COLOSSUS

**Colossus** was a set of [computers](https://en.wikipedia.org/wiki/Computer) developed by British [codebreakers](https://en.wikipedia.org/wiki/Cryptanalysis) in the years 1943–1945 to help in the [cryptanalysis of the Lorenz cipher](https://en.wikipedia.org/wiki/Cryptanalysis_of_the_Lorenz_cipher). Colossus used [thermionic valves (vacuum tubes)](https://en.wikipedia.org/wiki/Vacuum_tube) to perform [Boolean](https://en.wikipedia.org/wiki/Boolean_algebra_(logic)) and counting operations.

Colossus thus may be regarded[[3]](https://en.wikipedia.org/wiki/Colossus_computer#cite_note-FOOTNOTECopeland2006Copeland,_Jack,_''Introduction''_p._2-3) as the world's first calcolatore elettronico digitale (non un programmable, electronic, digital computer), perché it was programmed by switches and plugs and not by a [stored program](https://en.wikipedia.org/wiki/Stored-program_computer) e **per fare solo calcoli di tipo combinatorio quindi non general purpose.**

Colossus was designed by [General Post Office](https://en.wikipedia.org/wiki/General_Post_Office) (GPO) research telephone engineer [Tommy Flowers](https://en.wikipedia.org/wiki/Tommy_Flowers) to solve a problem posed by mathematician [Max Newman](https://en.wikipedia.org/wiki/Max_Newman) at the [Government Code and Cypher School](https://en.wikipedia.org/wiki/Government_Communications_Headquarters#Government_Code_and_Cypher_School_(GC&CS)) (GC&CS) at [Bletchley Park](https://en.wikipedia.org/wiki/Bletchley_Park). [**Alan Turing**](https://en.wikipedia.org/wiki/Alan_Turing)'s use of probability in cryptanalysis (see [Banburismus](https://en.wikipedia.org/wiki/Banburismus" \o "Banburismus)) **contributed to its design**. It has sometimes been erroneously stated that Turing designed Colossus to aid the [cryptanalysis of the Enigma](https://en.wikipedia.org/wiki/Cryptanalysis_of_the_Enigma).[[5]](https://en.wikipedia.org/wiki/Colossus_computer#cite_note-5) **Turing's machine that helped decode Enigma was the Polish electromechanical**[**Bombe**](https://en.wikipedia.org/wiki/Bombe), not Colossus.[[6]](https://en.wikipedia.org/wiki/Colossus_computer#cite_note-6)

The prototype, **Colossus Mark 1**, was shown to be working in December 1943 and was in use at Bletchley Park by early 1944. An improved **Colossus Mark 2** that used [shift registers](https://en.wikipedia.org/wiki/Shift_register) to quintuple the processing speed, first worked on 1 June 1944, just in time for the [Normandy landings](https://en.wikipedia.org/wiki/Normandy_landings) on D-Day.[[7]](https://en.wikipedia.org/wiki/Colossus_computer#cite_note-FOOTNOTEFlowers1983246-7) Ten Colossi were in use by the end of the war and an eleventh was being commissioned.[[7]](https://en.wikipedia.org/wiki/Colossus_computer#cite_note-FOOTNOTEFlowers1983246-7) Bletchley Park's use of these machines allowed the [Allies](https://en.wikipedia.org/wiki/Allies_of_World_War_II) to obtain a vast amount of high-level [military intelligence](https://en.wikipedia.org/wiki/Military_intelligence) from intercepted [radiotelegraphy](https://en.wikipedia.org/wiki/Wireless_telegraphy) messages between the [German High Command](https://en.wikipedia.org/wiki/Oberkommando_der_Wehrmacht) (*OKW*) and their [army](https://en.wikipedia.org/wiki/Wehrmacht) commands throughout occupied Europe.

The existence of the Colossus machines was kept secret until the mid-1970s; the machines and the plans for building them had previously been destroyed in the 1960s as part of the effort to maintain the secrecy of the project.[[8]](https://en.wikipedia.org/wiki/Colossus_computer#cite_note-8)[[9]](https://en.wikipedia.org/wiki/Colossus_computer#cite_note-lorenz-9) This deprived most of those involved with Colossus of the credit for pioneering electronic digital computing during their lifetimes. A functioning rebuild of a Mark 2 Colossus was completed in 2008 by [Tony Sale](https://en.wikipedia.org/wiki/Tony_Sale) and some volunteers; it is on display at [The National Museum of Computing](https://en.wikipedia.org/wiki/The_National_Museum_of_Computing) at [Bletchley Park](https://en.wikipedia.org/wiki/Bletchley_Park)