

Enigma Wiring

26.5.2024

The names of Reflector, Entry Disc and Rotors are often not what they are actually named. Some models share the same components while others share the same component name but have different wiring. Every name with a -(Name) is something that has the same name but is different. This way, they are better distinguishable.

Every version is assumed to be the latest model and the most popular version of it, since there are differences due to different countries rewiring them differently.

Some rotors have multiple notches for turnover.

Systems

Name	Content
Latin	ABCDEFGHIJKLMNOPQRSTUVWXYZ
Swedish	ABCDEFGHIJKLMNOPQRSTUVWXYZÄÖ
Numerical	1234567890

Commercial machines

Name	System	Plugboard	Entry wheel	Reflector	Rotors
D	Latin	No	ETW-D	UKW-D	I-D; II-D; III-D
K	Latin	No	ETW-D	UKW-D	I-K; II-K; III-K

Entry wheel

Name	Wiring
ETW-D	QWERTZUIOASDFGHJKPYXCVBNML

Rotors

Name	Wiring	Turnover
I-D	LPGSZMHAEQKQVXRFBUTNICJDW	Z
II-D	SLVGBTFXJQOHEWIRZYAMKPCNDU	Z
III-D	CJGDPSHKTURAWZXFMYNQOBLIE	Z

Name	Wiring	Turnover
I-K	LPGSZMHAEQKQVXRFBUTNICJDW	Y
II-K	SLVGBTFXJQOHEWIRZYAMKPCNDU	E
III-K	CJGDPSHKTURAWZXFMYNQOBVLIE	N

Reflector

Name	Wiring
UKW-D	IMETCGFRAYSQBZXWLHKDVUPOJN

Military machines

Name	System	Plugboard	Entry wheel	Reflector	Rotors	Extra Rotors
I	Latin	Yes	ETW	UKW-A; UKW-B; UKW-C; UKW-D	I; II; III; IV; V	-
M3	Latin	Yes	ETW	UKW-B; UKW-C; UKW-D	I; II; III; IV; V; VI; VII; VII	-
M4	Latin	Yes	ETW	UKW-B-Thin; UKW-C-Thin; UKW-D	I; II; III; IV; V; VI; VII; VII	β, γ

Entry wheel

Name	Wiring
ETW	ABCDEFGHIJKLMNOPQRSTUVWXYZ

Rotors

Name	Wiring	Turnover
I	EKMFLGDQVZNTOWYHXUSPAIBRCJ	Q
II	AJDKSIRUXBLHWTMCQGZNPYFVOE	E
III	BDFHJLCPRTXVZNYEIWGAKMUSQO	V
IV	ESOVPPZJAYQUIRHXLNFTGKDCMWB	J
V	VZBRGITYUPSDNHLXAWMJQOFECK	Z
VI	JPGVOUMFYQBENHZRDKASXLICTW	ZM
VII	NZJHGRCXMYSWBOUFAIVLPEKQDT	ZM
VIII	FKQHTLXOCBJSPDZRAMEWNIUYGV	ZM

Extra Rotors

Enigma M4 exclusive. They work like a reflector and are placed between the Reflector and the left Rotor.

Name	Wiring
β	LEYJVCNIXWPBQMDRTAKZGFUHS
γ	FSOKANUERHMBTIYCWLQPZXVGJD

Reflectors

Name	Wiring
UKW-A	EJMZALYXVBWFCRQUONTSPIKHGD
UKW-B	YRUHQSLDPXNGOKMIEBFZCWVJAT
UKW-C	FVPJIAOYEDRZXWGCTKUQSBNMHL
UKW-B-Thin	ENKQAUYWJICOPBLMDXZVFTHRGS
UKW-C-Thin	RDOBJNTKVEHMLFCWZAXGYIPSUQ

Extra Reflector

Special reflector "UKW-D". "B" and "O" are permanently wired together. Connections between the letters are changeable by changing the wire connections.

Special UKW-D	
Alphabet	ABCDEFGHIJKLMNOPQRSTUVWXYZ
Wiring	A-ZXWVUTSRQPON-MLKIHGFEDCB

Cogwheel machines

Cogwheel machines don't suffer from double stepping.

Name	System	Plugboard	Entry wheel	Reflector	Rotors
A28	Latin	No	ETW-A28	UKW-A28	I-A28; II-A28; III-A28
G31	Latin	Yes	ETW	UKW-G31	I-G31; II-G31; III-G31
Z	Numerical	No	ETW-Z	UKW-Z	I-Z; II-Z; III-Z

Entry wheels

Name	Wiring
ETW	ABCDEFGHIJKLMNOPQRSTUVWXYZ
ETW-A28	QWERTZUIOASDFGHJKPYXCVBNML
ETW-Z	1234567890

Rotors

Name	Wiring	Turnover
I-A28	LPGSZMHAEQQKVXRFYBUTNICJDW	SUVWZABCEFGIKLOPQ
II-A28	SLVGBTFXJQOHEWIRZYAMKPCNDU	STVYZACDFGHKMNQ
III-A28	CJGDPSHKTURAWZXFMYNQOBLIE	UWXAEFHKMNR
I-G31	DMTWSILRUYQNKFEJCAZBPGXOHV	SUVWZABCEFGIKLOPQ
II-G31	HQZGPJTMOBLNCIFDYAWVEUSRKX	STVYZACDFGHKMNQ
III-G31	UQNTLSZFMREHDPXKIBVYGJCWOA	UWXAEFHKMNR
I-Z	6418270359	9
II-Z	5841097632	9
III-Z	3581620794	9

Reflectors

Name	Wiring	Turnover
UKW-A28	IMETCGFRAYSQBZXWLHKDVUPOJN	-
UKW-G31	RULQMZJSYGOCETKWDAHNBXPVIF	-
UKW-Z	5079183642	9

Special machines

The Model A-133 is based on the Enigma B.

Name	System	Plugboard	Entry wheel	Reflector	Rotors
A-133	Swedish	No	ETW-A-133	UKW-A-133	I-A-133; II-A-133; III-A-133
T	Latin	No	ETW-T	UKW-T	I-T; II-T; III-T; IV-T; V-T; VI-T; VII-T; VIII-T

Entry wheels

Name	Wiring
ETW-A-133	ABCDEFGHIJKLMNOPQRSTUVWXYZÄÖ
ETW-T	KZROUQHYAIGBLWVSTD XFPNMCJE

Rotors

Name	Wiring	Turnover
I-A-133	PSBGÖXQJDHOÄUCFRTEZVÅINLYMKA	Ä
II-A-133	CHNSYÖADMOTRZXBÄIGÅEKQUPFLVJ	Ä
III-A-133	ÅVQIAÄXRJBÖZSPCFYUNTHDOMEKGL	Ä
I-T	KPTYUELOCVGRFQDANJMBSWHZXI	WZEKQ
II-T	UPHZLWEQMTDJXCAKSOIGVBYFNR	WZFLR
III-T	QUDLYRFEKONVZAXWHMGPJBSICT	WZEKQ
IV-T	CIWTBKXNRESPFLYDAGVHQUOJZM	WZFLR
V-T	UAXGISNJBVERDYLFZWTPCKOHMQ	YCFKR
VI-T	XFUZGALVHCNYPEWQTDMRBKPIOJ	XEIMQ
VII-T	BJVFTXPLNAYOZIKWGDQERUCHSM	YCFKR
VIII-T	YMTPNZHWKODAJXELUQVGCBSFR	XEIMQ

Reflectors

Name	Wiring
UKW-A-133	LDGBÄNCPSKJAVFZXUIÅRMQÖOTEY
UKW-T	GEKPBTAUMOCNILJDXZYFWVQSR