

Once decoders at Station X read, and understood, German encrypted messages, the information was passed to intelligence officers working in Bletchley's Huts 3 and 4. It was their job to determine what the interceptions actually *meant*.

"Ultra" was the cover-name given to the actual intelligence, obtained from decoding Germany's military messages, which was passed-on to Churchill and his military commanders. It was *those* individuals who would decide what to do, if anything, with the decoded information.

The risk of acting-on the information, of course, always raised the concern that the Germans would suspect their military codes (sent via Enigma and other encryption devices) were being broken by the Allies.

Alan Turing's electro-mechanical code-breaking machine - called "The Bombe" - helped code breakers do their jobs incredibly fast. Gone were the days of trying to decrypt interceptions by hand. Not even the fastest code breaker at Bletchley could compete with Turing's machine.

Interestingly, the Bombe's job was not to find a match which helped to decode the message. Rather, the Bombe did its job by rejecting, mathematically, all things that the match couldn't possibly be.

At 33:00 into this clip, Tony Sale, Bletchley Park's now-deceased curator, explains the difference which Turing's invention made in the decoding process (and how it approached the decryption problem):

*Before Turing, the perceived wisdom was you've just got to go around searching for this one solution which will break a particular message. Turing said "no. What you do is you use the mathematical technique of rejecting all things that it couldn't possibly be."*

*So it [the Turing Bombe] was a very powerful search engine, but working in a negative sense in that it rejected millions and millions of possibilities very, very quickly and arrived at the correct answer.*

By the end of the war, with around 200 Bombes in use, Station X code breakers were processing around 90,000 decoded messages each month.

Sometimes it was tempting for people like Churchill to interfere with battle plans once "Ultra" information had been passed to Whitehall. Such incidences, however, did not always work out well for the Allies.

This embedded video explains how Ultra worked in real time during the war. It includes interviews with people who were on the scene at the time and with individuals like Manfred Rommel (the son of Germany's famous battle commander).

### Credits:

Embedded video, via YouTube, of the BBC's "Station X: The Ultra Secret," originally broadcast in 1996.

Copyright, BBC, all rights reserved. Embedded here as fair use for educational purposes and to acquaint new viewers with the program.

See Alignments to State and Common Core standards for this story online at:

<http://www.awesomestories.com/asset/AcademicAlignment/Ultra-Using-the-Decoded-Enigma-Messages>

See Learning Tasks for this story online at:

<http://www.awesomestories.com/asset/AcademicActivities/Ultra-Using-the-Decoded-Enigma-Messages>