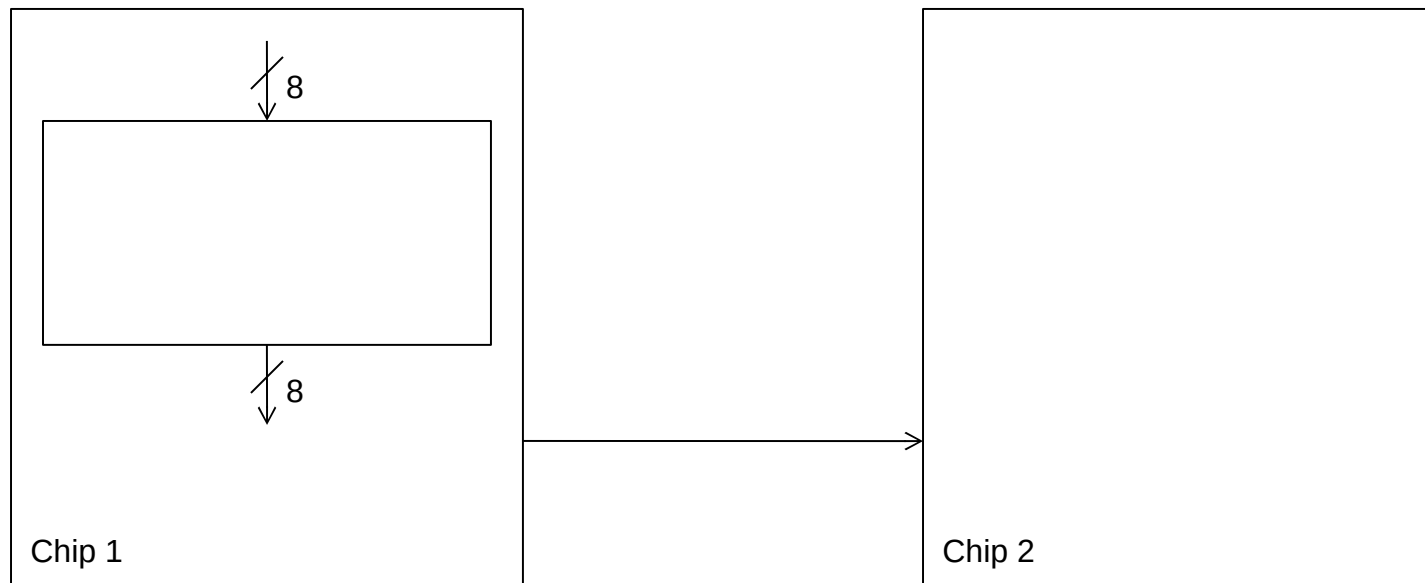


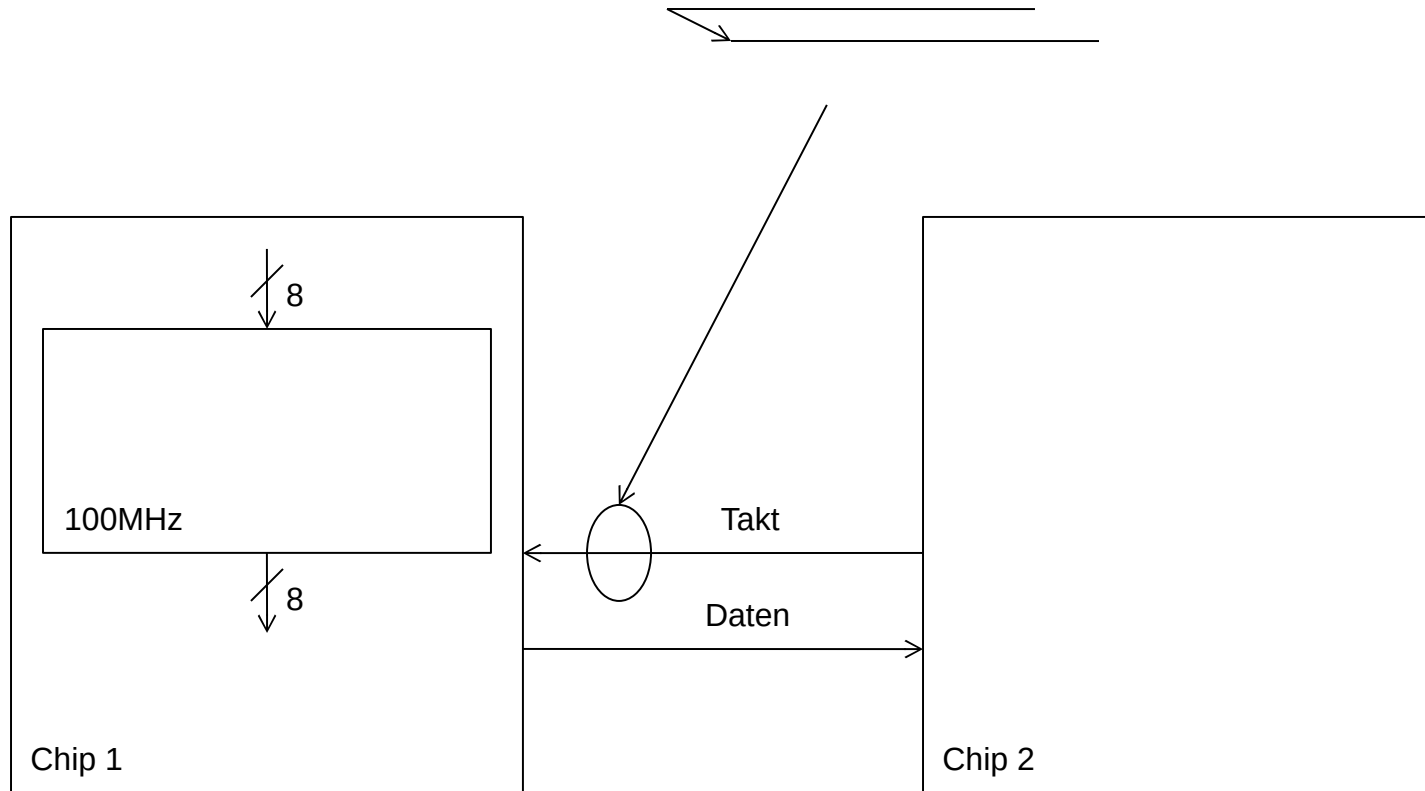
Design digitaler Schaltkreise

- In modernen Digitalschaltkreisen erfolgt die Taktsynchronisation üblicherweise durch PLLs.
- Ein einziger Quarzoszillator liefert den Grundtakt, auf den alle weiteren Taktsignale phasengenau synchronisiert werden.

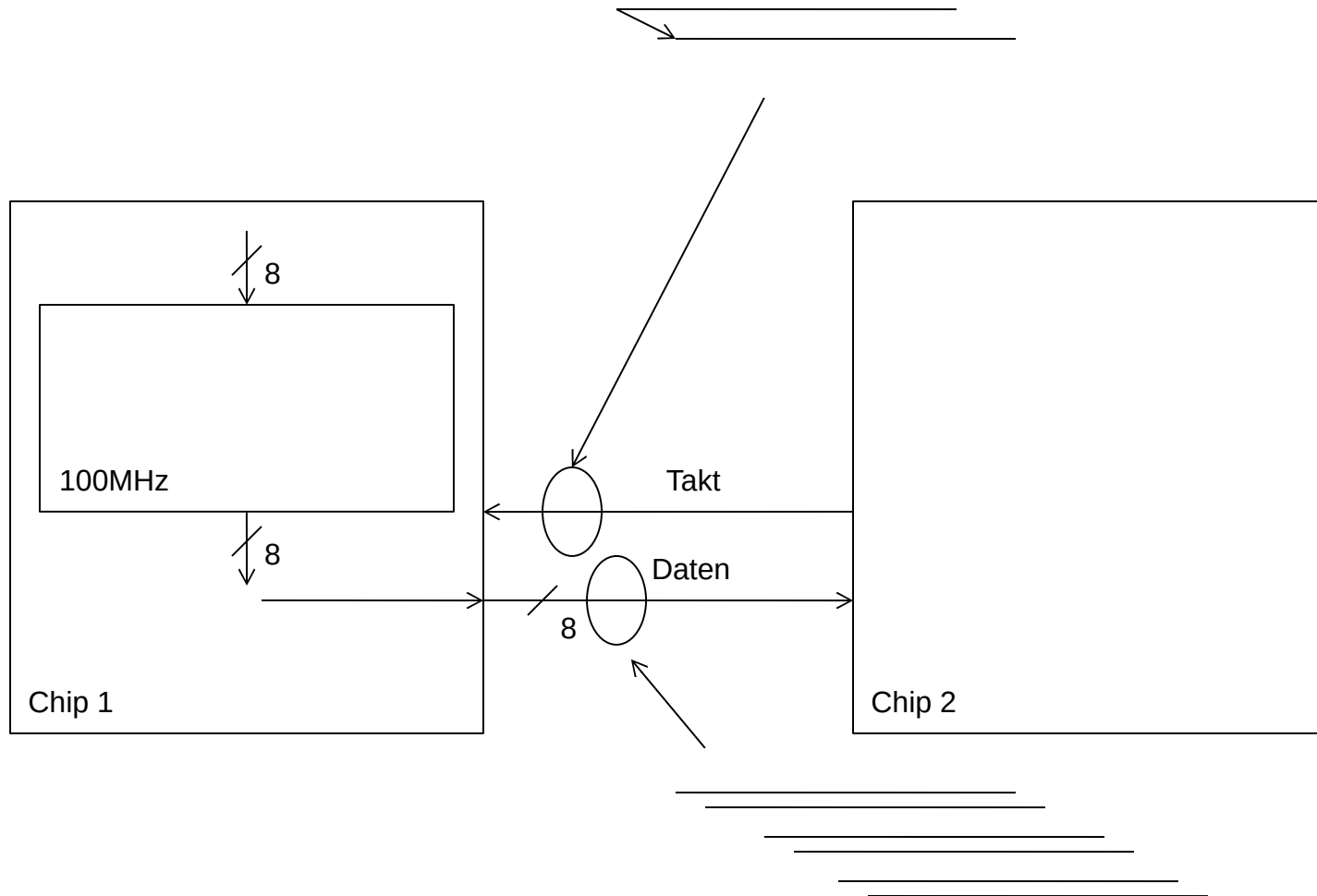
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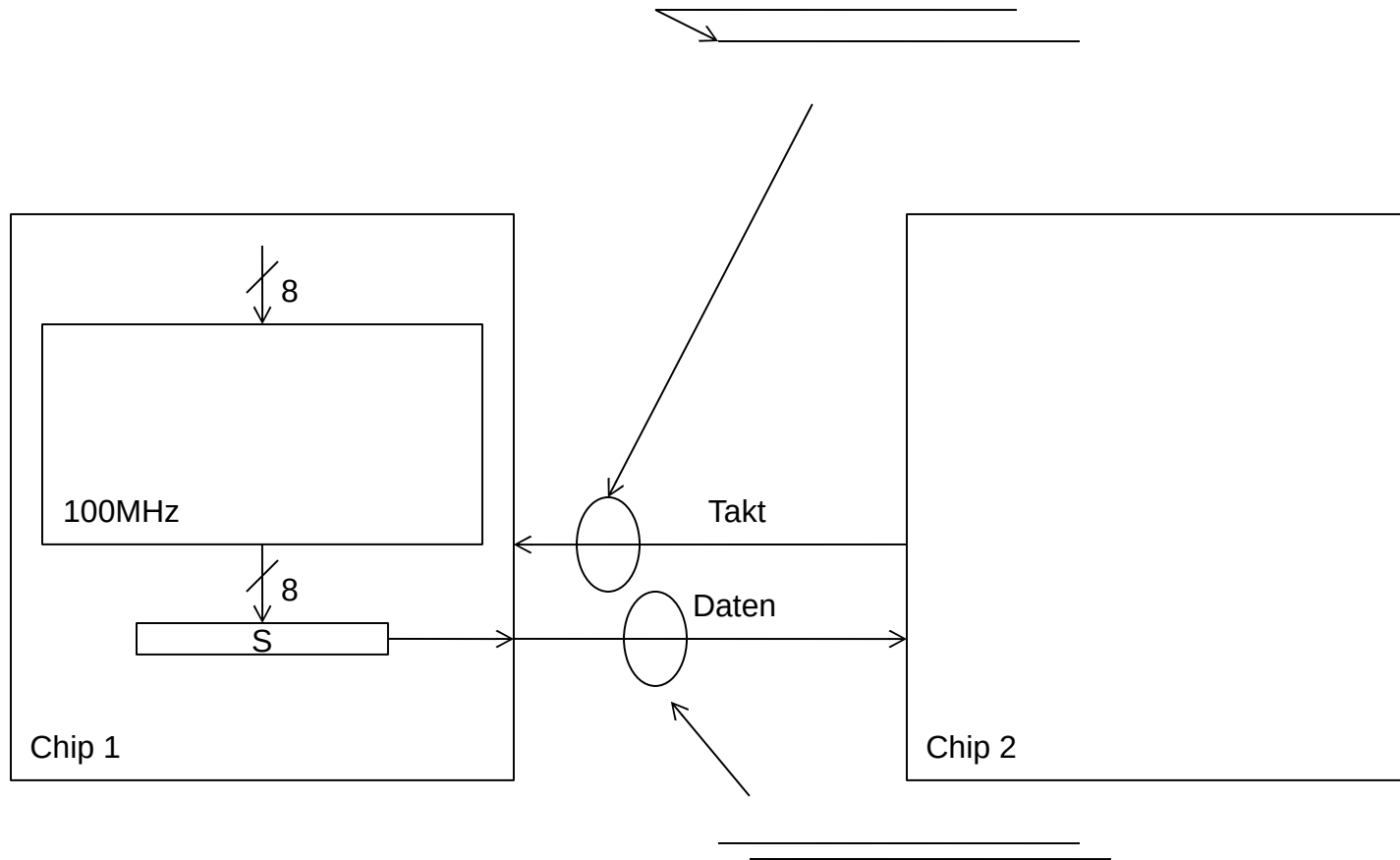
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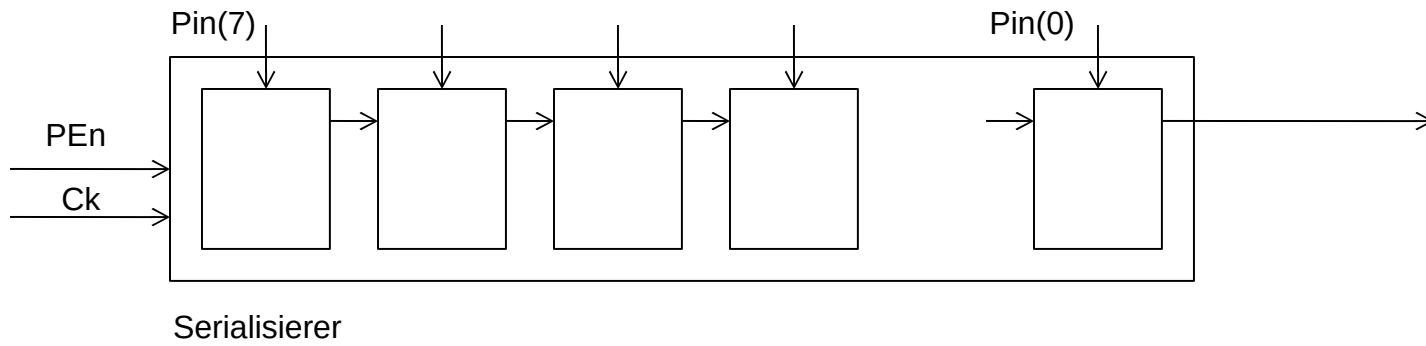
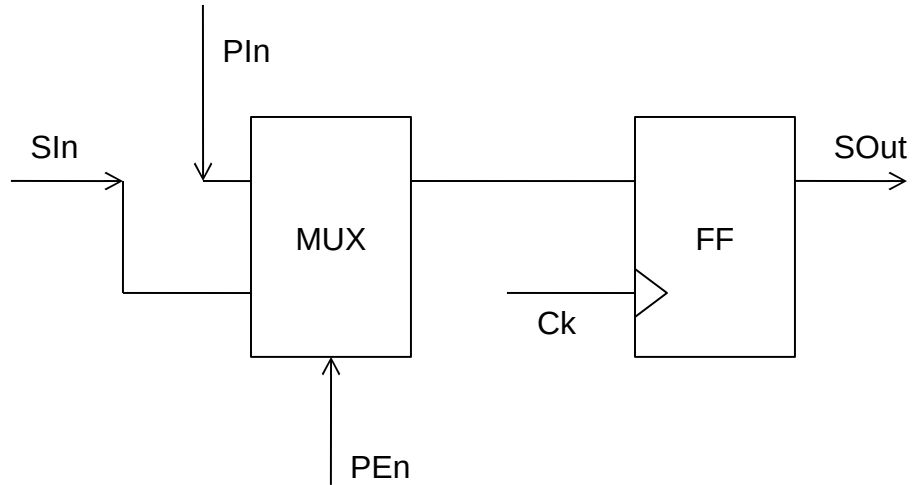
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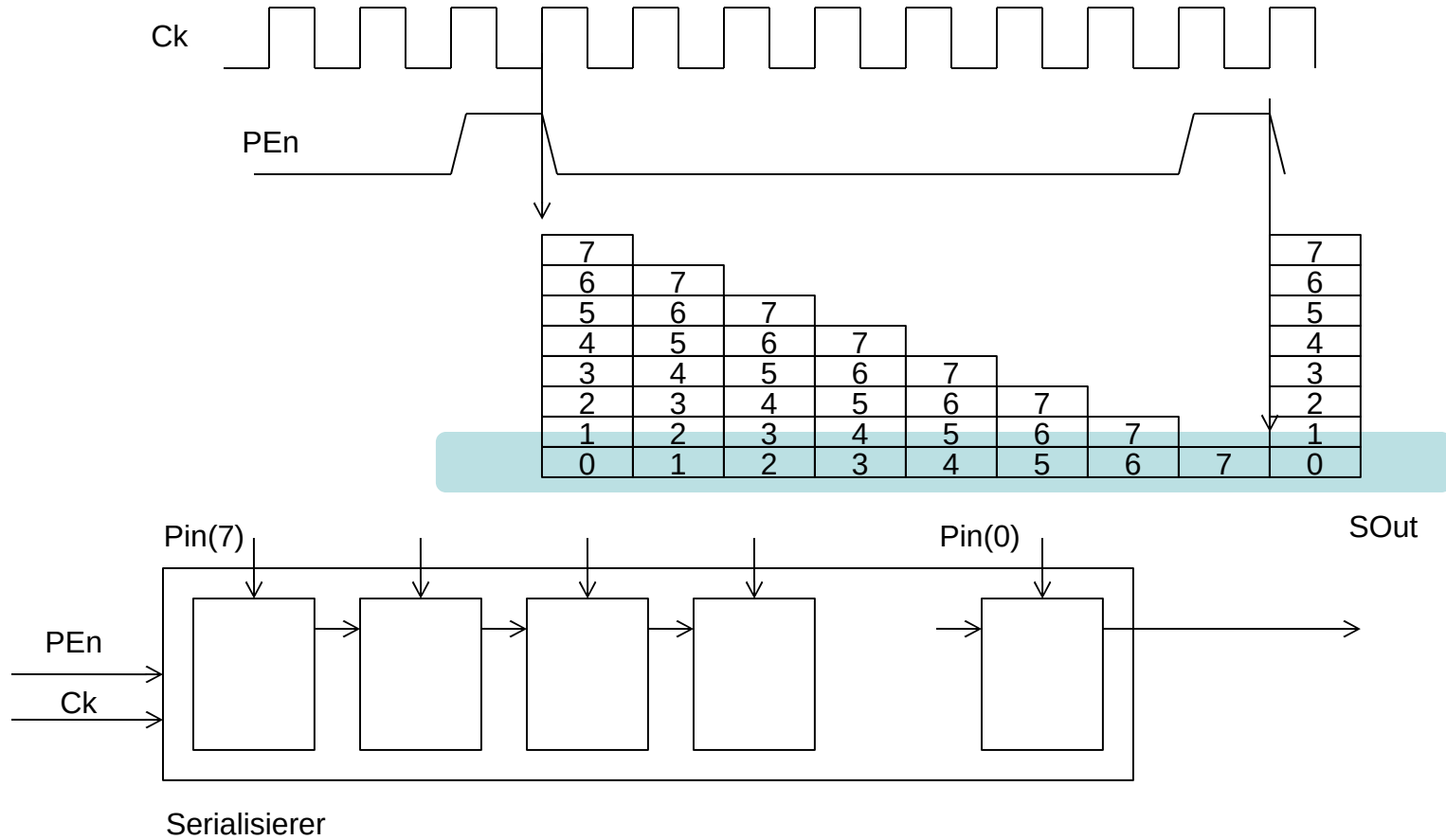
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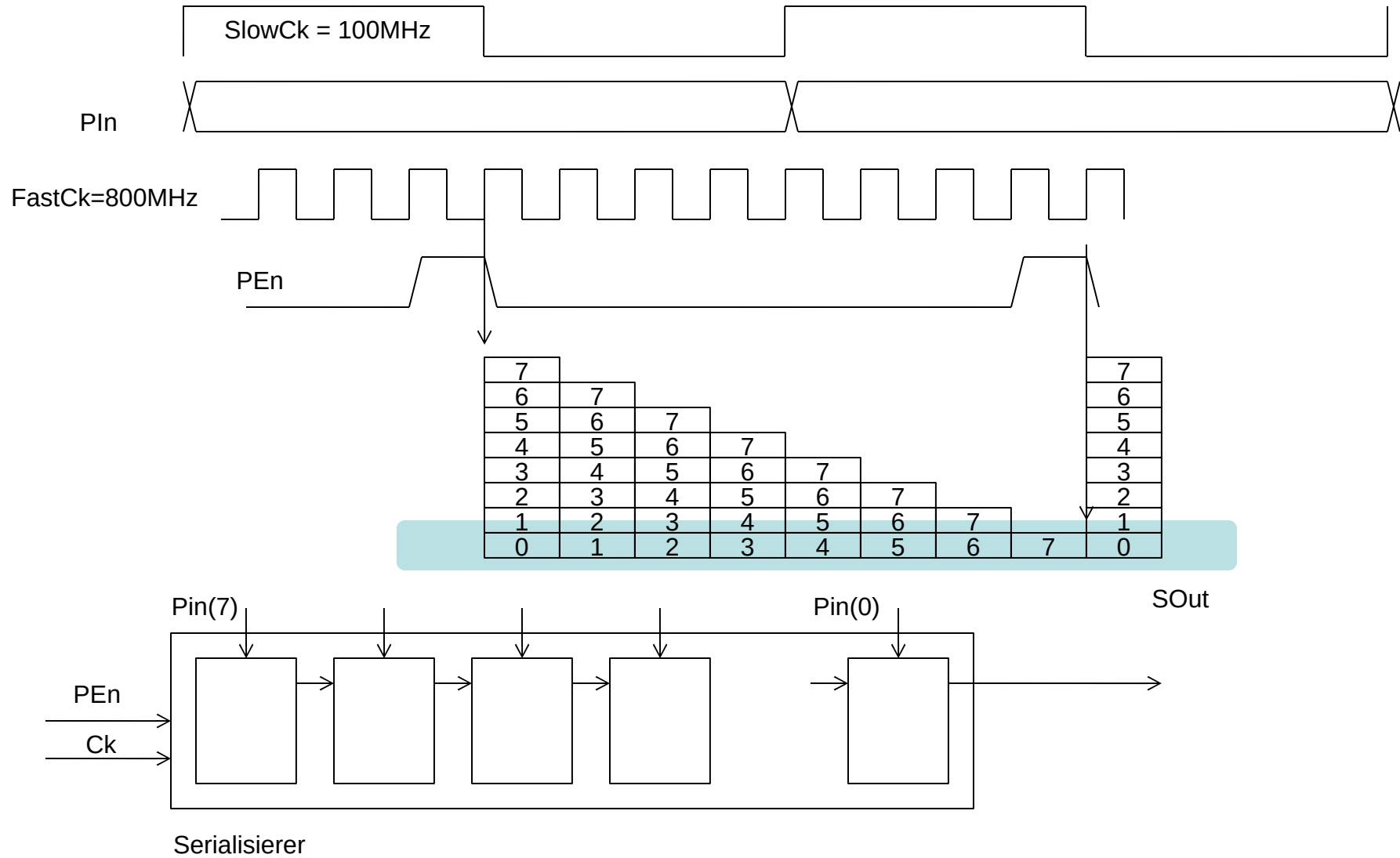


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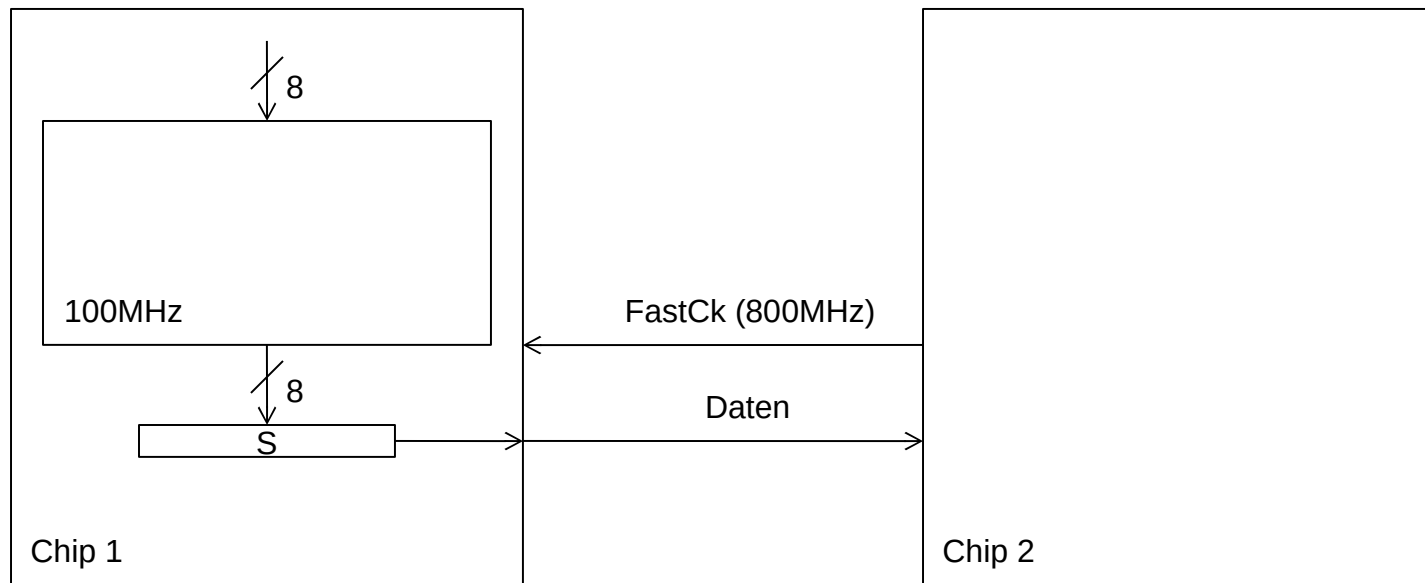


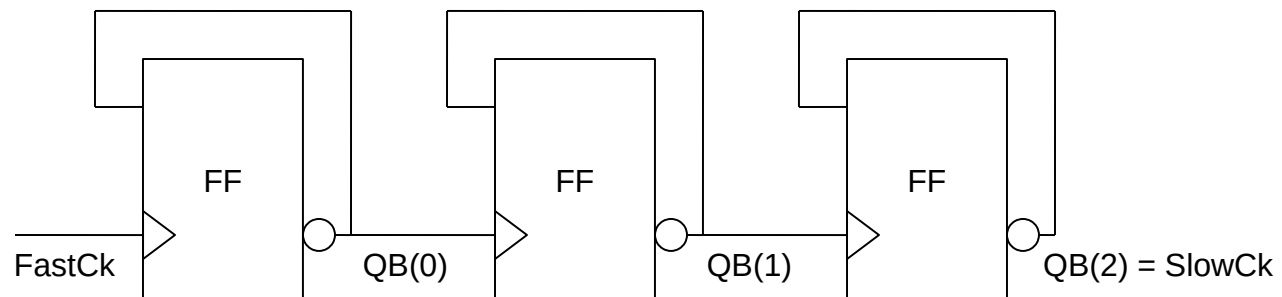
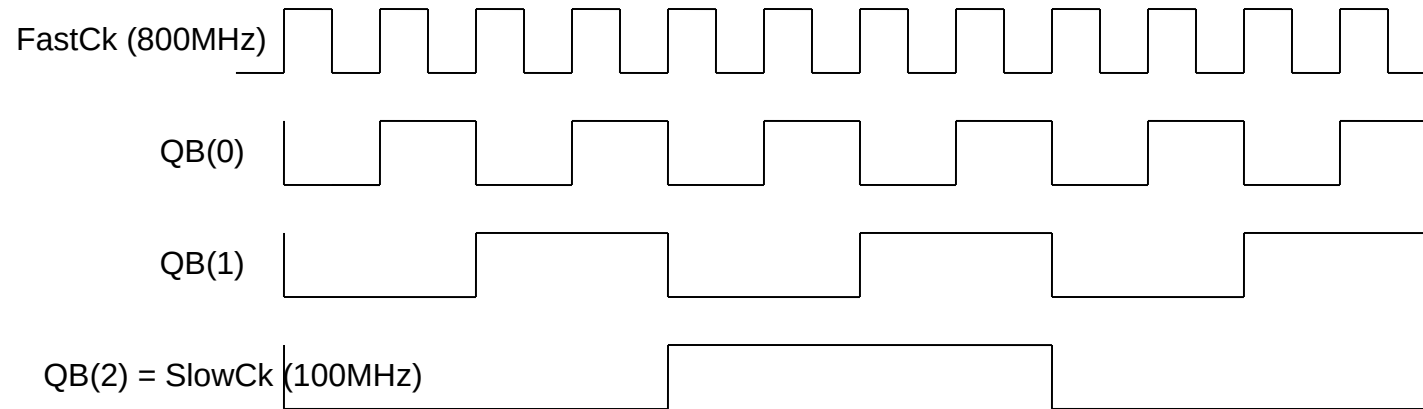
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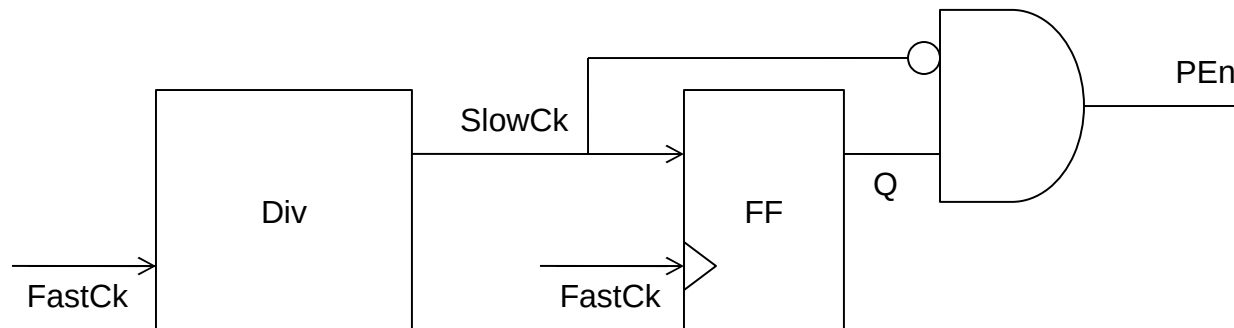
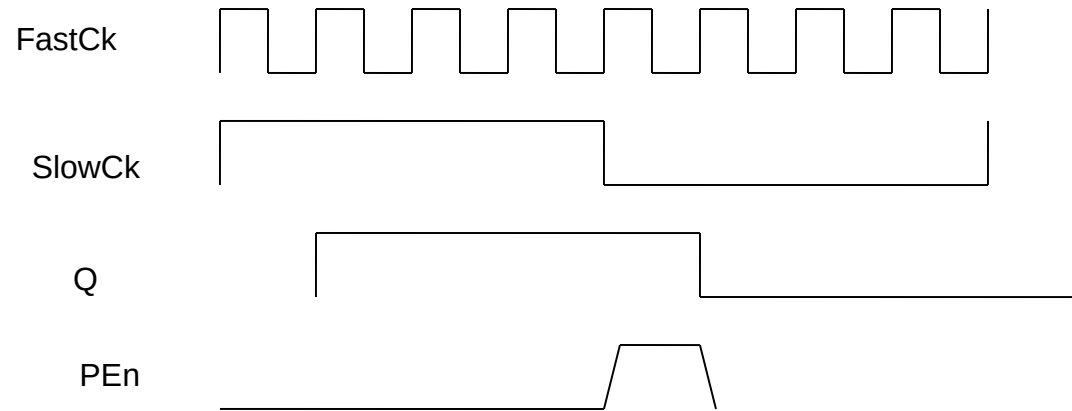




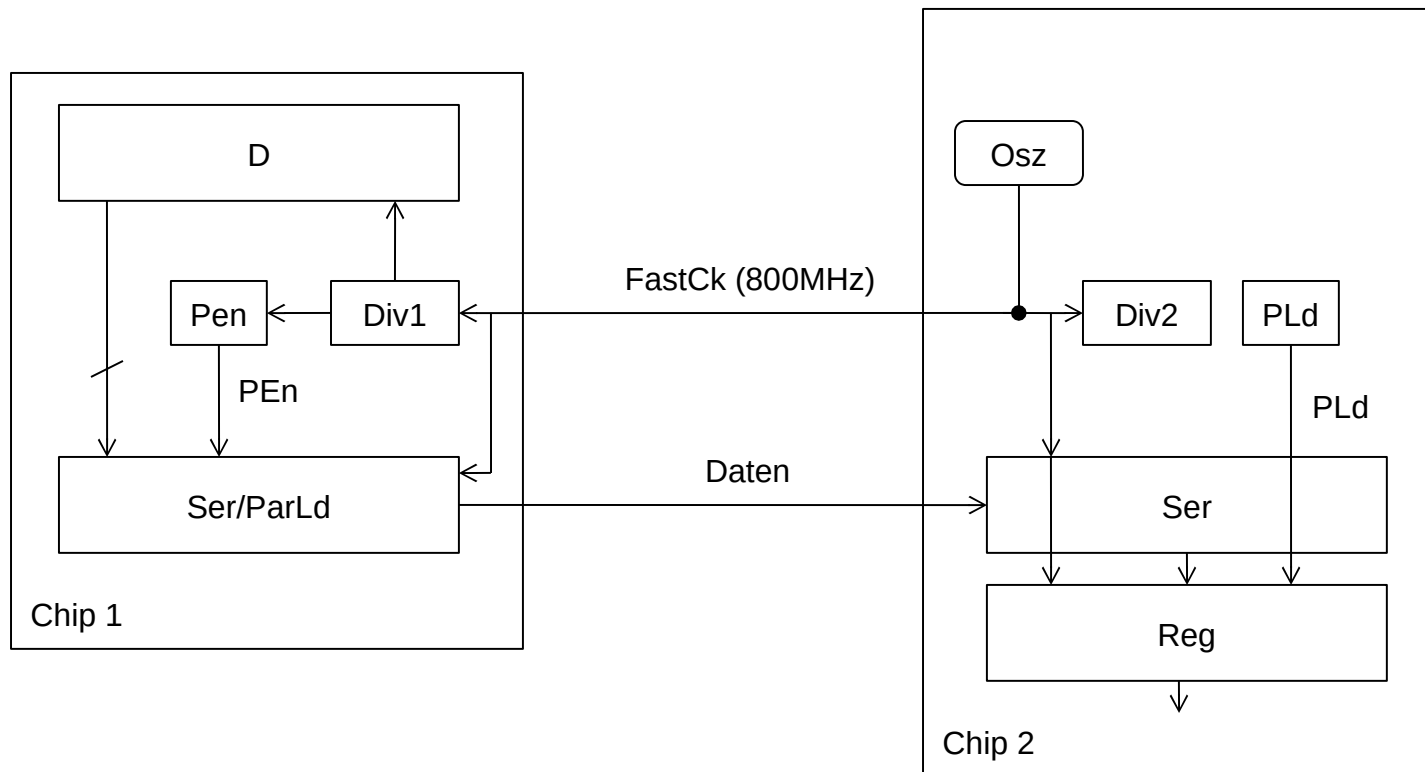
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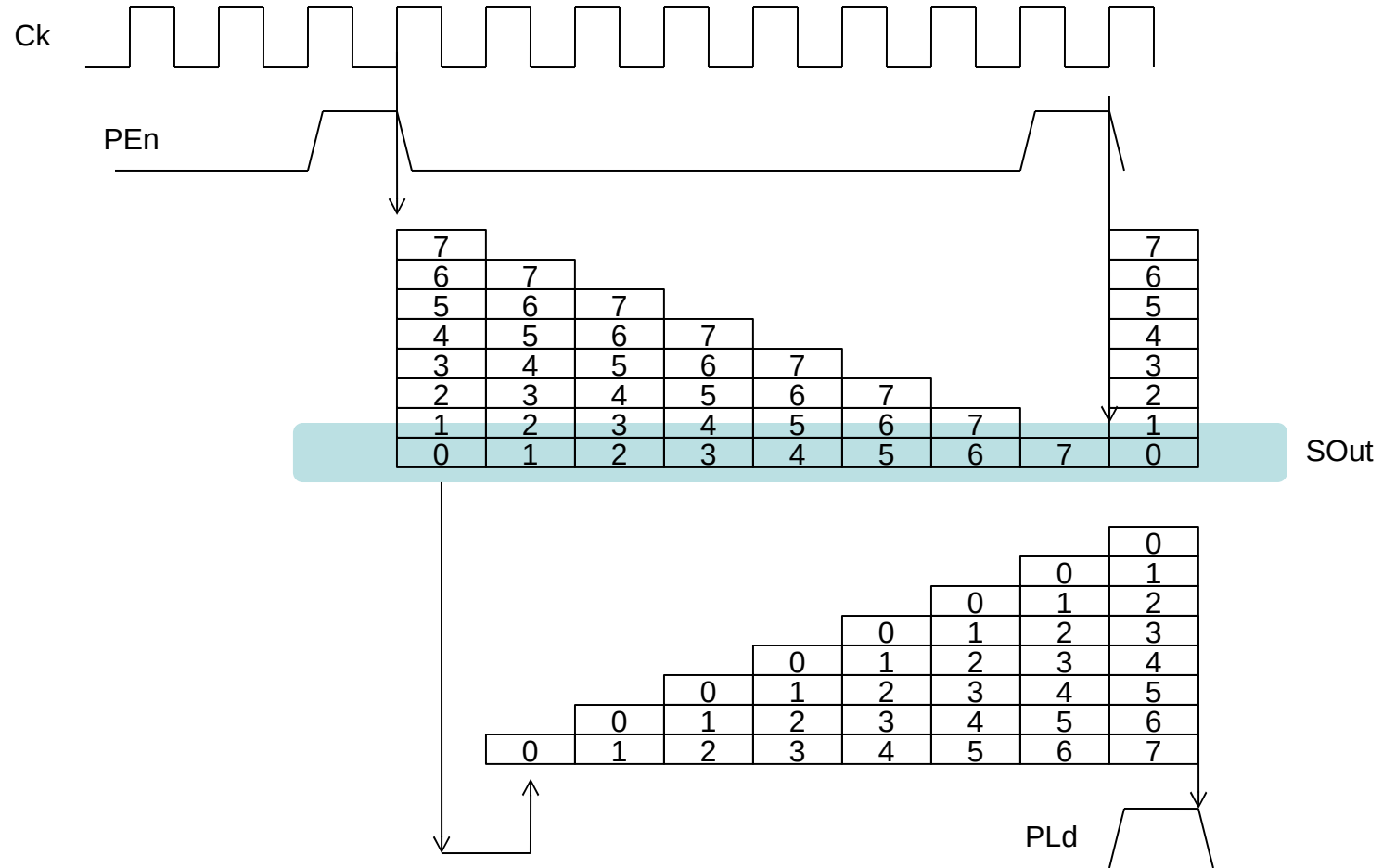




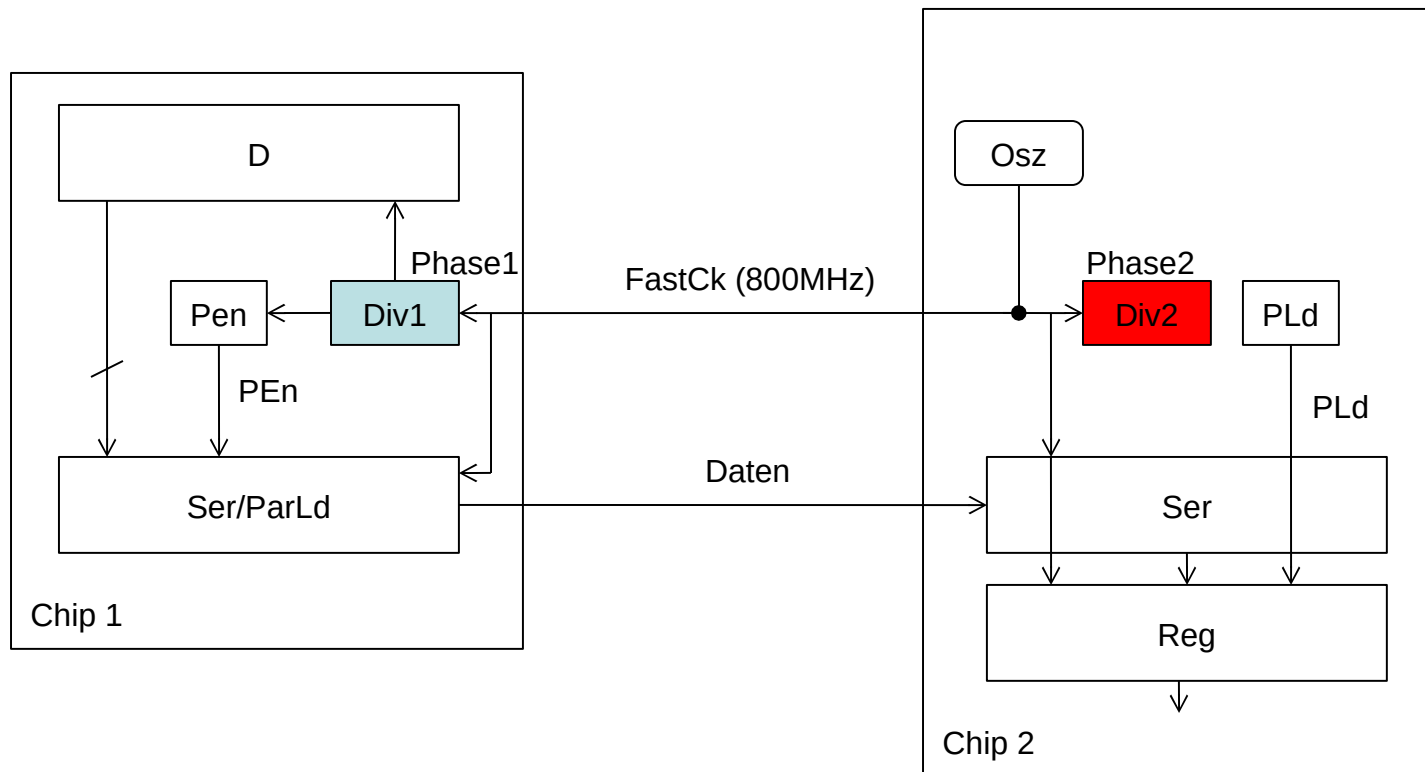
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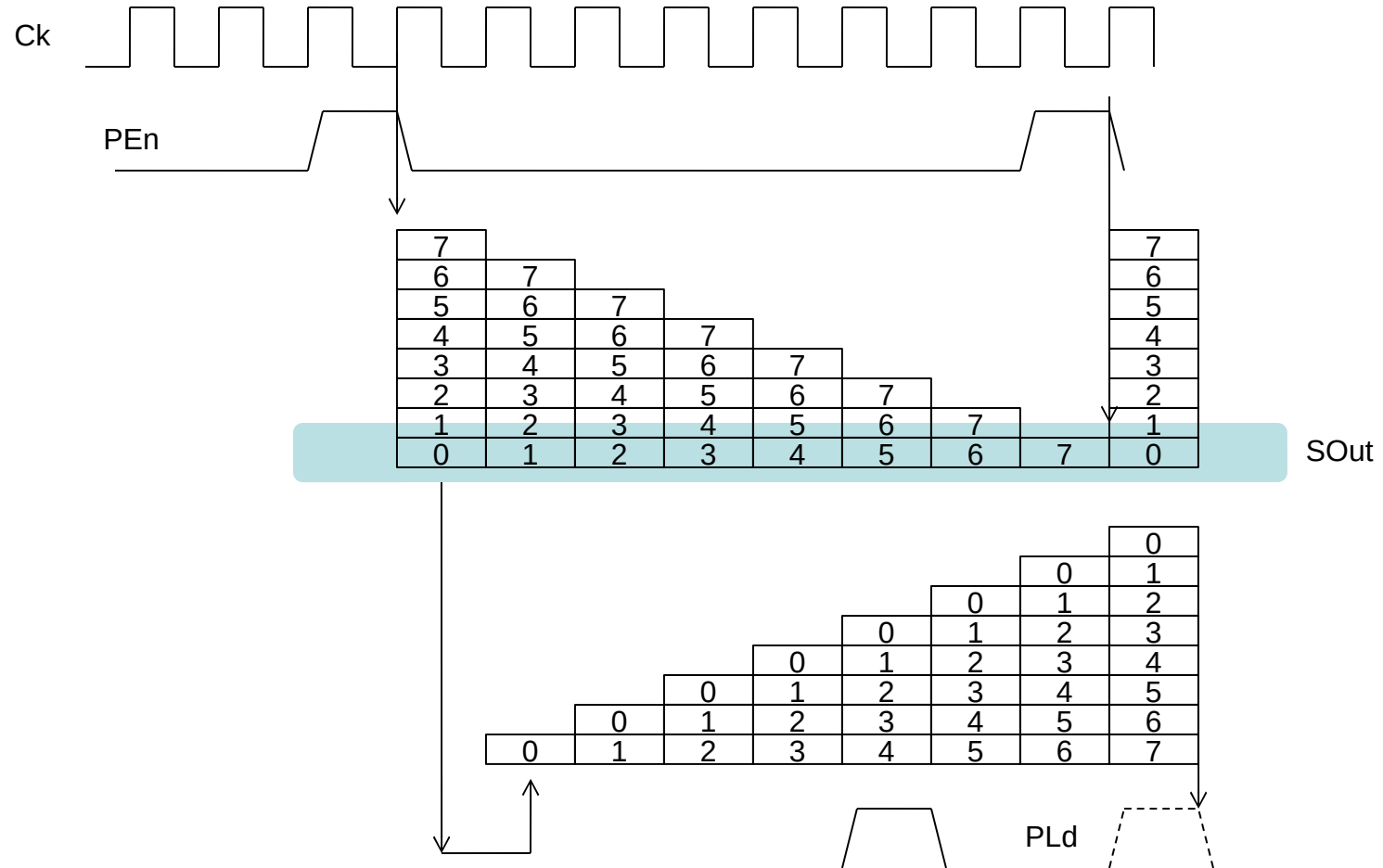
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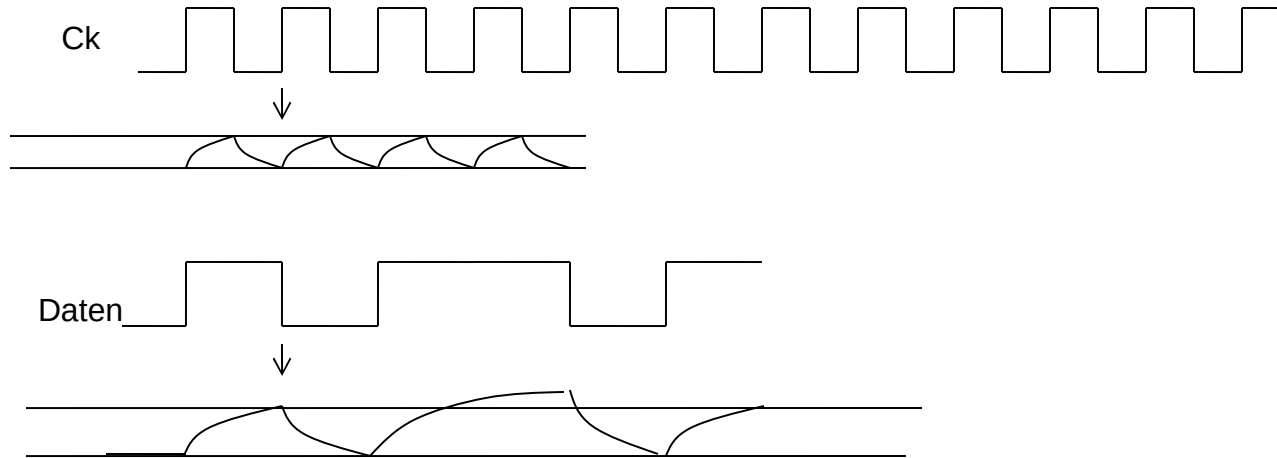


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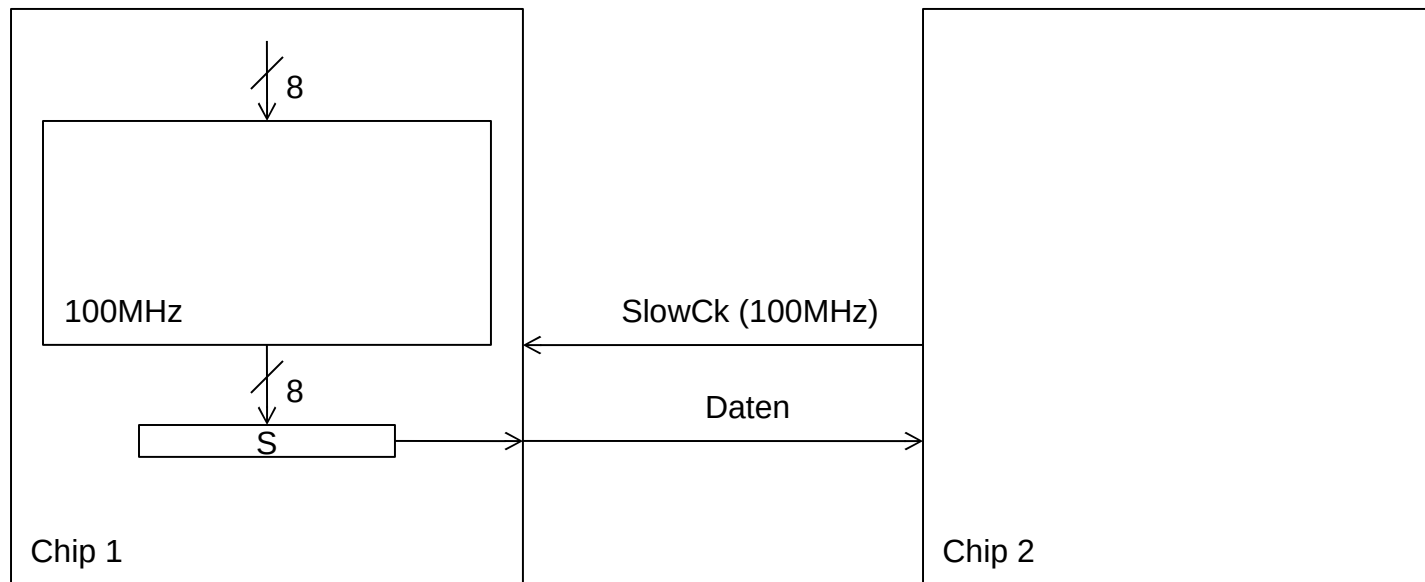




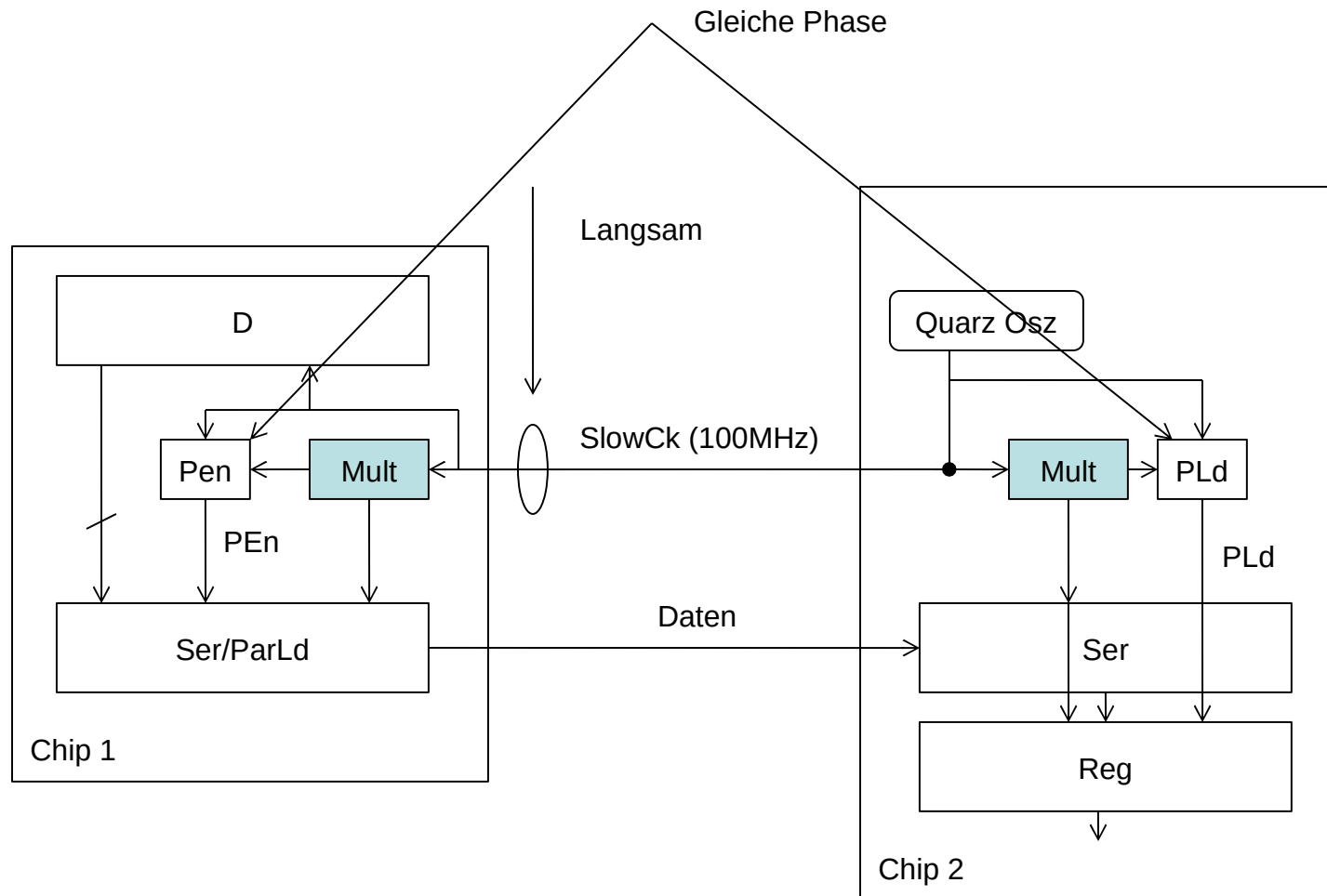
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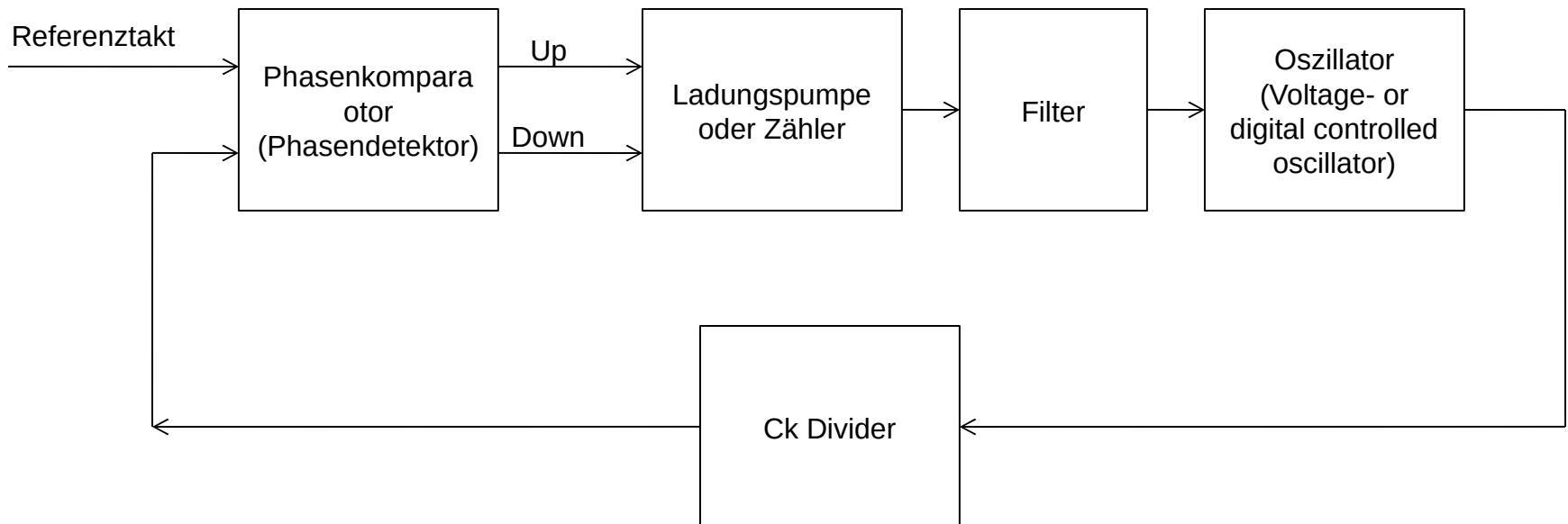
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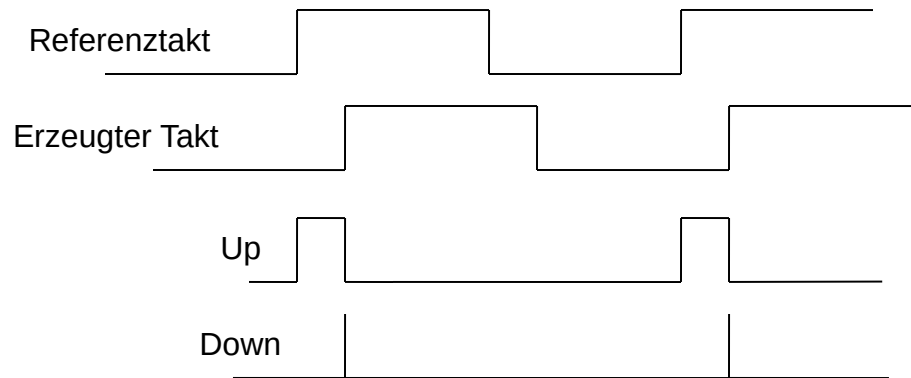
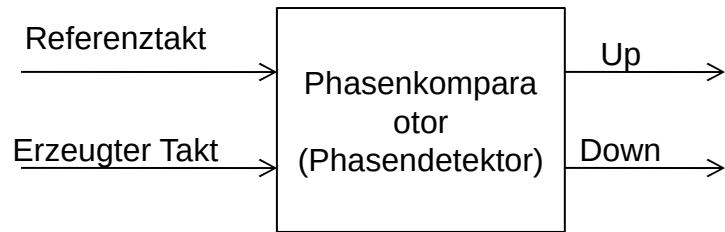
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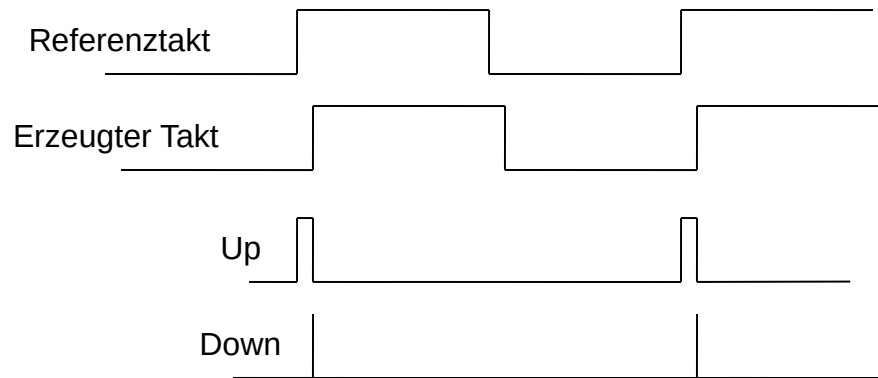
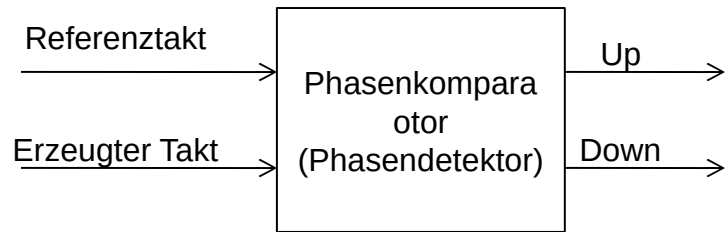
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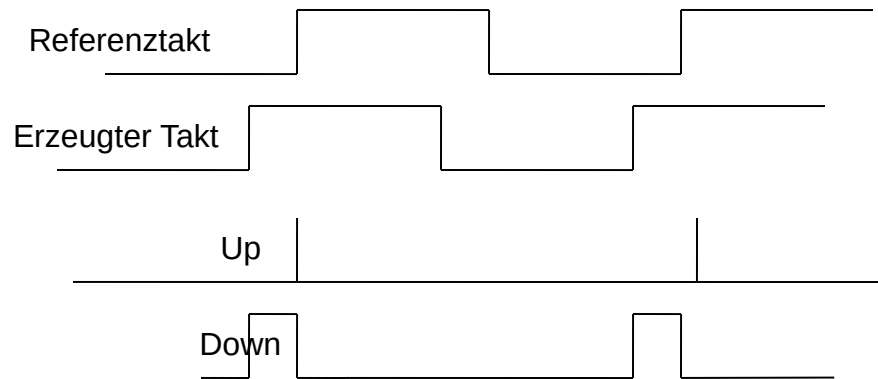
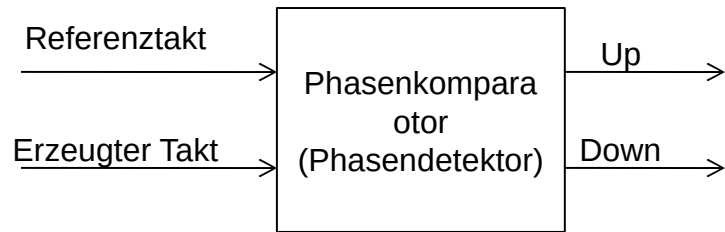
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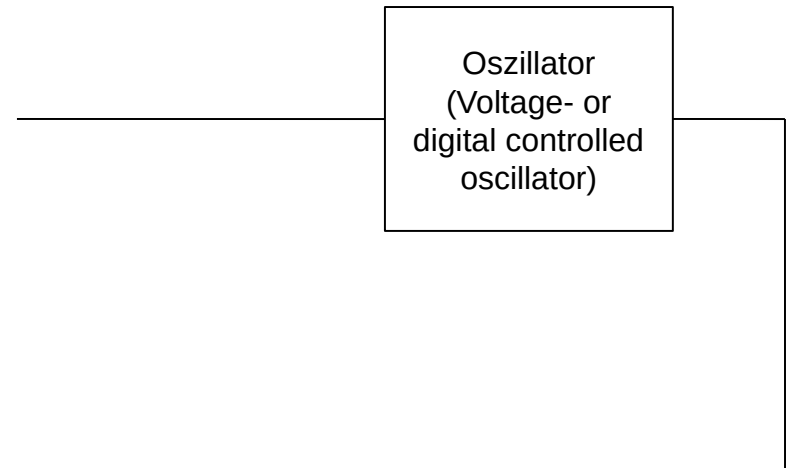
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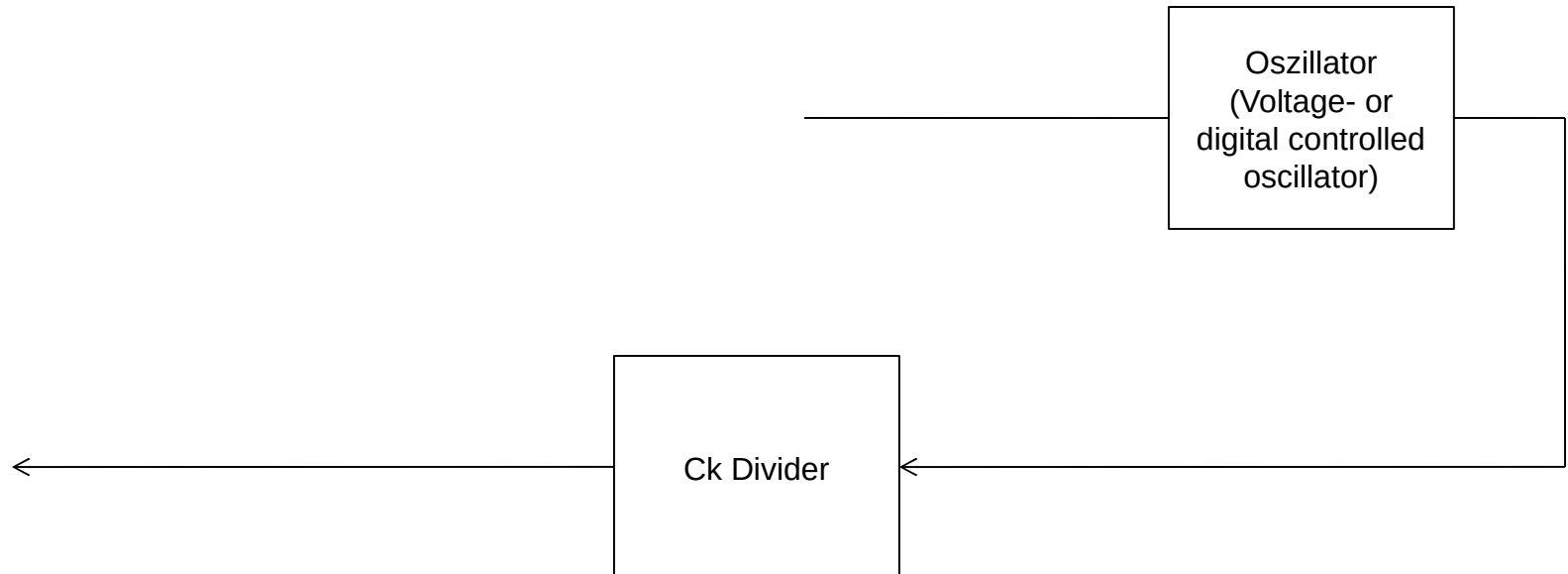
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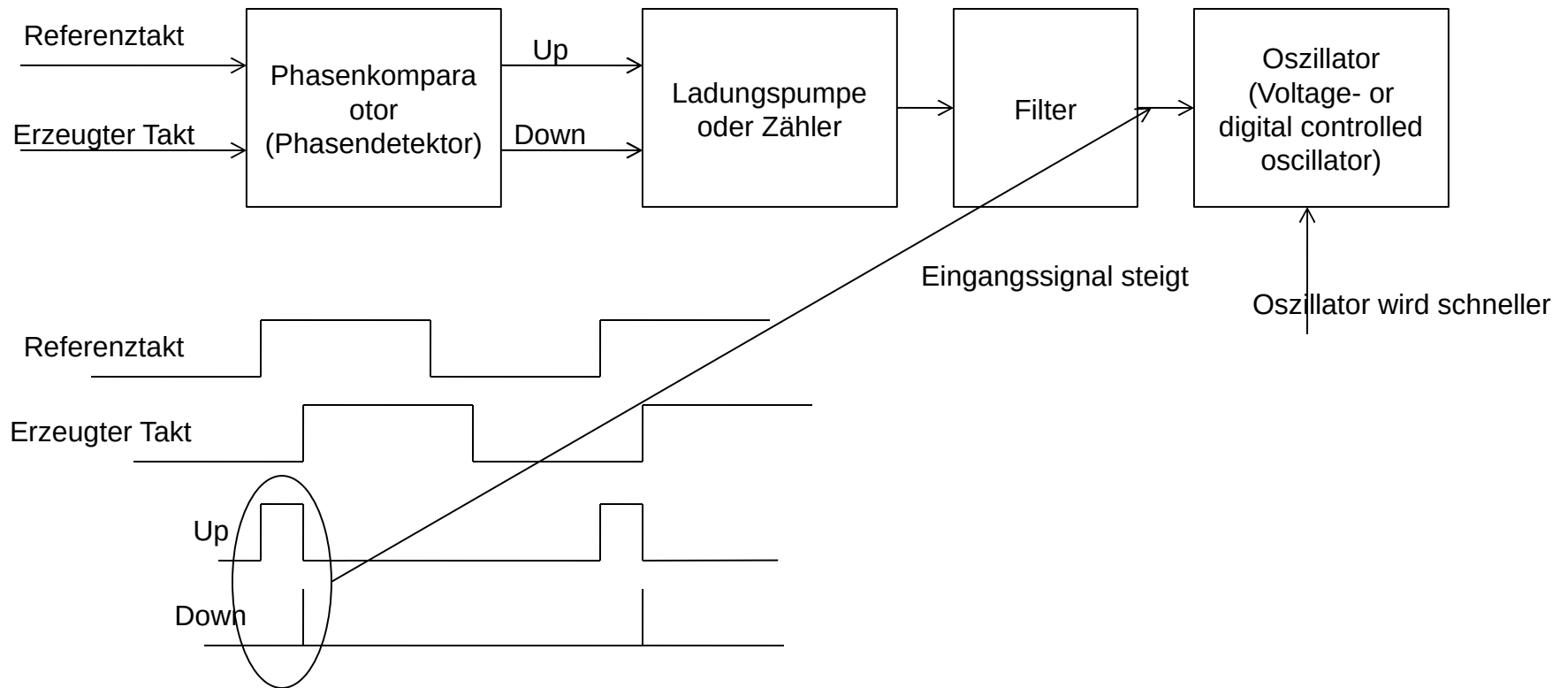
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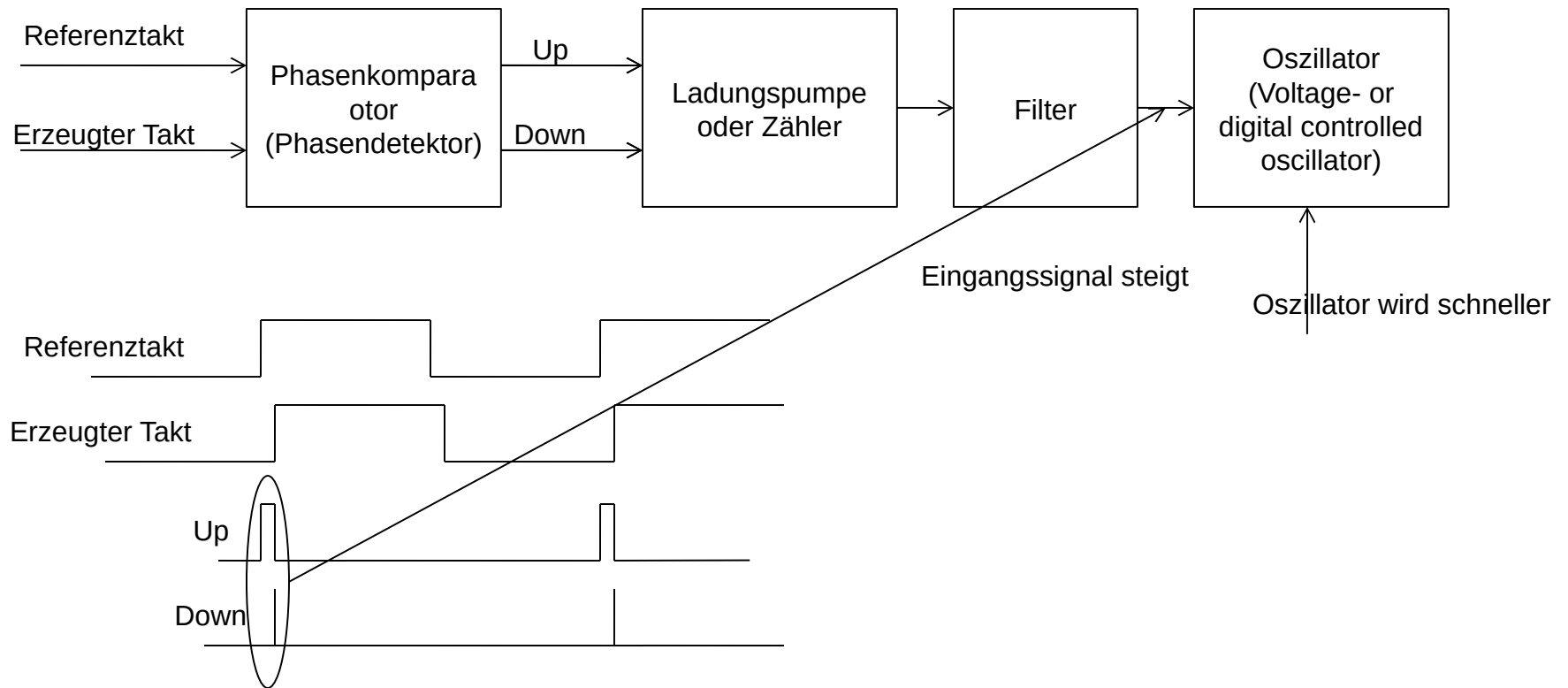
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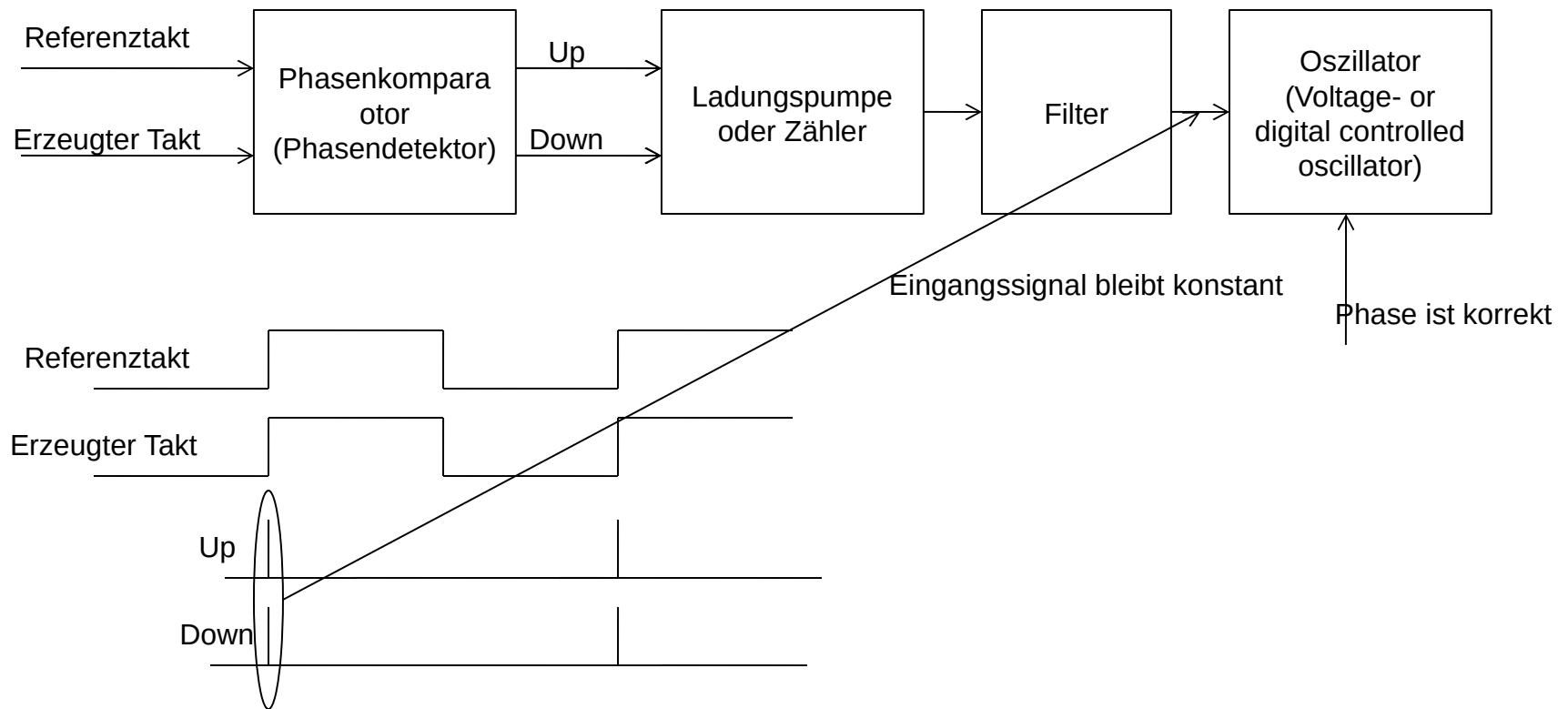
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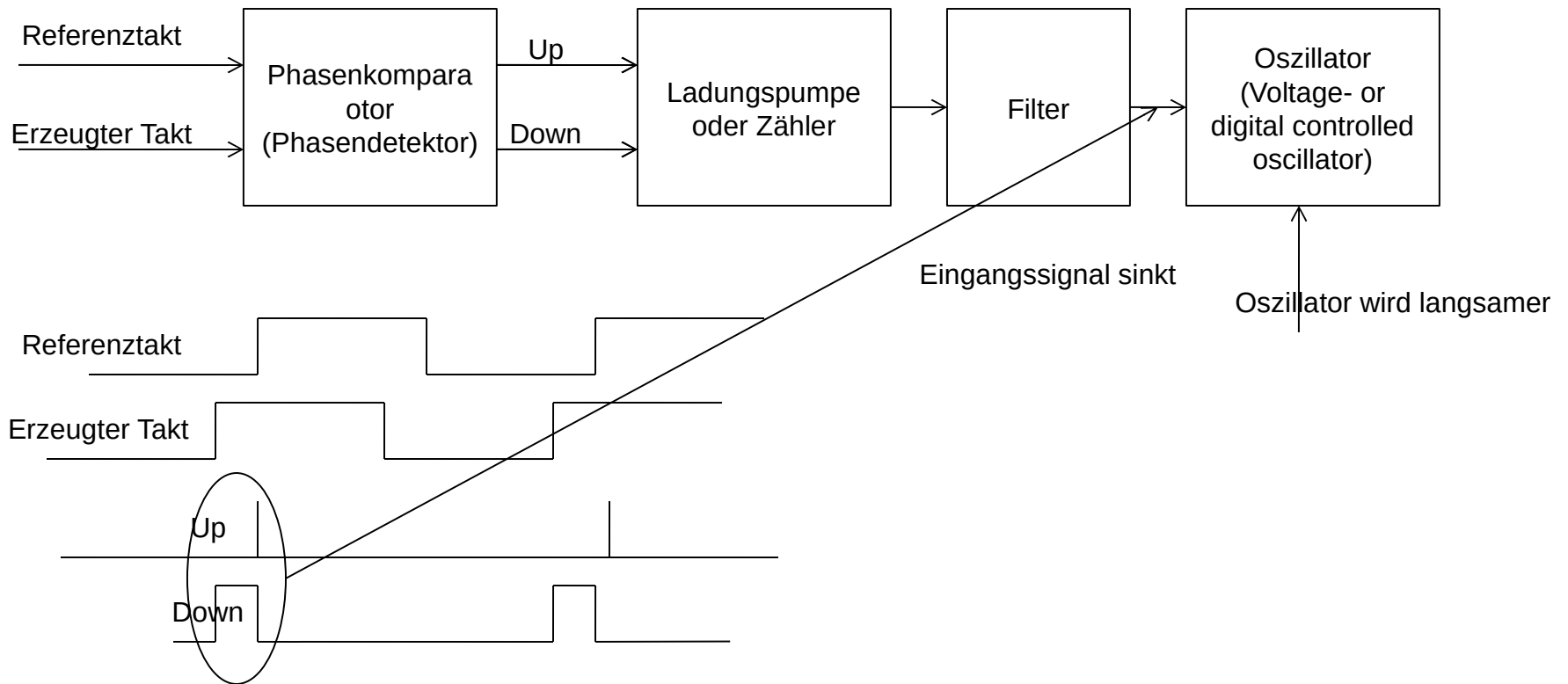
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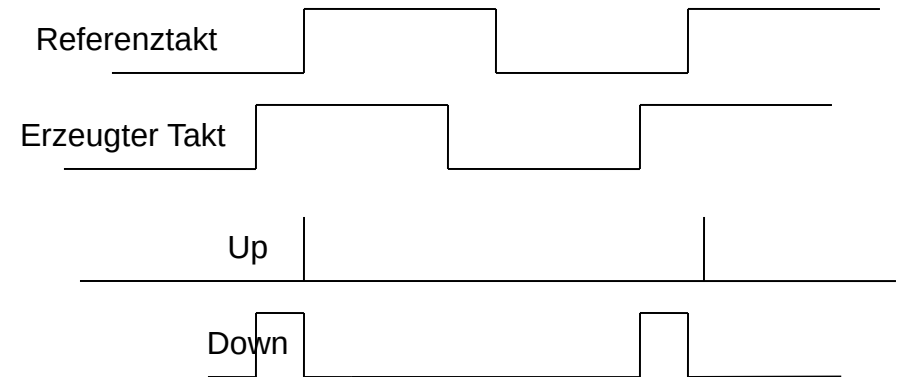
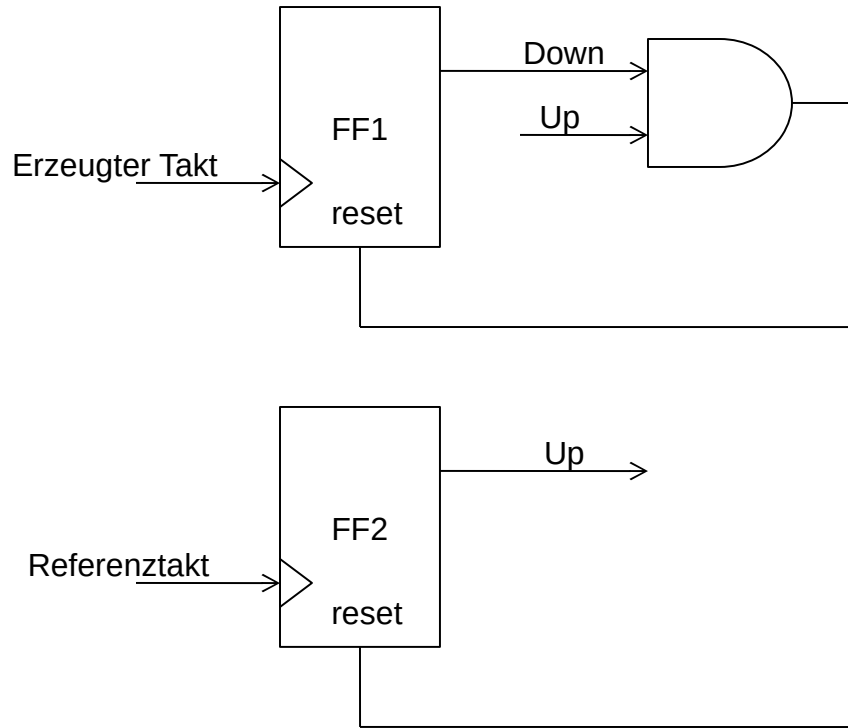
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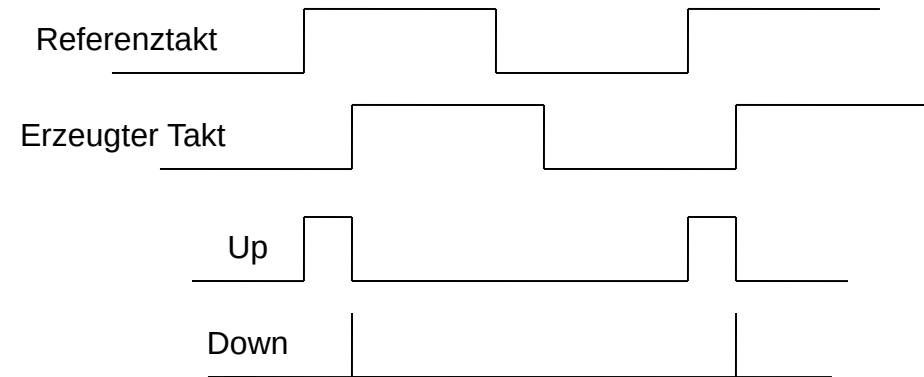
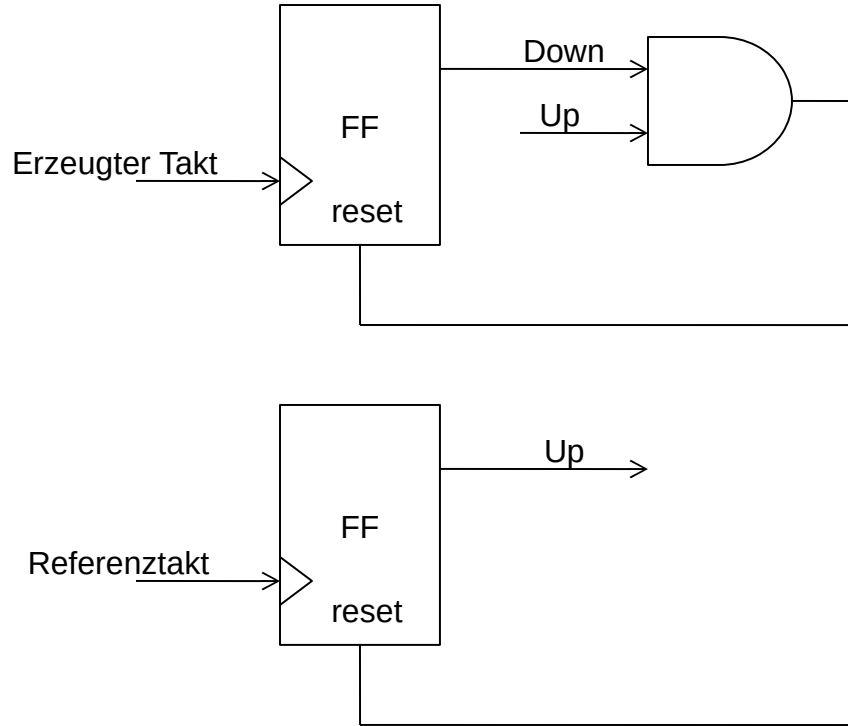
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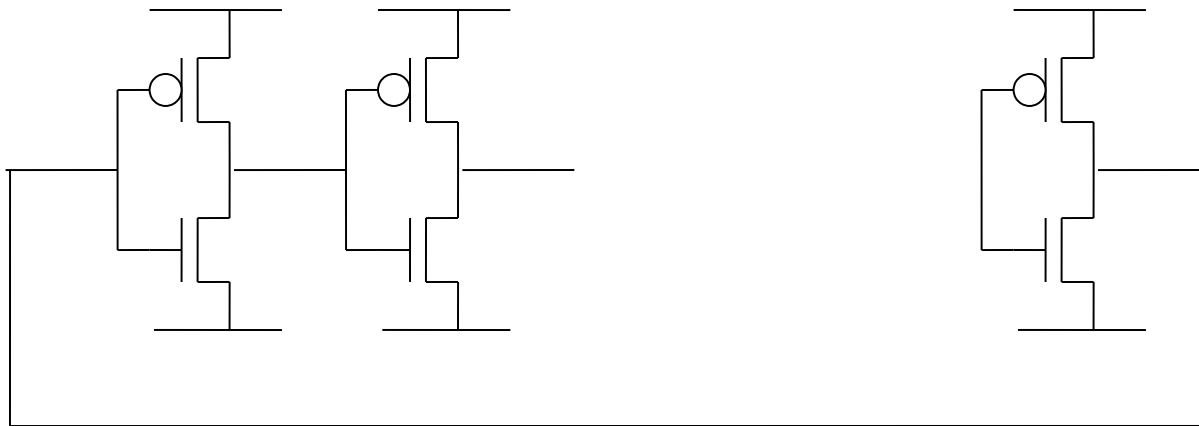
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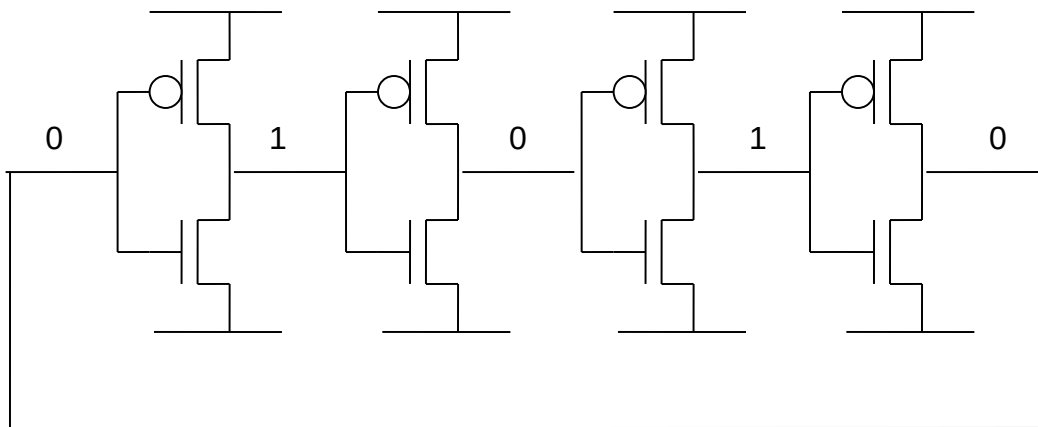
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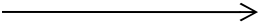
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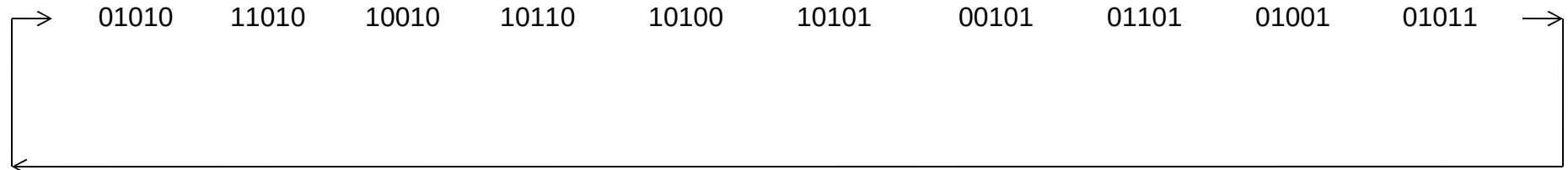
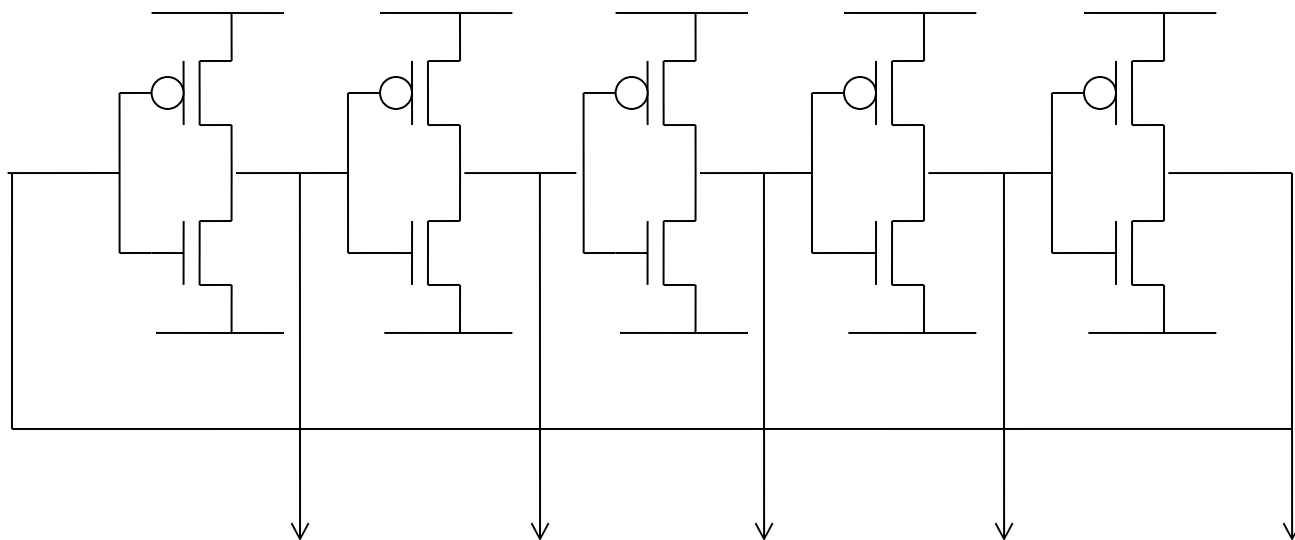


- Oszilliert nicht!

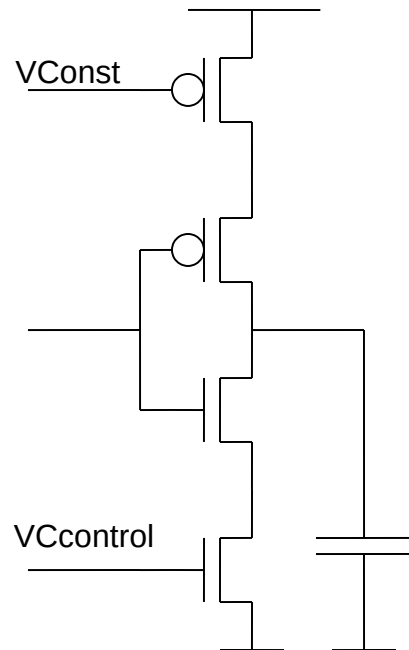


- Oszilliert ^Λ

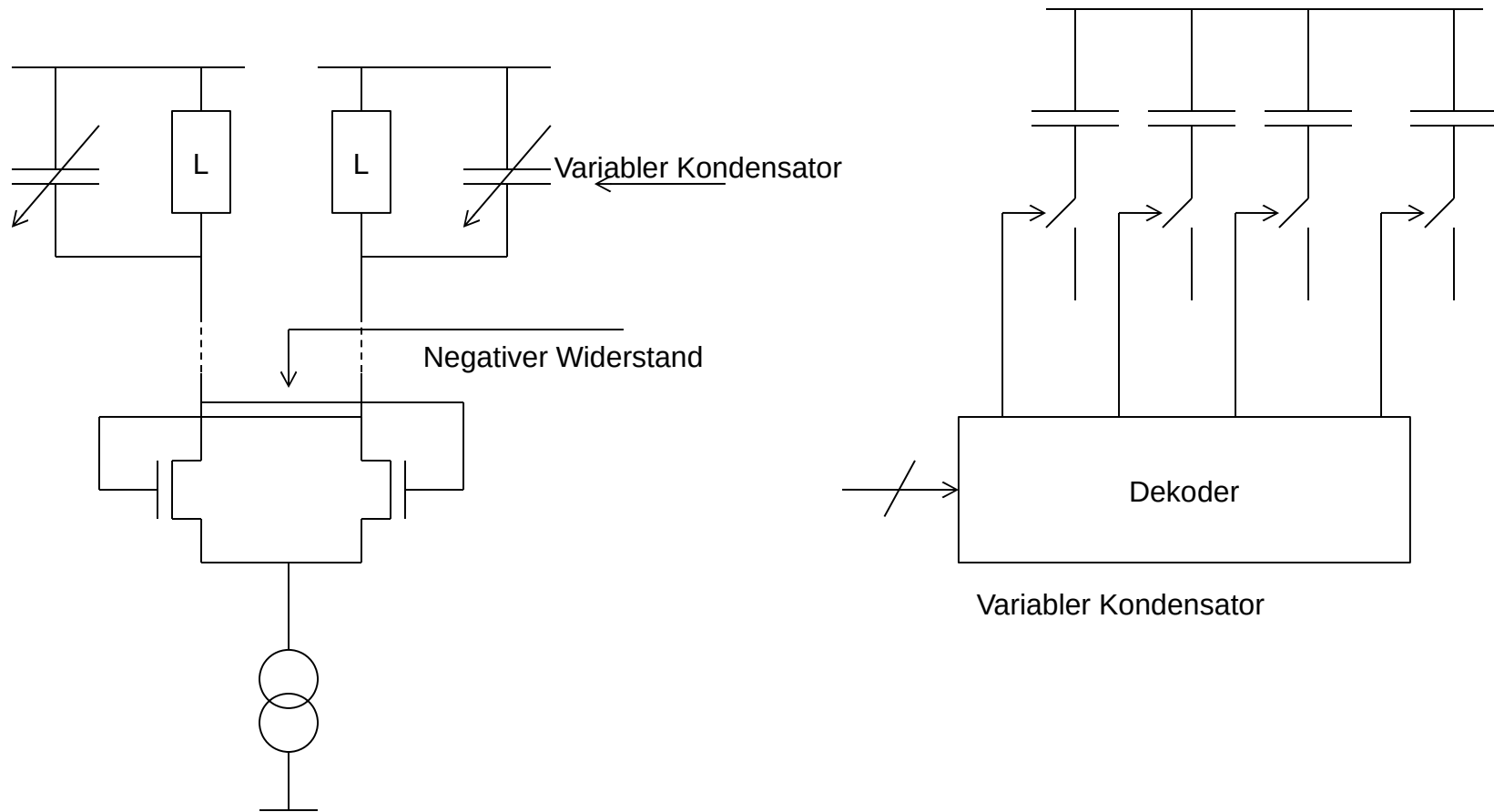
$$F = \text{Delay} * 2 * n$$




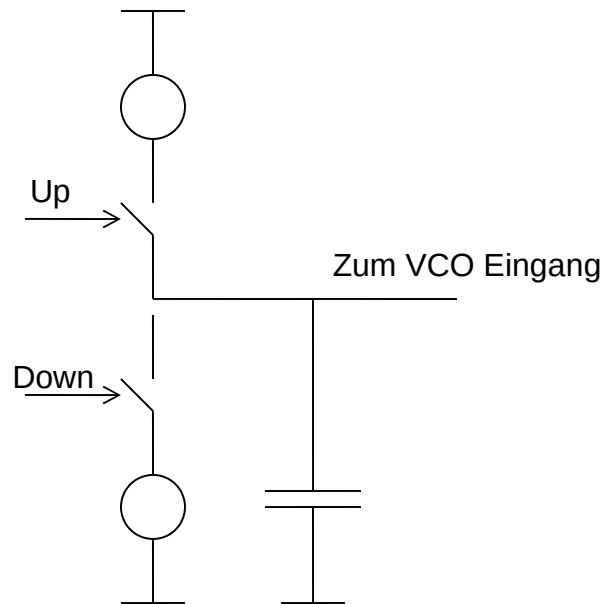
• ...



- LC



Ladungspumpe
oder Zähler



• ...

