

# Turbo Kodierer

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# Kodierer Information

- ▶ Nicht-Rekursiver Kodierer
- ▶ Anzahl von Ausgängen :

$$N = 2$$

- ▶ Anzahl von Registern :

$$M = 2$$

- ▶ Generatoren :

$$(1, 7)_8 = \begin{pmatrix} 001 \\ 111 \end{pmatrix}$$

## Kodierer Matrix : Nächster Zustand

	Bit 0	Bit 1
Zustand 1	0	2
Zustand 2	2	0
Zustand 3	3	1
Zustand 4	1	3

## Kodierer Matrix : Voriger Zustand

	Bit 0	Bit 1	2.Möglichkeit
Zustand 1	0	1	-1
Zustand 2	3	2	-1
Zustand 3	1	0	-1
Zustand 4	2	3	-1

## Kodierer Matrix : Ausgangsbits

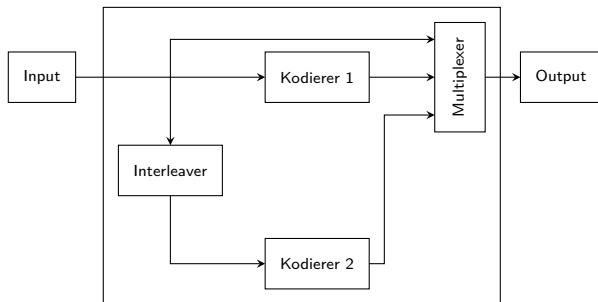
	Bit 0	Bit 1
Zustand 1	00	11
Zustand 2	00	11
Zustand 3	01	10
Zustand 4	01	10

# Turbo-Kodierer Information

- ▶ Interleaver : (1, 2, 3, 4, 5, 6, 7)
- ▶ Kode-Rate :  $\frac{1}{3}$

# Turbo-Kodierer

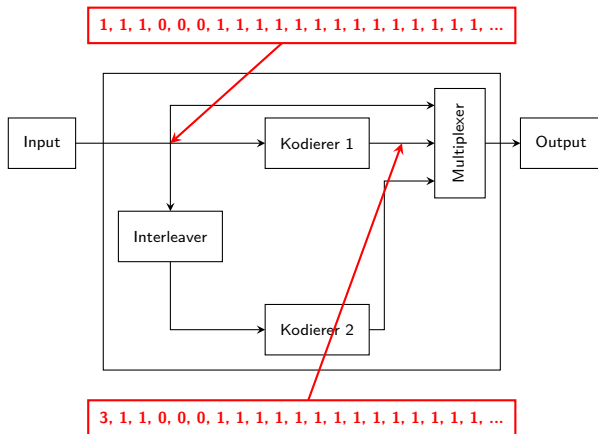
- ▶ Input : 1, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, ...



- ▶ Output : 5, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, ...

# Turbo-Kodierer

- Input : 1, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, ...

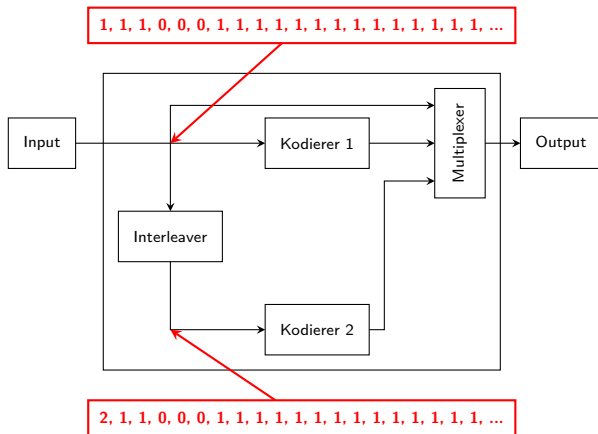


- Output : 5, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, ...



# Turbo-Kodierer

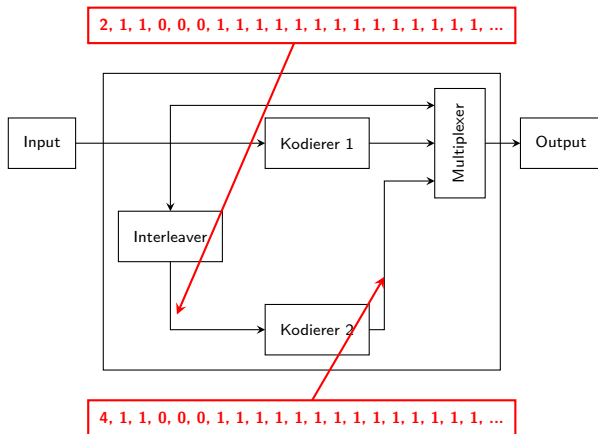
- Input : 1, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, ...



- Output : 5, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, ...

# Turbo-Kodierer

- Input : 1, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, ...



- Output : 5, 1, 1, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, ...