

Emergency Maritime Crystal Set

New in the Winchell Communications Center
(A note by the Manager, Bart Lee, K6VK)

At least as early as 1939,^{*} American Merchant Marine vessels carried standardized *crystal sets* along with the usual, then vacuum tube, maritime radios for long wave and short wave communications. The Comm Center has just acquired one:



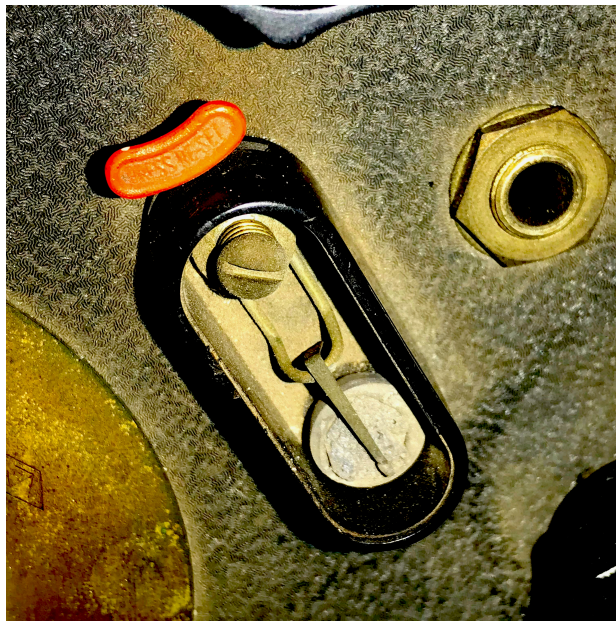
This MacKay[†] emergency crystal receiver sits next to a MacKay long wave regenerative-detector maritime receiver. The crystal set was “found in the collection” (perhaps a recent donation?) and it could use some cosmetic attention.

In distress or combat, or otherwise with loss of all power, this crystal set, a passive receiver, could nonetheless operate. It would make it possible for “Sparks” to let the bridge know about nearby ships’ radio traffic. Traffic from nearby long wave shore stations could also be heard.

^{*} The Log, August 1939, Vo. 33, No. 5, page 19 (a San Francisco maritime publication); about MacKay equipments on merchant vessels.

[†] Pronounced by old many radiomen as MAKee and not MahKAY.

The MacKay Radio and Telegraph Company made numerous versions of this crystal set. This one is unique, at least as seen on the Internet, because it retains the small red plastic adjusting lever. That says: PRESS RE-SET. That arm connects the equivalent of a “cat’s whisker” to the galena crystal. This crystal detector usually had a plastic cover on it.



This main tuning dial reads 0 to 100. The set covers the long wave maritime band from around 350 KHz to 550 KHz (~ 600 meters).





The MacKay 123-B, as Found

The big dial is antenna tuning. The left knob selects an antenna coil. The right knob provides secondary tuning.

The World War Two Liberty ships and Victory ships carried RCA Radiomarine Corp. “4U” sets, four unit consoles of receivers and transmitters. (The MacKay shipboard consoles were similar).

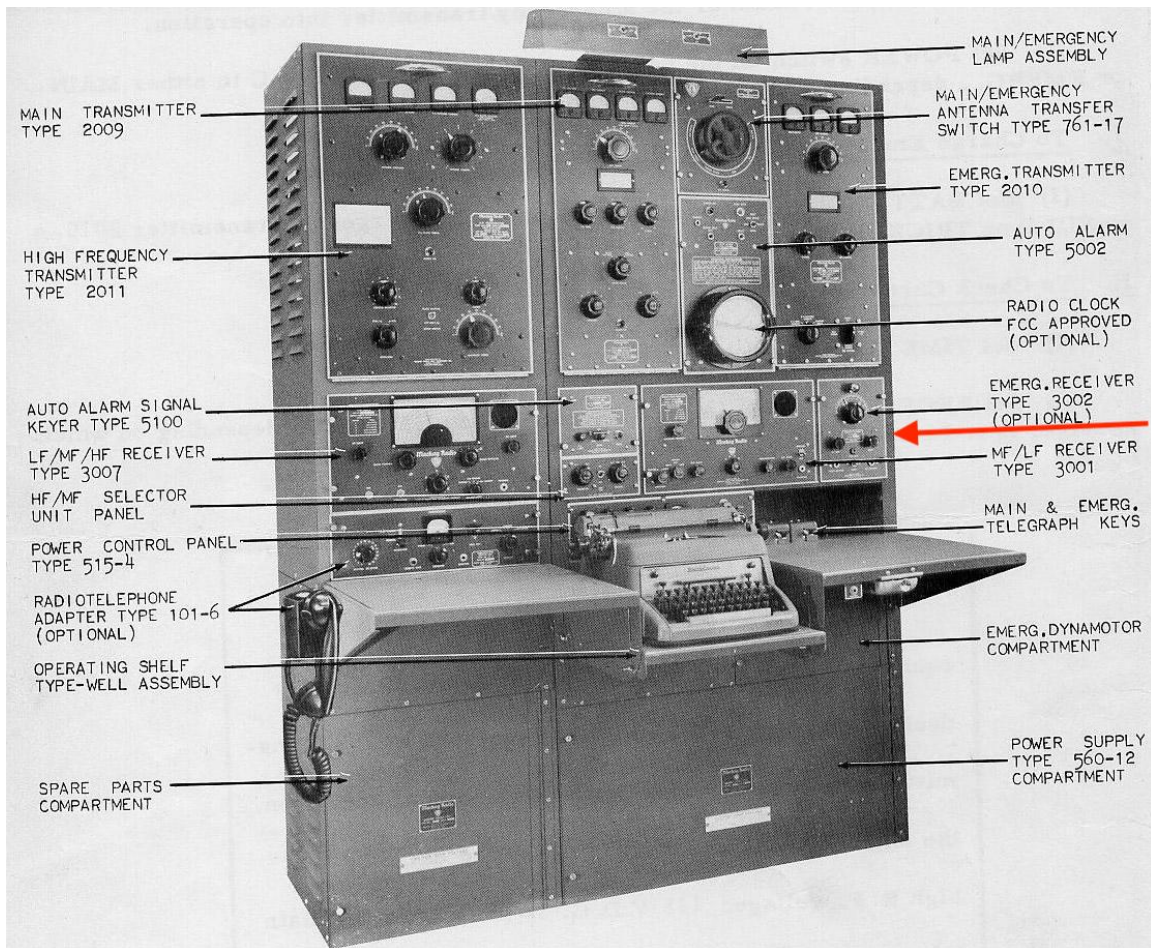
Among the 4U consoles, a “Type D” crystal set could be found (image from <http://www.imradioha.org/rmca.htm>; Inland Marine Radio History Archive):



The Inland Marine Radio History Archive notes that at these frequencies, the signal, on long wave, of the “Morse code was actually a modulated AM signal that was keyed on and off.”

Hence, a crystal receiver demodulated these signals into audio. These sets all had a jack for headphones.

The MacKay console, like the Radiomarine console, featured its crystal detector at the lower right.



MacKay's founder was an Irish immigrant who struck it rich in the Comstock Lode. His son followed him. According to the wiki: ‡

"The Mackay System expanded under Clarence H. Mackay's leadership, acquiring several other entities including the [Federal](#)

‡ https://en.wikipedia.org/wiki/John_William_Mackay

[Telegraph Company](#), its radio stations and research laboratories, in 1927. In 1928, the entire system was bought out by Sosthenes Behn's [International Telephone and Telegraph](#)."

Hence, "ITT."

Some MacKay equipment says that it is manufactured by Federal, and later radios carry nameplates of "ITT MacKay Marine." MacKay also operated shore-side maritime stations. MacKay radios enjoyed a splendid reputation.

ITT split up in various ways after a while. Ultimately, its communications division became Harris RF.

ITT's building in New York featured a magnificent world-encompassing mosaic:



Sic Transit Gloria Mundi

(22 II '23 de K6VK) ##