

Saving Lives at Sea in World War One — The IP-501 Receiver at Otter Cliffs, Station NBD

By Bart Lee, K6VK, CHRS Archivist

The California Historical Radio Society holds a Wireless Specialty Apparatus IP-501* receiver in its collections. That radio represents the best of the World War One era Navy equipment.



Photo Bart Lee at RadioCentral, 2022

Greenleaf Pickard (he of the silicon detector *circa* 1906) formed the Wireless Specialty Apparatus Company in Boston to advance the radio art and profit from it as well.† This receiver uses a crystal detector and an auxiliary vacuum tube (VT-1) amplifier (on the right).‡ This receiver worked hard for the Navy for many years before and after World War One. During that war, the Navy established a radio monitoring post at Otter Cliffs, in Maine. Lt.

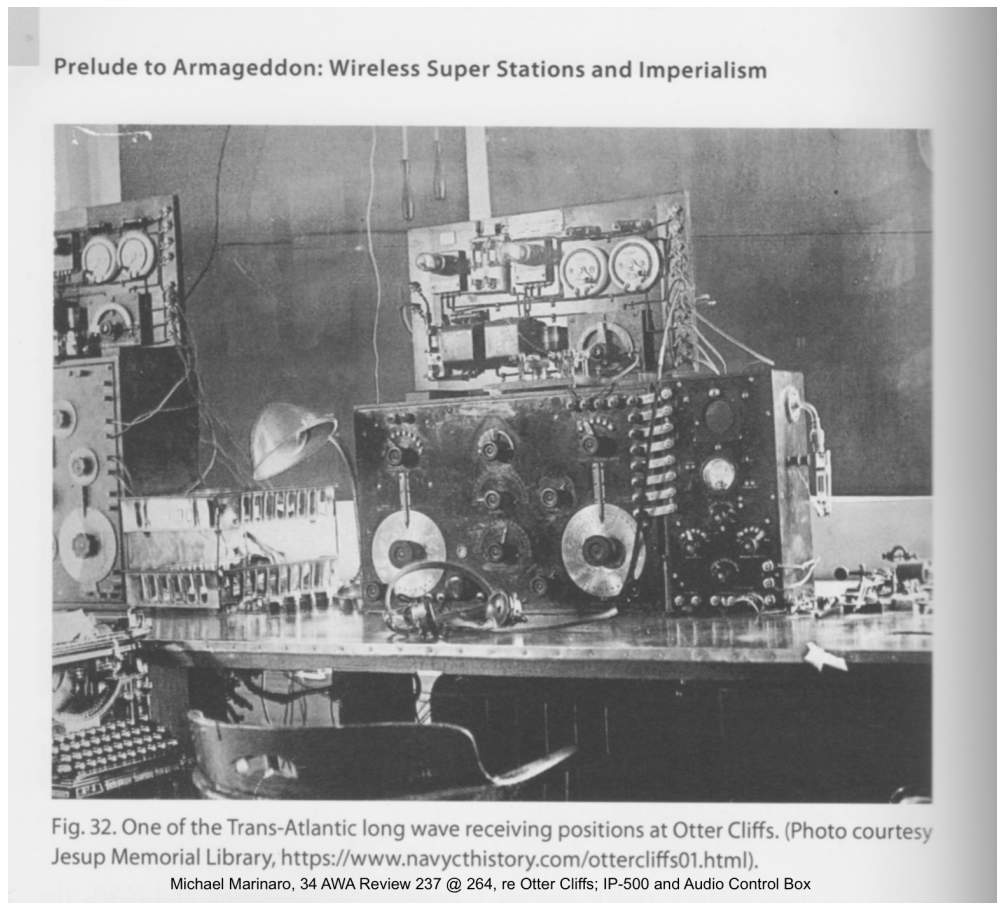
* In Navy nomenclature, the SE-143 (or SE-95); SE = Steam Engineering, the Navy Department then devoted to innovation as well as propulsion.

† See the wiki for Wireless Specialty Apparatus Co.; Boston (MA) for details and https://www.radiomuseum.org/r/wirelesssp_ip501ip_50.html.

‡ These two CHRS Sacred Objects had no known physical or other relationship until happily mated by your Archivist.

Alessandro Fabbri put it all together and commanded it.[§] He chose the IP-501 as his main receiver.

The late Michael Marinaro wrote a major AWA article about World War One radio last year.^{**} He added to his main article a thorough analysis of Lt. Fabbri's work at Otter Cliffs, station NBD.



NBD's task as a monitoring station required hearing Atlantic submarine-warfare distress calls "ALLO" and taking the traffic from continental stations, both otherwise only sporadically

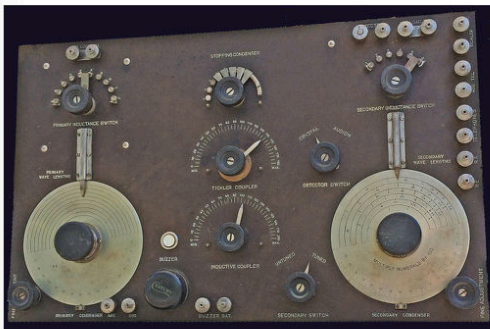
[§] That Lt. Fabbri was likely Italian was of little moment inasmuch as Italy, U.K. and the U.S.A. allied themselves in World War One. For his work the Navy awarded him the Navy Cross, rarely done outside of combat.

^{**} Michael Marinaro, Prelude to Armageddon... 34 AWA Review 237 (2021) and his Addendum: Fabbri's Silence... (at page 259 ff.). Marinaro was WN1M/SK.

received in the U.S. NDB took both the distress calls and routine traffic, in Mr. Molinari's words, with "expert disciplined radio monitors... utilizing leading edge receivers..." The IP-501 had that honor.

The schematic diagram^{††} of the radio shows how much can be accomplished with so little: it is basically a crystal set with lots of tuning coils. But NDB used BIG antennas as well as skilled operators (and the ether was relatively quiet in those days).

SE-95 and SE-143 (IP-500)



Excellent pix here: <http://online.sfsu.edu/h/IP500.html>

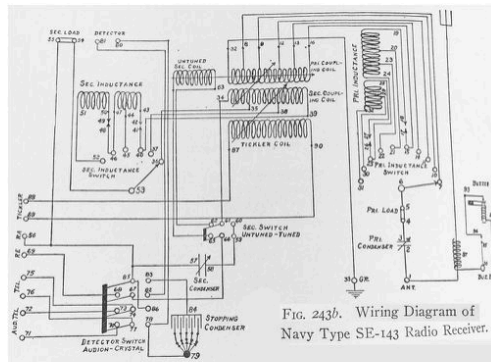


Fig. 243b. Wiring Diagram of Navy Type SE-143 Radio Receiver.

- Early 1916 redesign of Type A and B receivers
- SE-95 (CN-239 is similar)
 - 30-300 kcs
- SE-143 (CN-208 is similar)
 - 100-1,200 kcs
 - Navy's WWI utility set.

[Development of SE 143](#) Howeth, Chapter XX "Receiving Equipment" p 254

[SE 143 Manual](#)

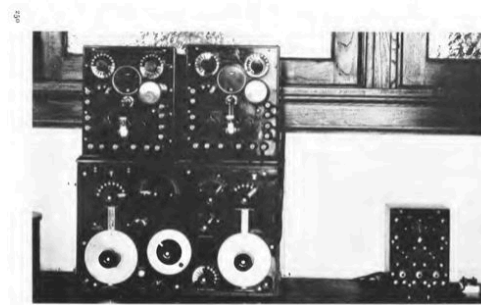


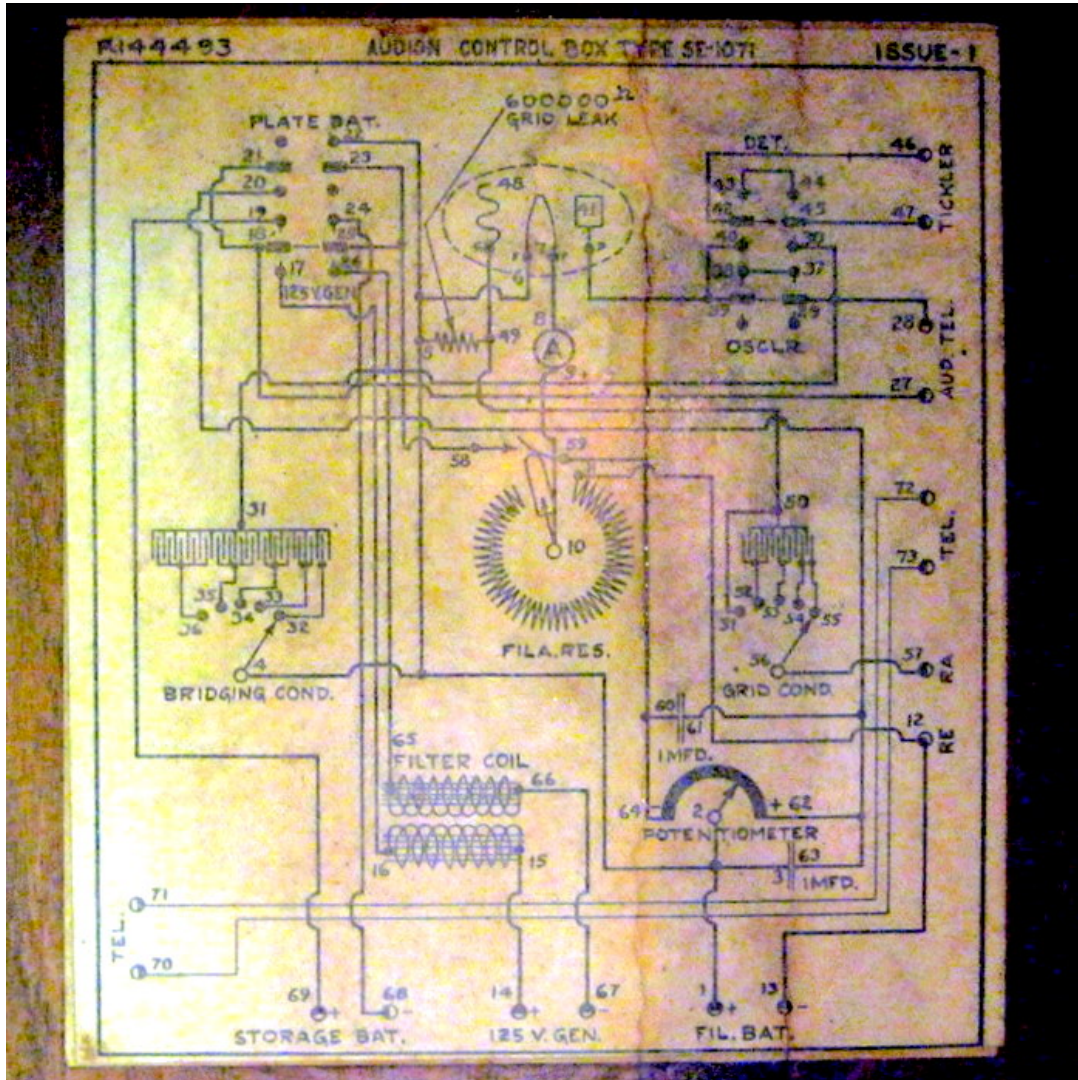
FIGURE 10-3. Standard Navy receiver, audio and amplifier, Radio Station, Belmar, N.J.

Personal tie-in: I work at [The Radio Technology Museum](#) located at the former [Marconi Belmar Station](#), and we have some of this equipment on display.

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www.skywaves.ar88.net/commrx/Navy...

^{††} From www.skywaves.ar88.net, by Al Klase, N3FRQ at: <http://www.skywaves.ar88.net/commrx/Navy/U.S.%20Navy%20Receivers.html>

The Audion Control Box also displayed simplicity and efficiency.††



Note, top right, a connection for a tickler coil, suggesting that the IP-501 and its vacuum tube accessory made up a regenerative receiver. Along with its big antennas, that could explain some of the success of NDB.

(08 IX '22 de K6VK) ##

†† Schematic from: <https://www.navy-radio.com/rcvr-prewar.htm>; hosted by James N. "Nick" England, K4NYW.