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ENIGMA WIRINGS

Name of Machine: COMMERCIAL ENIGMA (MODEL D)

Source: 7; 56 (p. 1, 2, 5)

The Model D Cipher Machine was manufactured in Germany by Chiffriermaschinen A.G. and was sold commercially. It has three interchangeable wheels and a reflector. The 26 electrical contacts on the right side of the wheels are wired in random fashion to a corresponding number of contacts on the left side of the wheels. The reflector is wired on the right side only, the 26 contact points being wired to each other in mixed order to form 13 reciprocal pairs.

The wiring that follows is that of the wheels as sold commercially.

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ENIGMA WIRINGS

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Name of Machine: COMMERCIAL ENIGMA (MODEL D)

Endplate Sequence:

 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
 Q W E R T Z U I O A S D F G H J K P Y X C V B N M L (Keyboard)

Rotors:

I. A B C D E F G H I J K L M N O P Q R S T U V W X / Y Z
 H R W Y I P C G V X L A F U J B K O D T S M Z N Q E

II. A B C D / E F G H I J K L M N O P Q R S T U V W X Y Z
 S E W Y M G D L O I U B T X K V J P A F Z C N H R Q

III. A B C D E F G H I J K L M / N O P Q R S T U V W X Y Z
 L V A D Z P C G Y B H X Q S U E T K F I J W M O R N

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

Name of Machine: K ENIGMA (K-234)

Source: 6f (p. 1-2)

The machine known as the K Enigma is considered to be an improved version of the Commercial Enigma. It was used in Germany by commercial firms, the Post Office, the Railways, and miscellaneous governmental agencies. As such it employed three wheels, having one notch each, a fixed reflector and endplate. The K differed from the A Commercial machine only in the attachment of the turnover; in the A, this was on the wheel; in the K, it was on the ring.

The wiring that follows is of the K-234. This machine was captured at either Penang or Sabang by the British in 1945. Since GC&CS did not want the machine, it was released to the U.S. on request.

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ENIGMA WIRINGS

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Name of Machine: K ENIGMA (K-234)

Endplate Sequence:

 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
 Q W E R T Z U I O A S D F G H J K P Y X C V B N M L (Keyboard)

Rotors:

I. r. A B C D E F G H I J K L M N O P Q R S T U V W X / Y Z
 1. G W D Y U O J E A T R H Z C N Q B V L K S P I F M X

II. A B / C D E F G H I J K L M N O P Q R S T U V W X Y Z
 Q L T J X E A R W N V P K I D H C U O B Z S Y G F M

III. A B C D E F G H I J K L / M N O P Q R S T U V W X Y Z
 X P G N K M W D S H C U F E B Y L Q A I V R Z O J T

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 F Q E K C A R U J I D Z S W Y X B G M V H T N P O L

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ENIGMA WIRINGS

Name of Machine: ITALIAN ENIGMAS

Source: 37 (p. 1-3); 55 (p. 5, 84, 86, 110, 174, 178); 64 (p. 20)

During the Civil War in Spain, the Italians and Spaniards used a version of the K Enigma. At the time, the A Commercial Enigma was the only other unsteckered machine in existence. Of the three Italian Enigma wirings presented here, the Italian K or Italian Naval (K) was solved during the time of the Spanish Civil War (1936 - 1939) by the British ISK Section. It was used for naval communication between Rome and the Italian colonies. After the Civil War, the Italians sent their machines to stations in the colonies: Asmara, Rhodes, Tripoli, Bengazi, Leros, and Tobruk. ISK started to work on the new Italian traffic in 1940.

During 1941 and 1942 the Italians introduced two new wheels. The wiring of the first was recovered when the known wheel was in the right-hand position, giving the rod couplings necessary to obtain the wirings of the new middle wheel; the second new wheel was recovered by buttoning up an L dummy message (L dummies are enciphered on the machine by tapping L only; these can be recognized by the absence of L throughout, and will give the wheel order and turnover for the day).

The second Italian Enigma (Italian Naval II) was solved by ISK in July 1943. It is a rewired version of the Italian Naval (K) and was used solely for passing on agents' reports from Rome to a Mediterranean station that was never identified.

In the last Italian Enigma wiring given in this group the wheel order and clips were fixed for the day. Source adds that there had already been two new wheels, the last one having been introduced on 1 June 1942. Traffic dealt mainly with unsigned intelligence reports and wireless instructions that passed between Rome, Tripoli, Rhodes, Mariduset, and occasionally Leros and Bengazi. All stations communicated with Rome, but never with one another.

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ENIGMA WIRINGS

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Name of Machine: ITALIAN NAVAL (K)

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors:

Red r. ABCDEFGHIJKLMNOPQRSTUVWXYZ
l. OLFDGRXAMKIUBYVSWQPJHNECTZ

Blue ABCDEFGHIJKLMNOPQRSTUVWXYZ
TJSOVKQIXGNHEPCBWARUYFDMLZ

Green ABCDEFGHIJKLMNOPQRSTUVWXYZ
ESIGRXPWUFDNQMCJLYAKVTBHOZ

New Green ABCDEFGHIJKLMNOPQRSTUVWXYZ
ETRMJIFYAIOHWQNBVKPCULXDSGZ

Purple ABCDEFGHIJKLMNOPQRSTUVWXYZ
TJRPSHBDQEUXKVOIGFNMYCAJZ

Black ABCDEFGHIJKLMNOPQRSTUVWXYZ
SWMKXLIVQOJCBUENDATFPYHRGZ

Reflector: ABCDEFGHIJKLMNOPQRSTUVWXYZ
SQKITRPODZCVNMHGBFAEWLUYXJ

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ENIGMA WIRINGS

Name of Machine: ITALIAN NAVAL II

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)
QWERTZUIOASDFGHJKPYXCVB NML (Keyboard)

Rotors:

Red r. ABCDEFGHIJKLMNOPQRSTUVWXYZ
l. YIXDELOKASCRQBVWMTUHNFGFPJZ

Blue ABCDEFGHIJKLMNOPQRSTUVWXYZ
SWRAGOIVEQLFXHPKDUJTMNCYBZ

Sepia ABCDEFGHIJKLMNOPQRSTUVWXYZ
XBMSEJQUAFLWTKNHDPGCR IYVOZ

Reflector: ABCDEFGHIJKLMNOPQRSTUVWXYZ
FQOMLAWZSKJEDYCXBTIRVUGPNH

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ENIGMA WIRINGS

Page 89

Name of Machine: ITALIAN ENIGMA

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)
QWERTZUIOASDFGHJKPYXCVB NML (Keyboard)

Rotors:

Blue A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 V L U Q X M S K Z I P J G R E D Y C T W A H F O N B

Purple A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 V M T R U J D F S G W Y Z N X Q K I H P A O E M L B

Green A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 G V T O L K H C A Q J Y S P D X M R E W N Z F U I B

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 P J H S Q O N C Y B U M L Q F A E Z D V K T X W I R

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ENIGMA WIRINGS

Name of Machine: SPANISH ENIGMAS

Source: 5 (App. A - p. 4, App. B - p. 10); 6c (p. 1-2); 6d (p. 1-2);
55 (p. 5, 84, 87, 88, 175, 178)

As stated under Italian Enigmas, during the Spanish Civil War the Spaniards were using a version of the K Enigma. Following the war they used their machine for communications with the Naval Attache.

Five Spanish Enigma wirings were found. The first one presented, the SNA (Spanish Naval Attache), is probably of the commercial type. It was supplied by the British and most likely has twists and reletterings. The reflector is the same as on the old Commercial. This wiring does not seem to agree with any of the other Spanish wirings given in this report, but it does appear to be a relettering of the Red, Blue, and Green wheels of the six-wheel Italian Naval (K) Enigma and of its reflector. No information is available as to notch positions.

The machine entitled Spanish Military Attache Enigma, was used for military attache communications between Madrid, Berlin, Rome, Vichy, and Berne. It was solved by the British (ISK) in November 1943. Clip differences are noted as follows:

G.P.B.	Spanish AAAA	British Z.F.Z.M.
P.B.G.	Spanish AAAA	British Z.S.F.O.

Differences

G	12
B	14
P	20

Twists

G	7
B	7
P	2

The B (SPARMA), lettered B for convenience, and the SPARMA (twist-free) that follows it, are possible also military attache wirings. No information is available concerning them except that the former was supplied by the British with twists and reletterings, and is still not twist free.

The fifth wiring was simply labeled "Spanish Machine". Although it appears to have the same reflector as the three military machines just described and the same notch pattern and placement for the corresponding Black, Purple, and Green wheels, it does not seem to agree with any of the versions in the three actual wheels. Possibly it is an Enigma Bombe wiring.

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ENIGMA WIRINGS

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Name of Machine: SNA (SPANISH NAVAL ATTACHE)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
(Keyboard)

Rotors:

Red A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A P M G E H S Y B N L J V C Z W T X R Q K I O F D U

Blue A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A U K T P W L R J Y H O I F Q D C X B S V Z G E N M

Green A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A F T J H S Y Q X V G E O R N D K M Z B L W U C I P

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
S Q K I T R P O D Z C V N M H G B F A E W L U Y X J

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ENIGMA WIRINGS

Name of Machine: SPANISH MILITARY ATTACHE

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors:

Purple I r. A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z
1. D J E R U N S G A O H Y T X P K F V M C L B W I Q Z

Green A B C D E F G H I J K L M N O P Q R S T U V W X Y / Z
V Q K G N C L I H U X M T J A D O B W F R P Y S E Z

Black A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z
M Y K G F L X B A I O V Q W J U E T D R H C S P N Z

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
K D M B V N S I H X A P C F Z L W U G Y R E Q J T O

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ENIGMA WIRINGS

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Name of Machine: "B" (SPARMA)

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors:

Black r. ABCDEFGHIJKLMNOPQRSTUVWXYZ
l. MYKGFLEXBAIOVQWJUETDRHCSPNZ

Purple ABCDEFGHIJKLMNOPQRSTUVWXYZ
BTOJZQGPFAMUDHNIVYRWKESLCX

Green ABCDEFGHIJKLMNOPQRSTUVWXYZ
GVCSJMXKFOAYHBNIEZTPWLURQD

Reflector: ABCDEFGHIJKLMNOPQRSTUVWXYZ
GEQIBOATDYUNWLFXCSRHKZMPJV

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ENIGMA WIRINGS

Name of Machine: SPARMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
(Keyboard)Rotors: (twist-free)Green r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1. I P F W Z K X S B N L U O A V R M G C J Y H E D Q TBlack A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z
Q D O Y N X L B W M J H T G S E A Z F R V U C I P KPurple A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z
L U K F R Z I M S N A D W B P J X Q H C G Y T O E VReflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
E R U O A L J V N G T F Y I D Z S B Q K C H X W M P

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ENIGMA WIRINGS

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Name of Machine: SPANISH ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
(Keyboard)

Rotors:

Black A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z
I H V S Q E D U J O C F A Y K X M T W R P L N G B Z

Purple A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z
I V T A C Q H K X B P U S F J O Y D G M E R W N L Z

Green A B C D E F G H I J K L M N O P Q R S T U V W X Y / Z
O R F P Y T D I H N C G L E Q V B U X M J A S K W Z

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
K D M B V N S I H X A P C F Z L W U G Y R E Q J T O

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ENIGMA WIRINGS

Name of Machine: CROATIAN ENIGMA

Source: 14 (p. 14); 64 (p. 20)

On the following page is given the Croatian Enigma machine wiring for cipher wheels Nos. K 881 - K 892 (ch 11 Tz 364 a-c) and the rotatable reversing wheel No. 1048 (ch 11 Tz 86). The presentation here is in literal form, whereas the original was given in numbers. The top row letters on each wheel represent the movable contacts; the bottom row letters, the fixed contacts. The letters run in a clockwise direction viewed from the front of the movable contacts.

Corresponding to the wirings of the Croatian Enigma, the commercial Enigma machines, models K, K-913, K-914, and A-827, were rewired. No wirings were found for these models.

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ENIGMA WIRINGS

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Name of Machine: CROATIAN ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
(Keyboard)

Rotors:

Ch 11 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Tz 364 a B T N A Y L I U Q H D X R J V F O M W S E Z K G P C

Ch 11 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Tz 364 b H K W A J X Q V Y N F T L P R U M D E G S C B I Z O

Ch 11 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Tz 364 c U L Q I T S D Y H R O J V F A B M Z G W P C X N E K

Reflector: Wheel # 1048 (Ch 11 Tz 86)

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

Name of Machine: CANARY ISLANDS ENIGMA

Source: 55 (p. 4, 79-80, 175, 179)

The Canary Islands Enigma was used by the Abwehr and Sicherheitsdienst for maintaining a weather- and ship-reporting service between Berlin and the Canaries. Traffic passing between Cisneros and Paris began coming in to ISK in May 1941. It was assumed, and later established, that the machine was of the single-turnover type, which experience had shown was usually unsteckered. It was solved by the British in May 1943.

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ENIGMA WIRINGS

Page 99

Name of Machine: CANARY ISLANDS ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
 Q W E R T Z U I O A S D F G H J K P Y X C V B N M L (Keyboard)

Rotors:

Red A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z
 S L A F D J G O M Y V R Z H W I C X N Q U E K T B P

Blue A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z
 W S Q P C A O I Z E M R J U Y H V G D X N L F K B T

Green A B C D E F G H I J K L M N O P Q R S T U V W X Y / Z
 L T Y E M J C S I X R F D K B U W Q H O G N Z V A P

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 Q M S P L H R F O W T E B V I D A G C K Z N J Y X U

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ENIGMA WIRINGS

Name of Machine: GGG (3-G)

Source: 6a (p. 10, 13, 17); 30; 32 (p. 10); 54 (p. 86); 55 (p. 4, 5, 52, 60-62, 176, 179)

Towards the end of 1941 a fair volume of cipher messages began to pass between certain stations in the Gibraltar area and Madrid. The name GGG given to this network was derived from the callsign used by the Algeciras station. The cipher machine used for these communications is known as the GGG or 3-G and was employed by the Abwehr (German Secret Service) and the Sicherheitsdienst (German Security Service) solely between Madrid and Algiers, and Tetuan and several outstations situated in the area of the Straits of Gibraltar.

The GGG machine was solved by ISK analysts in February 1942. It is described as a commercial type Enigma with three wheels, designated Green, Red, and Blue, having regular Enigma motion. Each of these wheels has a fixed notch on its ring, causing the Green wheel to turn over at E/F, the Blue at N/O, and the Red at Y/Z. This is the case for all commercial type Enigmas. The middle wheel turns over irrespective of whether or not the right-hand wheel is in its turnover position. The reflector is rotatable by hand for the setting of a message, but is not affected during an encipherment by any of the wheels. The wiring given is British, and probably has twists in it.

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ENIGMA WIRINGS

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Name of Machine: GGG (3-G)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
Q W E R T Z U I O A S D F G H J K P Y X C V B N M L (Keyboard)

Rotors:

Red A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A L E B H O N C W Y X M F T K U P D V J R Z G I S Q

Blue A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A T Q E L D P K B G U W O R N J F X I Y C H S Z V M

Green A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A J T W P U D K Y O C S G M X V L N Q H E R F I Z B

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
D N M A L P I Q G R W E C B V F H J X Z Y O K S U T

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ENIGMA WIRINGS

Name of Machine: 4-JIG ENIGMA (4-J)

Source: 2 (p. 1-2); 6a (p. 10-12)

This machine has regular Enigma non-metric motion.

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ENIGMA WIRINGS

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Name of Machine: 4-JIG ENIGMA (4-J)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
(Keyboard)

Rotors:

Red I r. A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z
l. S L A F D J G O M V Y R Z H W I C X N Q U E K T B P

Green II A B C D E F G H I J K L M N O P Q R S T U V W X Y / Z
L T Y E M J C S I X R F D K B U W Q H O G N Z V A P

Blue III A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z
W S Q P C A O I Z E M R J U Y H V G D X N L F K B T

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Q M S P L H R F O W T E B V I D A G C K Z N J Y X U

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ENIGMA WIRINGS

Name of Machine: ROCKET

Source: 6a (p. 3-5)

These wheels were used by the Germans for railway traffic in Northern France. The wiring as shown was furnished by the British.

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ENIGMA WIRINGS

Page 105

Name of Machine: ROCKET

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
(Keyboard)

Rotors:

I. r. A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z
1. J G D Q O X U S C A M I F R V T P N E W K B L Z Y H

II. A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z
N T Z P S F B O K M W R C J D I V L A E Y U X H G Q

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y / Z
J V I U B H T C D Y A K E Q Z P O S G X N R M W F L

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
M R Z I P H O F D W Q V A U G E K B Y X N L J T S C

Notch patterns are indicated by /

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ENIGMA WIRINGS

Name of Machine: S. D. COMMERCIAL

Source: 55 (p. 4, 67, 75, 173, 178)

The S. D. Enigma was used by the Sicherheitsdienst for European communications. Until the end of July 1943, the only Enigma messages sent by the Sicherheitsdienst were passed from Pskov and Smolensk to Berlin. The machine used was different from those used by the Abwehr. On 27 July, however, a cipher link was discovered between Rome and Berlin. The wiring given was recovered by the British in August 1943.

Both the Italian and Eastern Sicherheitsdienst machine services ended early in 1944. The cipher system changed in February. From then on the Enigma was steckered.

At the time the above services died, the Sicherheitsdienst organization in Turkey began using the commercial machine.

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ENIGMA WIRINGS

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Name of Machine: S. D. COMMERCIAL

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors:

Red r. ABCDEFGHIJKLMNOPQRSTUVWXYZ
l. OFRYLGZDNPJUWQEXATSMHBIKVK

Blue ABCDE/FGHIJKLMNOPQRSTUVWXYZ
KUFASEWIPNGDVHQYXZLJOBMCRT

Green ABCDEFGHIJKLMNOP/OPQRSTUVWXYZ
IFCORGGJSTQZVYWELXMPNAUKHDB

Reflector: ABCDEFGHIJKLMNOPQRSTUVWXYZ
LDSBFEEQZXRPAYWVKGCUTONIMH

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ENIGMA WIRINGS

Name of Machine: RUMANIAN ENIGMA

Source: 52 (p.1)

The Rumanian Enigma differs from the German machine only in the presence of a new reflector.

Rumil 4 (Ash) and Rumafo 1 (Pine), respectively, were the keys of the Rumanian Antiaircraft and Air units. Pine traffic started 20 February, and Ash on 25 March 1945.

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ENIGMA WIRINGS

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Name of Machine: RUMANIAN ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
(Keyboard)

Rotors:

I. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

II. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
U Y L Q H K I E G W F C P V Z M D S R X A N J T B O

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ENIGMA WIRINGS

Name of Machine: TIRPITZ (T) ENIGMA

Source: 6a (p. 3, 6-9); 24 (p. 13-20); 26 (p.2); 43 (p. 2-3); 59

The Tirpitz or T unsteckered Enigmas were manufactured by the Germans for the Japanese. In the summer of 1944, a number of these were captured in a warehouse in Normandy where some of them were awaiting shipment to Japan.

The machine is similar to the old three-wheel, one-movable-reflector commercial Enigma but differs in the following ways: Its input sequence though fixed is neither QWERTZU not alphabetical; it has eight wheels, all marked "T", from which three were chosen for use at a time, permitting 336 wheel orders in all; its wheels have five notches each, instead of one as in the commercial model. There are four different patterns for this turnover distribution:

<u>Wheels</u>	<u>Spaces between Notches</u>	<u>Position of Turnover</u>
1, 3	6 - 6 - 6 - 3 - 5	E, K, Q, W, Z
2, 4	6 - 6 - 5 - 3 - 6	F, L, R, W, Z
5, 7	3 - 5 - 7 - 7 - 4	C, F, K, R, Y
6, 8	4 - 4 - 4 - 7 - 7	E, I, M, Q, X

The reflector is moved forward by hand after each group.

Of the four wirings included here, the first, second, and fourth agree in letter values for the eight wheels and reflector, but differ in endplate sequence (no endplate sequence was indicated in the first wiring); the second and third agree in endplate sequence, but differ in letter value; all wirings differ in notch placement, the second one being the only one that agrees with the patterns given above.

Source for the data on the T-258 and T-259 (the fourth wiring in this series) states that Americans raided the port at Lorient in Brittany, August 1944 and, unknown to the Japanese, carried away 60 of these Enigmas.

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ENIGMA WIRINGS

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Name of Machine: TIRPITZ (T) ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
(Keyboard)Rotors:

I. r. A B C D E / F G H I J K / L M N O P Q / R S T U V W / X Y Z
l. K P T Y U E L O C V G R F Q D A N J M B S W H Z X I

II. A B C D E F / G H I J K L / M N O P Q R / S T U V W / X Y Z
U P H Z L W E Q M T D J X C A K S O I G V B Y F N R

III. A B C D E / F G H I J K / L M N O P Q / R S T U V W / X Y Z
Q U D L Y R F E K O N V Z A X W H M G P J B S I C T

IV. A B C D E F / G H I J K L / M N O P Q R / S T U V W / X Y Z
C I W T B K X N R E S P F L Y D A G V H Q U O J Z M

V. A B C / D E F / G H I J K / L M N O P Q R / S T U V W X Y / Z
U A X G I S N J B V E R D Y L F Z W T P C K O H M Q

VI. A B C D E / F G H I / J K L M / N O P Q / R S T U V W X / Y Z
X F U Z G A L V H C N Y S E W Q T D M R B K P J O J

VII. A B C / D E F / G H I J K / L M N O P Q R / S T U V W X Y / Z
B J V F T X P L N A Y O Z I K W G D Q E R U C H S M

VIII. A B C D E / F G H I / J K L M / N O P Q / R S T U V W X / Y Z
Y M T P N Z H W K O D A J X E L U Q V G C B I S F R

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
G E K P B T A U M O C N I L J D X Z Y F H W V Q S R

Notch patterns are indicated by /

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ENIGMA WIRINGS

Name of Machine: T-257 ENIGMA

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)
 KEJCMNPFXDTSVWLBGIA YHQUORZ (Keyboard)

Rotors: (all rings set at "A")

I. r. ABCDEF/GHIJK/LMNOPQ/RSTUVW/XYZ/
 l. KPTYUELOCVGRFQDANJMBSWHZXI

II. ABCDEF/GHIJK/LMNOPQ/RSTUVW/XYZ/
 UPHZLWEQMTDJXCAKSOIGVBYFNR

III. ABCDEF/GHIJK/LMNOPQ/RSTUVW/XYZ/
 QUDLYRFEKONVZAXWHMGPJBSICT

IV. ABCDEF/GHIJK/LMNOPQ/RSTUVW/XYZ/
 CIWTBKKXNRESPLFYDAGVHQUOJZM

V. ABC/DEF/GHIJK/LMNOPQ/RSTUVW/XYZ
 UAXGISNJBVERDYLFZWTPCKOHMQ

VI. ABCDEF/GHIJK/LMNOPQ/RSTUVW/X/YZ
 XFUZGALVHCNYSEWQTDMRBKP IOJ

VII. ABC/DEF/GHIJK/LMNOPQ/RSTUVW/XYZ
 BJVFXTXPLNAYOZIKWGDQERUCHSM

VIII. ABCDEF/GHIJK/LMNOPQ/RSTUVW/X/YZ
 YMTPNZHWKODAJXELUQVGC BISFR

Reflector: ABCDEF/GHIJK/LMNOPQ/RSTUVW/XYZ
 GEKPBTAUMOCN ILJDXYZYFHWVQSR

Notch patterns are indicated by / (window readings)

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ENIGMA WIRINGS

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Name of Machine: T-257 ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
 K E J C M N P F X D T S V W L B G I A Y H Q U O R Z (Keyboard)

Rotors: (all rings set at "Z")

I. r. A B C D E / F G H / I J K L M / N O P Q R S / T U V W X Y / Z
 1. O S X T D K N B U F Q E P C Z M I L A R V G Y W H J

II. A B C D E / F G H / I J K L M N / O P Q R S T / U V W X Y Z /
 O G Y K V D P L S C I M B Z J R N H F U A X E M Q T

III. A B C D E / F G H / I J K L M / N O P Q R S / T U V W X Y / Z
 T C K X Q E D J N M U Y Z W V G L F O I A R H B S P

IV. A B C D E / F G H / I J K L M N / O P Q R S T / U V W X Y Z /
 H V S A J W M Q D R O E K X C Z F U G P T N I Y L B

V. A B C D E F G / H I J K / L M N / O P Q R S / T U V W X Y Z /
 Z W F H R M I A U D Q C X K E Y V S O B J N G L P T

VI. A B C D E F / G H I J K L M / N O P Q / R S T U / V W X Y / Z
 E T Y F Z K U G B M X R D V P S C L Q A J O H N I W

VII. A B C D E F G / H I J K / L M N / O P Q R S / T U V W X Y Z /
 I U E S W O K M Z A N Y H J V F C P D Q T B G R L A

VIII. A B C D E F / G H I J K L M / N O P Q / R S T U / V W X Y / Z
 L S O M Y G V J N C Z I W D K T P U F B A H R E Q X

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 D J O A S Z T L N B M H K I C W Y X E G V U P R Q F

Notch patterns are indicated by /

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ENIGMA WIRINGS

Name of Machine: TIRPITZ NON-STECKERED ENIGMA (T-258 & T-259)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
 K Z R O U Q H Y A I G B L W V S T D F X P N M C V E (Keyboard)

Rotors:

I. A B C D E / F G H / I J K L / M N O P Q R / S T U V W X / Y Z
 K P T Y U E L O C V G R F Q D A N J M B S W H Z X I
 II. A B C D / E F G / H I J K L M / N O P Q R S / T U V W X Y / Z
 U P H Z L W E Q M T D J X C A K S O I G V B Y F N R
 III. A B C D / E F G / H I J K L M / N O P Q R / S T U V W X / Y Z
 Q U D L Y R F E K O N V Z A X W H M G P J B S I C T
 IV. A B C D / E F G / H I J K L M / N O P Q R S / T U V W X Y / Z
 Y L Q N T I U D H B W M Z P V J G O X K A E R F C S
 V. A B C D E F / G H I J / K L M / N O P Q R / S T U V W X Y / Z
 U A X G I S N J B V E R D Y L F Z W T P C K O H M Q
 VI. A B C D E / F G H I J K L M / N O P Q R S T / U V W X / Y Z
 X F U Z G A L V H C N Y S E W Q T D M R B K P I O J
 VII. A B C D E F / G H I J / K L M / N O P Q R / S T U V W X Y / Z
 B J V F T X P L N A Y O Z I K W G D Q E R U C H S M
 VIII. A B C D E / F G H I J K L M / N O P Q R S T / U V W X / Y Z
 Y M T P N Z H W K O D A J X E L U Q V G C B I S F R

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 (movable) G E K P B T A U M O C N I L J D X Z Y F H W V Q S R

Notch patterns are indicated by /

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ENIGMA WIRINGS

Name of Machine: EARLY GERMAN 3-WHEEL ENIGMA

Source: 17 (p. 1, 3-4)

The wiring given is of an Enigma machine referred to by Source as a Group II Enigma, based on the same principle as the commercial model, but considerably more complicated. According to Source, a booklet, issued with the original machine, recommended as secure, a certain method of using it which the Germans adopted for their Group II traffic. Source states further that this method resulted in the recovery of this Group II wiring without having had access to the actual machine.

This machine had a set of five wheels, numbered I - V, three of which were chosen to be used in any order, giving 60 possible variations. There was one turnover position on each wheel, differing in placement for every wheel. Also, according to Source, the rings on wheels used by the German Army were marked by numbers 1 - 26 instead of by letters.

Since all Group II Enigmas encountered in preparing this report have consistently had the 11-15-17 notch pattern for their wheels, and since there is no indication of choice of three out of a set of five wheels for any of them, this wiring, perhaps, is more properly placed with the commercial type machines, or with the various Service machines.

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ENIGMA WIRINGS

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Name of Machine: EARLY GERMAN 3-WHEEL ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)
Q W E R T Z U I O A S D F G H J K P Y X C V B N M L (Keyboard)

Rotors:

I. 1. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
r. P E X R Y S N H G Z C V J D F Q K M W A T O B I U L

II. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
I G X N Y L Q O A C B J S E W T M K R D V H Z U F P

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Y W S P G Z M K N C O V D B E A J G H Q T I L X U R

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
S N R M L G F X Q T P E D B Z K I C A J V U Y H W O

Notch patterns are indicated by /

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