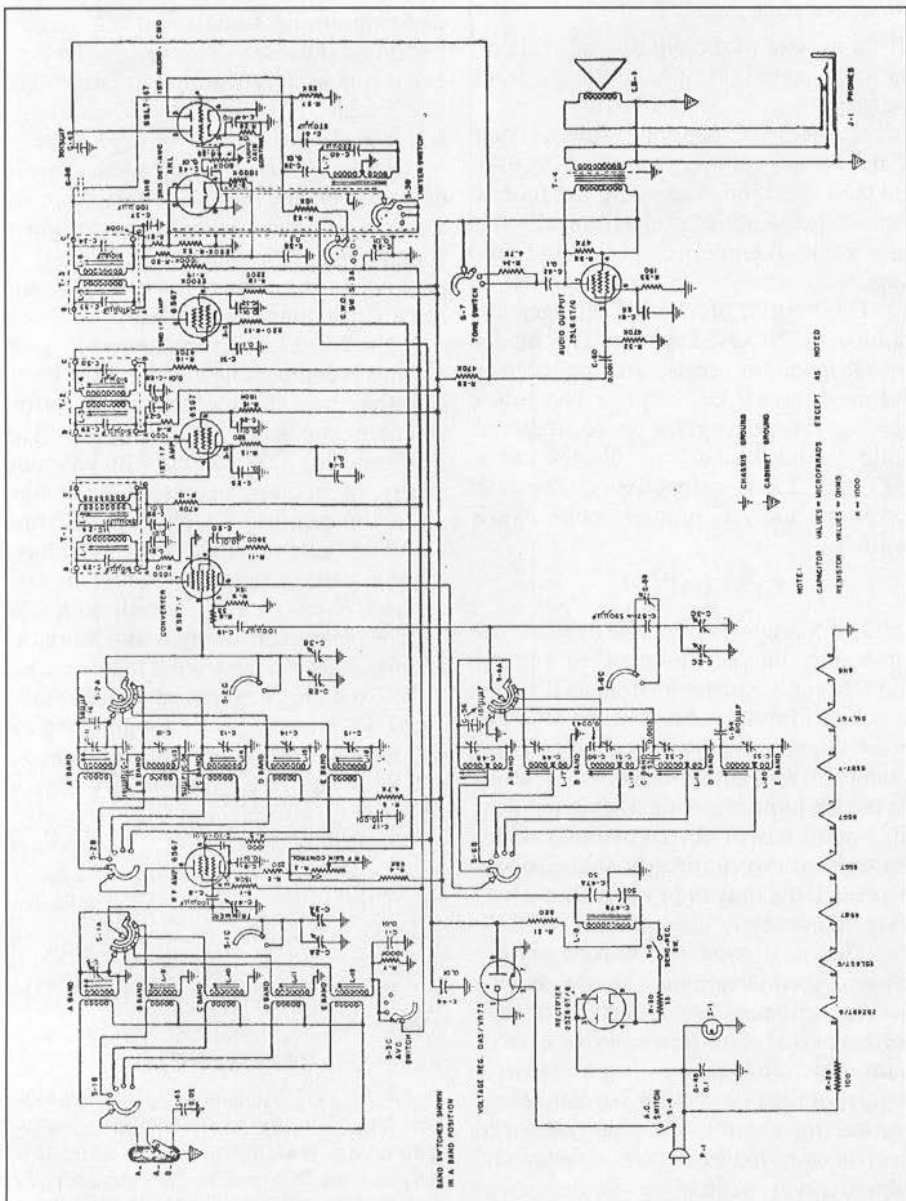
Two auxiliary octal sockets and the antenna/ground terminals are located on the rear of the chassis. One of the sockets is for external accessories and for a phono hook-up. The other comes with a jumpered plug needed for normal AC operation. By rewiring the plug this socket can also be used to connect a remote SR (send/receive) switch, or can be used for operating the receiver from emergency external power, a 6-volt storage battery and a 180-250-volt B supply.

National made two accessories for the NC-57; the SM-57 S-meter and the Se-

lect-O-Ject, both finished with the matching gray color. The Select-O-Ject, produced sometime after 1949, functioned "as a selective amplifier, an oscillator, or a single-frequency rejection filter."⁽²⁾ Thus the name. It came in three models, the -1, -2, and -3, all electrically the same except for how the output leads are terminated. While designed for use with the NC-57, the National SOJ could also be used with other receivers.

Over the four years of its production, the NC-57 underwent several changes. The NC-57B is physically the same as the original NC-57 and has no major circuit differences, but does have a few minor wiring changes to the accessory socket to allow direct plug-in of the SOJ-3, as well as the SM-57 and a phono input. Early versions were identified by an ink stamped

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The circuit of the NC-57M, AC-DC version.

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"B" at the end of the serial number; later, National would add the -B to the front panel.

The NC-57C is a long wave version of the NC-57, tuning from 0.19 to 0.41 and 0.54 to 34 mc. According to Moore's book,⁽³⁾ the NC-57C is electronically the same as the -B model except for band coverage.

The biggest production changes are found in the NC-57M version. This model was designed for use as a marine receiver and used an AC/DC circuit. The tubes were the same except for the rectifier and audio output which were changed to a 25Z6 and 25L6, respectively. The rear accessory and AC jumper socket were omitted.

EVALUATION

The National NC-57 was the first real communications set I ever owned. I found it in a friend's garage, looking as if it had been kicked from one end of the building to the other, and I had my doubts about whether it was going to work. I cleaned the couple of inches of dust off it and then hit it with 120 VAC, figuring that the electrolytics were already shot. To my surprise, it not only didn't hum, but it was bringing in stations like a champ! (*K3ZJW note: This is a good way to burn out the power transformer, and is not recommended procedure for powering up a long-dead receiver. The best approach is to bring up the AC voltage slowly, preferably with a Variac, while closely monitoring the B+, thus allowing the electrolytics to gradually reform. Mr. Childress was lucky.*)

Three main features separate the NC-57 from other receivers in its price range. In keeping with National's earlier dials, the gear-driven, main tuning dial has a very positive action and logs accurately

across the dial. The addition of the antenna trimmer is helpful and it actually works, strengthening weak signals or detuning strong signals and minimizing background noise. Also, the 6-meter coverage was usually featured in larger rigs, like the NC-173, but National elected to add it to the NC-57.

Although there are few weak spots to be found on the NC-57, the bandspread tuning could have been better designed. Being driven by a dial cord, it's not as positive as the geared main tuning, and has a fair amount of backlash.

The NC-57's performance in logging stations is comparable to larger sets. Probably the truest statement about its performance comes from a National ad: "The SWL will log DX stations with ease and clarity. In fact, any operator now operating a communications receiver will find the NC-57 essential as a standby."⁽⁴⁾ I have found it to be excellent on the BC as well as the SW bands. It does well with CW but does leave something to be desired in logging SSB. As with most tube rigs, the NC-57 requires a warm-up time, usually about 15 minutes, before stabilizing. It will tend to drift slightly over the course of an hour, but the overall stability is quite adequate for a receiver in this price range.

Since my first NC-57, I've owned three others and have found them consistent in performance. The SWLer will find this receiver a great set on which to log short wave and AM DX, as well as being a National Company classic for the collector.

REFERENCES

1. Instruction Manual for the National Model NC-57 Radio Receiver, The National Company, Malden, MA, 1947.
2. Villard and Weaver, The "Selectoject," *QST*, Nov. 1949. Reprinted by the National Company.
3. Moore, *Communications Receivers: The Vacuum Tube Era*, 2nd Edition, p. 87, RSM Communications, 1991.
4. National NC-57 advertisement, *QST*, Nov. 1947.