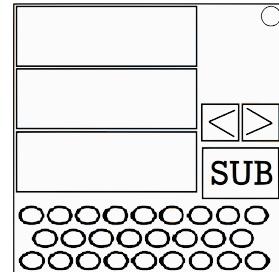


## On the Subject of the Ultimate Cipher

All ciphering techniques are required to solve this module.

- On the first page of the module, the top screen should show a 6 symbol word that has been encrypted.
- The module has a total of 7 pages, 1 for the first screen, and 2 for each colored cipher.
- Follow the necessary steps below to get your decrypted word to submit.



### Step 1: Pigpen Cipher

Convert the 6 symbols on the top screen of page 1 to letters using the chart below:

A	C	E	B	D	F
G	I	K	H	J	L
M	O	Q	N	P	R

S	W	T	X
U	Y	V	Z

## On the Subject of the Red Cipher

Original Red Cipher manual can be found [here](https://ktane.timwi.de/HTML/Red%20Cipher.html) (<https://ktane.timwi.de/HTML/Red%20Cipher.html>).

This cipher contains Playfair, Conjugated Matrix Bifid and Tri-square Cipher.

### Edgework:

1.	Ports Count	Top	Mid	Btm		Ports Count	Top	Mid	Btm
	0	KW1	KW2	KW3		3	KW3	KW1	KW2
	1	KW1	KW3	KW2		4	KW2	KW3	KW1
	2	KW2	KW1	KW3		5+	KW3	KW2	KW1

2. Matrix A: First digit in SN is odd
3. Matrix B: Second digit in SN is even
4. Matrix C: Last digit in SN is odd

### Inverted Red Cipher Order:

- Step 3: Tri-square Cipher
- Step 2: Conjugated Matrix Bifid
- Step 1: Playfair Cipher

## On the Subject of the Orange Cipher

Original Orange Cipher manual can be found [here \(<https://ktane.timwi.de/HTML/Orange%20Cipher.html>\)](https://ktane.timwi.de/HTML/Orange%20Cipher.html).

This cipher contains ADFGX, Bazeries and Foursquare Cipher.

### Edgework:

1. Matrix A: Last digit in SN is even
2. Matrix B:

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

3. Matrix C: Second digit in SN is odd
4. Matrix D: First digit in SN is even

### Inverted Orange Cipher Order:

- Step 1: ADFGX Cipher (Keyword isn't effected)
- Step 3: Foursquare Cipher
- Step 2: Bazeries Cipher

## On the Subject of the Yellow Cipher

Original Yellow Cipher manual can be found [here \(<https://ktane.timwi.de/HTML/Yellow%20Cipher.html>\)](https://ktane.timwi.de/HTML/Yellow%20Cipher.html).

This cipher contains Morbit, Trifid and Hill Cipher.

### Edgework:

1. Step 1:

```
.....XX  
. -X . -X . -
```

2. Step 2: # of batteries is odd

```
111111111222222223333333  
11122233311122233311122233  
12312312312312312312312312
```

### Inverted Yellow Cipher Order:

- Step 1: Morbit Cipher (Keyword isn't effected)
- Step 3: Hill Cipher
- Step 2: Trifid Cipher

### Morse Code Table

A	• -	U	• • -
B	- • • •	V	• • • -
C	- • - •	W	• -
D	- • •	X	- • -
E	•	Y	- • - -
F	• • - •	Z	- • - •
G	- - - :		
H	• • • •		
I	• •		
J	• - - -		
K	- • -	1	• - - - -
L	• - - •	2	• - - -
M	- -	3	• - -
N	- •	4	• - - -
O	- - -	5	• - - - -
P	• - - •	6	• - - - - -
Q	- - - •	7	• - - - - - -
R	• - - •	8	• - - - - - - -
S	• • •	9	• - - - - - - - -
T	- -	0	• - - - - - - - - -

## On the Subject of the Green Cipher

Original Green Cipher manual can be found [here \(https://ktane.timwi.de/HTML/Green%20Cipher.html\)](https://ktane.timwi.de/HTML/Green%20Cipher.html).

This cipher contains Homophonic, Columnar Transposition and Mechanical Cipher.

### Inverted Green Cipher Order:

- Step 1: Homophonic Cipher (Keyword isn't effected)
- Step 3: Mechanical Cipher
- Step 2: Columnar Transposition

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
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78

1	2	1	2	3	1	2	3	4	1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	5	6
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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

## On the Subject of the Blue Cipher

Original Blue Cipher manual can be found [here](https://ktane.timwi.de/HTML/Blue%20Cipher.html) (<https://ktane.timwi.de/HTML/Blue%20Cipher.html>).

This cipher contains Atbash, Letter Transposition and Vigenere Cipher.

### Inverted Blue Cipher Order:

- Step 3: Vigenere Cipher
- Step 2: Letter Transposition
- Step 1: Atbash Cipher

	0	1	2	3	4	5	6	7	8	9
0	34	16	14	24	25	23	45	34	R4	24
1	26	14	RV	15	R2	34	56	R3	26	25
2	23	RV	R1	RV	12	25	36	46	R2	25
3	35	12	46	24	45	R5	13	15	26	R5
4	R1	13	14	16	35	12	35	R3	25	R4
5	23	45	R3	46	16	36	R4	R5	34	R2
6	13	12	RV	12	R3	35	36	15	36	23
7	45	24	56	R4	R5	R2	35	23	56	46
8	RV	26	R1	13	13	56	15	15	24	34
9	36	R1	14	56	16	45	16	14	26	46

A	8	H	13	O	14	V	9
B	0	I	7	P	3	W	17
C	16	J	22	Q	19	X	15
D	12	K	23	R	4	Y	20
E	5	L	6	S	21	Z	24
F	11	M	18	T	25		
G	10	N	1	U	2		

## On the Subject of the Indigo Cipher

Original Indigo Cipher manual can be found [here \(<https://ktane.timwi.de/HTML/Indigo%20Cipher.html>\)](https://ktane.timwi.de/HTML/Indigo%20Cipher.html).

This cipher contains Fractionated Morse, Condi and Logic Cipher.

### Edgework:

- 1. Step 1: # of ports is odd

.....-----xxxxxxx  
....-xxx....-xxx....-xx  
. -x.-x.-x.-x.-x.-x.-x.-

- 2. Step 2: Starting offset = Sum of SN Digits

0000000001111111112222222  
12345678901234567890123456

### Inverted Indigo Cipher Order:

- Step 1: Fractionated Morse Cipher (Logic key isn't effected)
- Step 3: Logic Cipher
- Step 2: Condi Cipher

In	AND	OR	XOR	NAND	NOR	XNOR	->	<-
00	0	0	0	1	1	1	1	1
01	0	1	1	1	0	0	1	0
10	0	1	1	1	0	0	0	1
11	1	1	0	0	0	1	1	1

Morse Code Table

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	● - - - - -
2	● - - - - -
3	● - - - - -
4	● - - - - -
5	● - - - - -
6	● - - - - -
7	● - - - - -
8	● - - - - -
9	● - - - - -
0	● - - - - -

Number	0+5 Bits	Number	6 Bits
0	00000	32	100000
1	00001	33	100001
2	00010	34	100010
3	00011	35	100011
4	00100	36	100100
5	00101	37	100101
6	00110	38	100110
7	00111	39	100111
8	01000	40	101000
9	01001	41	101001
10	01010	42	101010
11	01011	43	101011
12	01100	44	101100
13	01101	45	101101
14	01110	46	101110
15	01111	47	101111
16	10000	48	110000
17	10001	49	110001
18	10010	50	110010
19	10011	51	110011
20	10100	52	110100
21	10101	53	110101
22	10110	54	110110
23	10111	55	110111
24	11000	56	111000
25	11001	57	111001
26	11010	58	111010
27	11011	59	111011
28	11100	60	111100
29	11101	61	111101
30	11110	62	111110
31	11111	63	111111

## On the Subject of the Violet Cipher

Original Violet Cipher manual can be found [here \(<https://ktane.timwi.de/HTML/Violet%20Cipher.html>\)](https://ktane.timwi.de/HTML/Violet%20Cipher.html).

This cipher contains Porta, Route Transposition and Quagmire Cipher.

### Inverted Violet Cipher Order:

- Step 3: Quagmire Cipher
- Step 2: Route Transposition
- Step 1: Porta Cipher

	A	B	C	D	E	F	G	H	I	J	K	L	M
AB	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
CD	O	P	Q	R	S	T	U	V	W	X	Y	Z	N
EF	P	Q	R	S	T	U	V	W	X	Y	Z	N	O
GH	Q	R	S	T	U	V	W	X	Y	Z	N	O	P
IJ	R	S	T	U	V	W	X	Y	Z	N	O	P	Q
KL	S	T	U	V	W	X	Y	Z	N	O	P	Q	R
MN	T	U	V	W	X	Y	Z	N	O	P	Q	R	S
OP	U	V	W	X	Y	Z	N	O	P	Q	R	S	T
QR	V	W	X	Y	Z	N	O	P	Q	R	S	T	U
ST	W	X	Y	Z	N	O	P	Q	R	S	T	U	V
UV	X	Y	Z	N	O	P	Q	R	S	T	U	V	W
WX	Y	Z	N	O	P	Q	R	S	T	U	V	W	X
YZ	Z	N	O	P	Q	R	S	T	U	V	W	X	Y

Use the top grid if the left digit is a 1. Otherwise use the bottom grid.

#	#	#
#	#	#

#	#
#	#
#	#

## On the Subject of the White Cipher

Original White Cipher manual can be found [here](https://ktane.timwi.de/HTML/White%20Cipher.html) (<https://ktane.timwi.de/HTML/White%20Cipher.html>).

This cipher contains Base Caesar, Grille Transposition and Sean Cipher.

### Edgework:

1. Step 1: sum of the alphanumeric positions of the letters of the encrypted word, modulo 8 the sum then add 2.
2. Step 2: rotate 90 degrees clockwise X times, where X is the number of ports.

X				I				X	I					I		X	X	
			X	I		X			I	X		X		I				
	X		X	I					I	X				I			X	
				I		X	X		I				X	I	X			

3. Step 3: number of lit indicators is even

### Inverted White Cipher Order:

- Step 3: Sean Cipher
- Step 2: Grille Transposition
- Step 1: Base Caesar Cipher

## On the Subject of the Gray Cipher

Original Gray Cipher manual can be found [here \(https://ktane.timwi.de/HTML/Gray%20Cipher.html\)](https://ktane.timwi.de/HTML/Gray%20Cipher.html).

This cipher contains Ragbaby, Bit Switch and Portax Cipher.

### Edgework:

1. Step 1: Number of unlit indicators is even
2. Step 2: First character of the serial number

0	21453	9	23154	I	24513	R	24531
1	21534	A	25134	J	25413	S	25431
2	31524	B	24153	K	34512	T	34521
3	31452	C	34152	L	35214	U	35421
4	41523	D	35124	M	35412	V	43251
5	41532	E	45123	N	43512	W	43521
6	51234	F	45132	O	45213	X	45231
7	51423	G	54123	P	53412	Y	53421
8	51432	H	54132	Q	54213	Z	54231

3. Step 3: Second letter of the serial number

ABCDEFGHIJKLMNOPQRSTUVWXYZ	NOPQRSTUVWXYZNOPQRSTUVWXYZ
-----	
ACEGIKMOQSUWYACEGIKMOQSUW	BDFHJLNPRTVXZBDFHJLNPRTVX

### Inverted Gray Cipher Order:

- Step 3: Portax Cipher
- Step 2: Bit Switch
- Step 1: Ragbaby Cipher

Number	5 Bits
1	00001
2	00010
3	00011
4	00100
5	00101
6	00110
7	00111
8	01000
9	01001
10	01010
11	01011
12	01100
13	01101
14	01110
15	01111
16	10000
17	10001
18	10010
19	10011
20	10100
21	10101
22	10110
23	10111
24	11000
25	11001
26	11010
27	11011
28	11100
29	11101
30	11110
31	11111

## On the Subject of the Black Cipher

Original Black Cipher manual can be found [here](#) ([https://ktane.timwi.de/HTML/Black%20Cipher%20interactive%20\(samfun123\).html](https://ktane.timwi.de/HTML/Black%20Cipher%20interactive%20(samfun123).html)).

This cipher contains Digrafid, Railfence Transposition and Enigma Cipher.

### Edgework:

1. Step 1: Alphanumeric position of the first letter of the serial number is odd
2. Step 1: Alphanumeric position of the last letter of the serial number is even
3. Step 2: number of ports, modulo 4, plus 2.

### Inverted Black Cipher Order:

- Step 3: Enigma Cipher
- Step 2: Railfence Transposition
- Step 1: Digrafid Cipher

