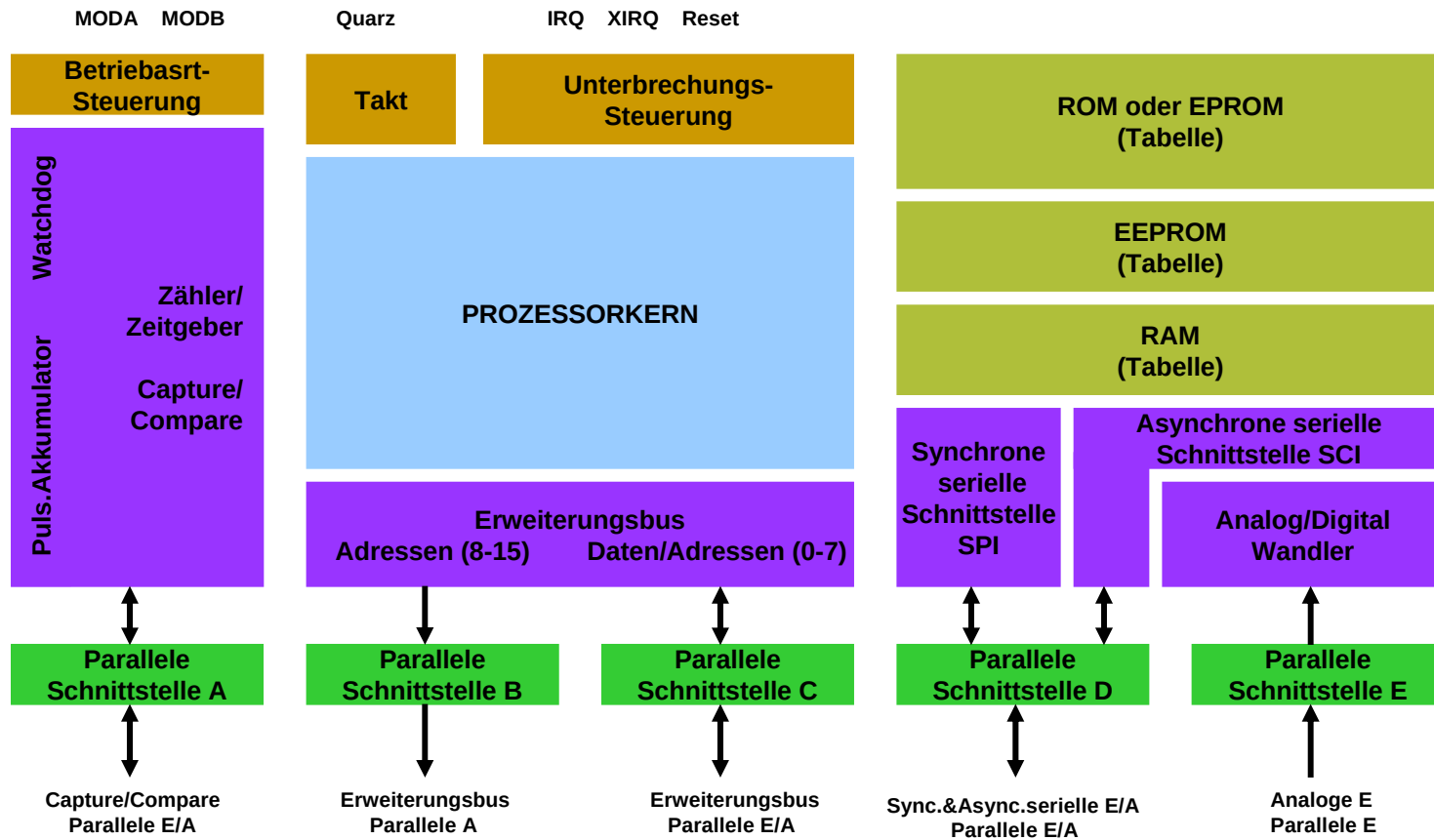
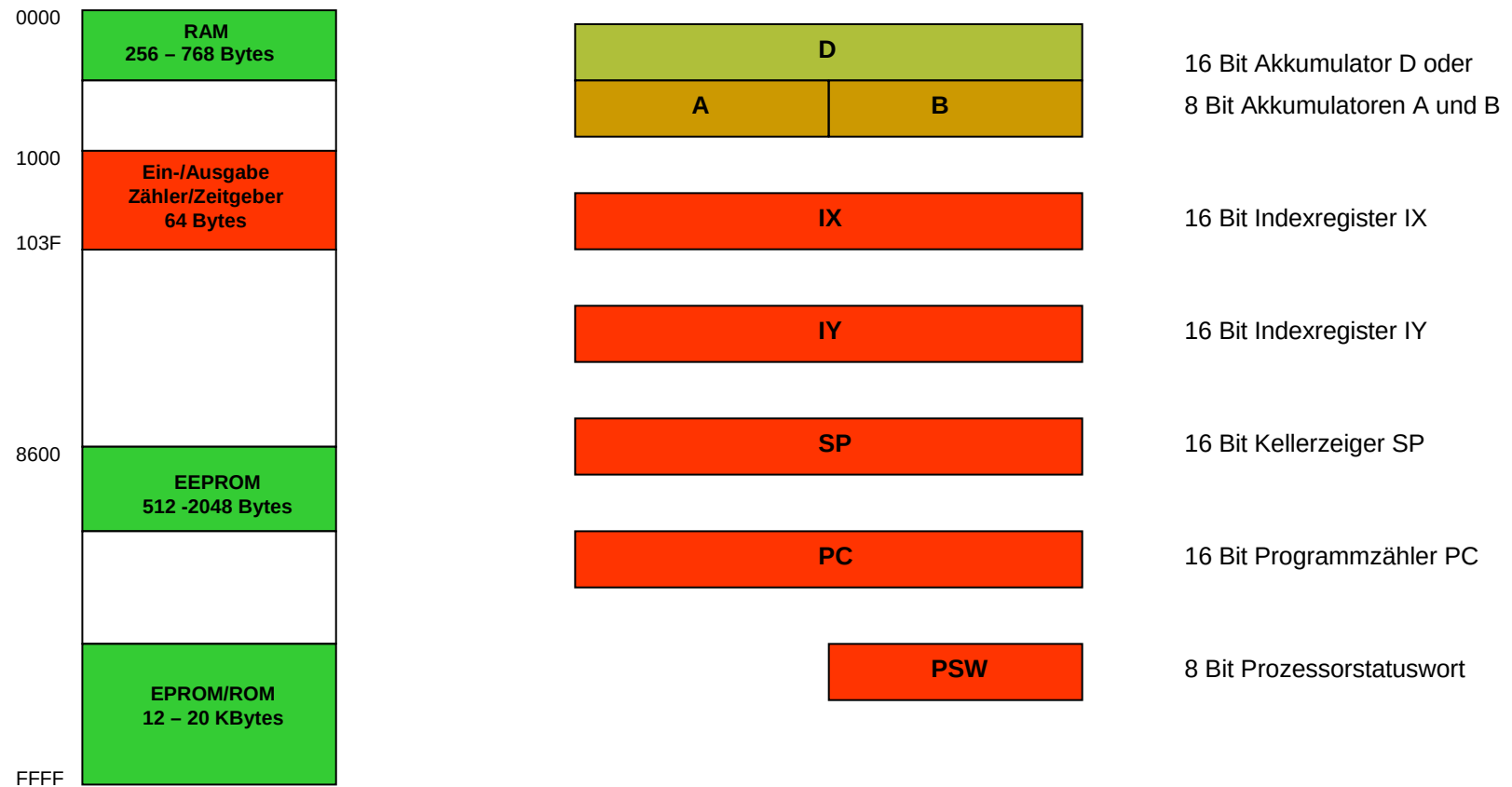

EINGEBETTETE SYSTEME

Vorlesungen WS2005

Aufbau des Mikrokontrollers MC68HC11

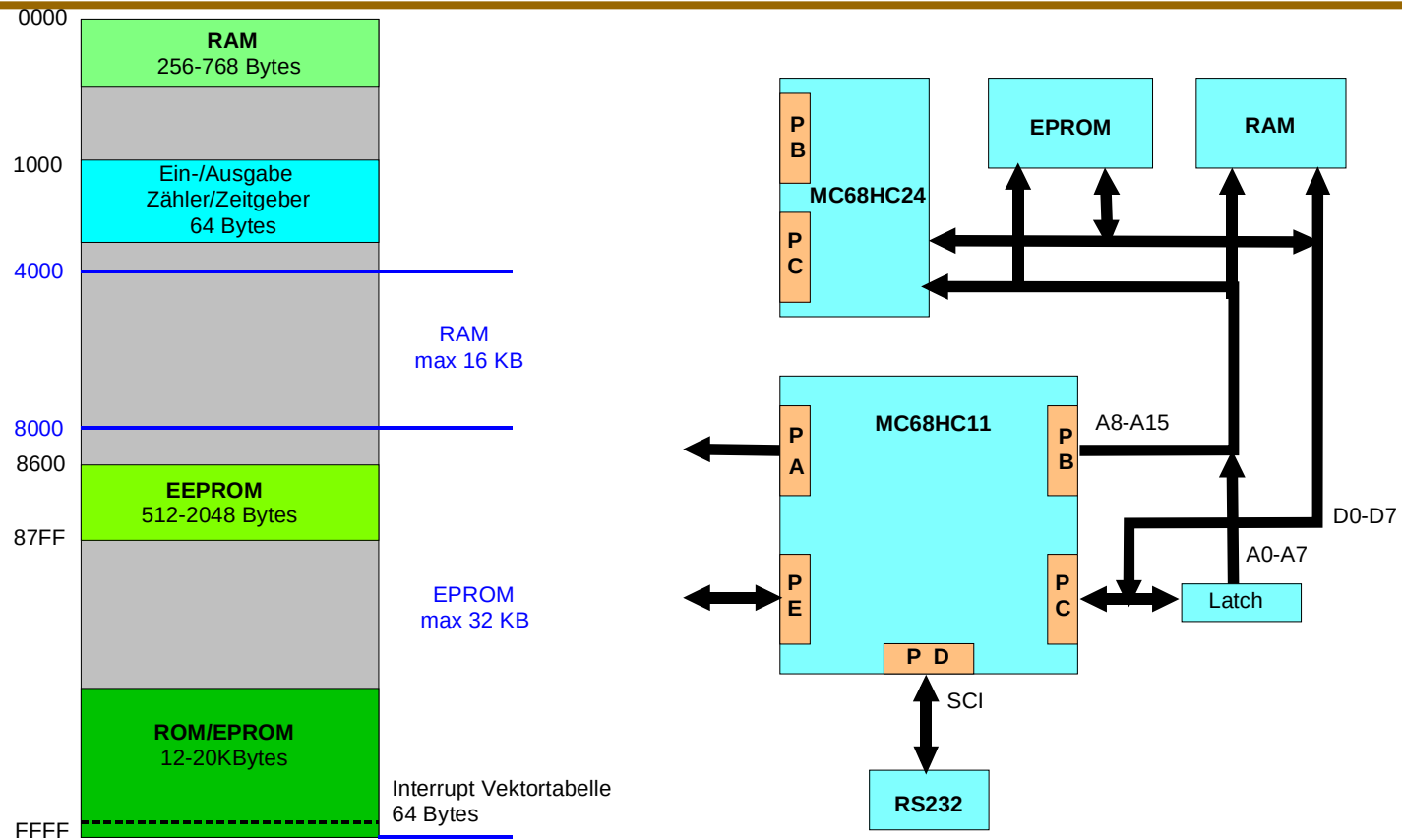


Mikrocontroller- Komponenten



Programmiermodel des MC68HC11

Speicherabbild des MC68HC11



Expanded Mode

Default Ports

0 PORTA	30	16 TIC1	FF	32 TCTL1	3C	48 ADCTL	07
1 reserviert	5B	17 TIC1	FF	33 TCTL2	00	49 ADR1	00
2 PIOC	03	18 TIC2	FF	34 TMSK1	40	50 ADR2	00
3 PORTC	10	19 TIC2	FF	35 TTFLG1	98	51 ADR3	00
4 PORTB	F7	20 TIC3	FF	36 TMSK2	00	52 ADR4	00
5 PORTCL	00	21 TIC3	FF	37 TFLG2	C0	53 reserviert	5B
6 reserviert	00	22 TOC1	FF	38 PACTL	00	54 reserviert	5B
7 DDRC	FF	23 TOC1	FF	39 PACMT	00	55 reserviert	5B
8 PORTD	01	24 TOC2	DD	40 SPCR	00	56 reserviert	5B
9 DDRD	3E	25 TOC2	00	41 SPSR	00	57 OPTION	90
10 PORTE	00	26 TOC3	FF	42 SPDR	00	58 COPRST	5B
11 CFORC	00	27 TOC3	FF	43 BAUD	30	59 PPROG	00
12 DC1M	00	28 TOC4	FF	44 SCCR1	00	60 HPRI0	D5
13 DC1D	00	29 TOC4	FF	45 SCCR2	0C	61 IMIT	00
14 TCMT	BE	30 TOC5	FF	46 SCSR	90	62 TEST1	08
15 TCNT	96	31 TOC5	FF	47 SCDE	00	63 COMFIG	0D

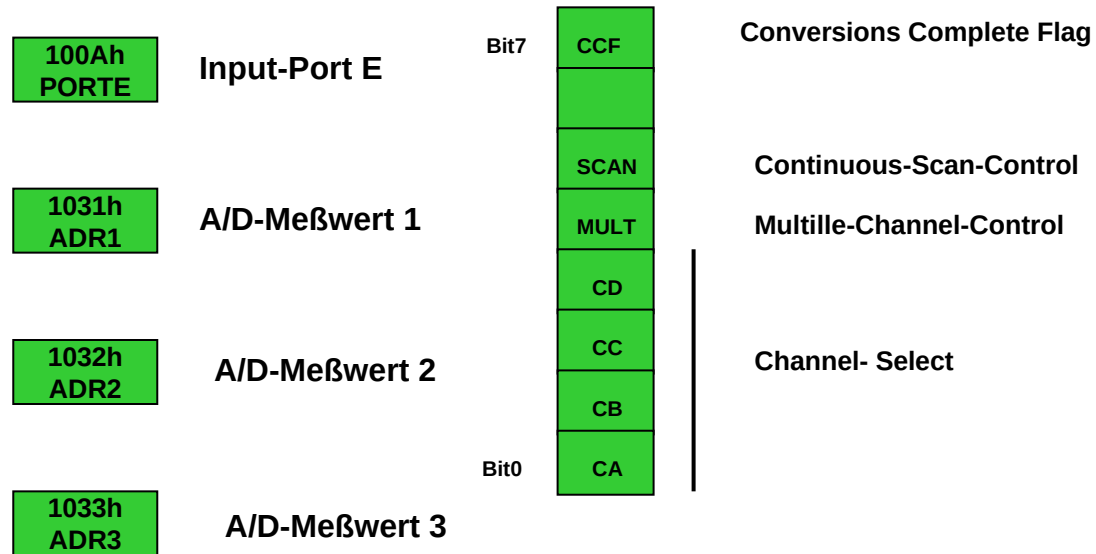
A/D – Wandler des MC68HC11

Parallele Schnittstelle E

- 8 analoge Eingänge,
- Oder TTL-Eingänge
- Arbeitet nach dem Wägeverfahren
- Eine Messung dauert 32 E-Ziklen pro kanal,
also 16 Mikrosekunden bei 8MHz
- Zwei Betriebsarten werden unterstützt:
Single Chanel Operation
Multiple Chanel Operation

Parallele Schnittstelle E

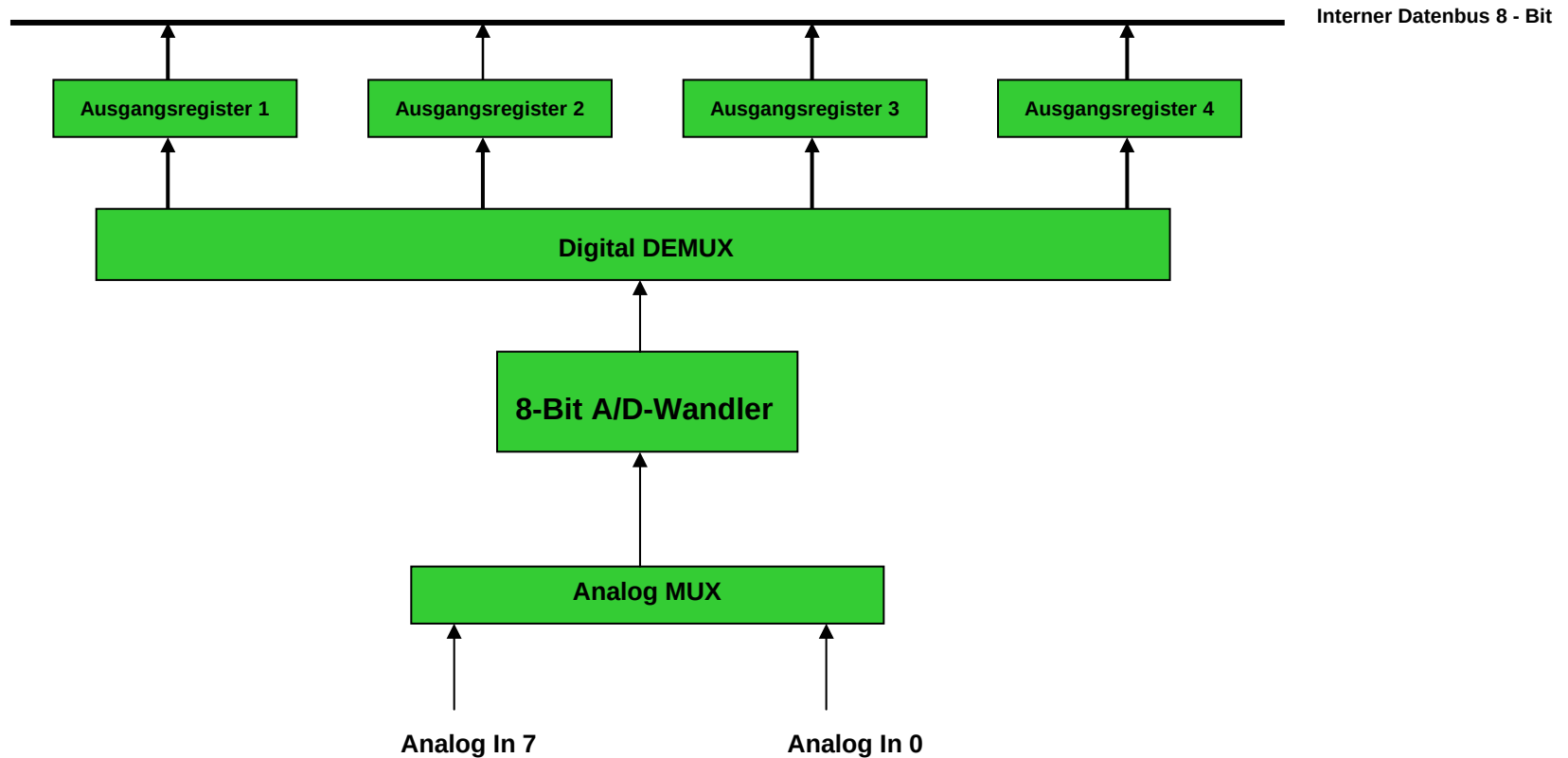
1030h ADCTL – A/D Control-Register



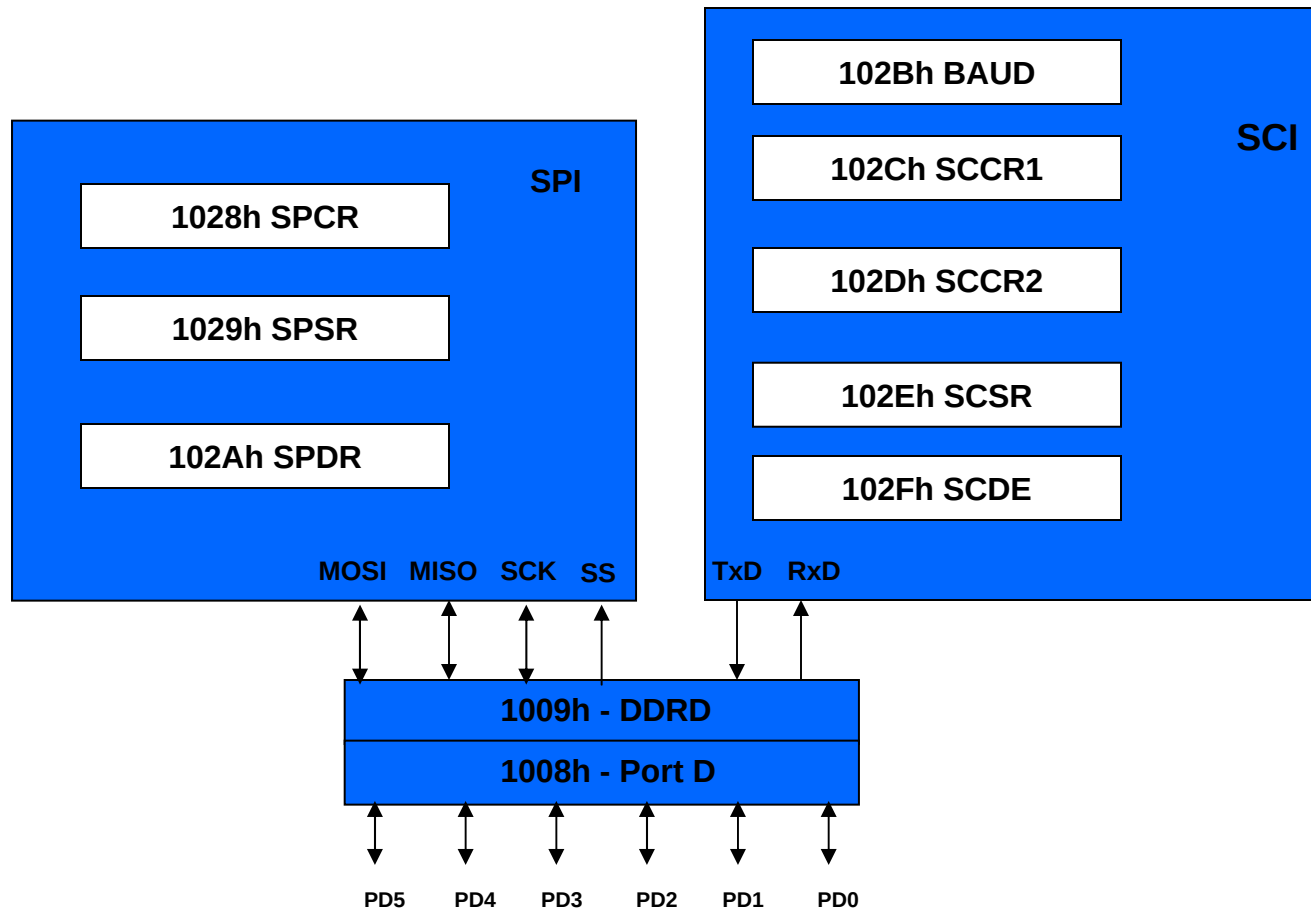
1039h OPTION – System-Configuration-Options



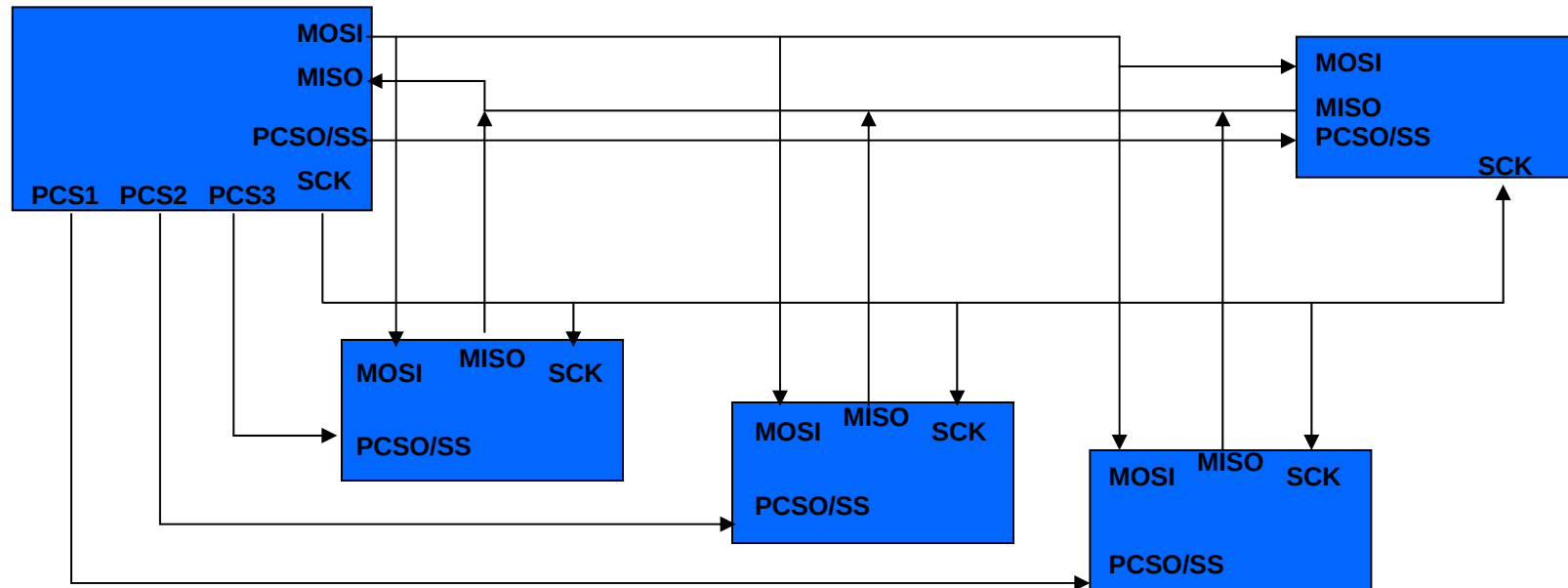
8-Kanal-8-Bit A/D – Wandler des MC68HC11



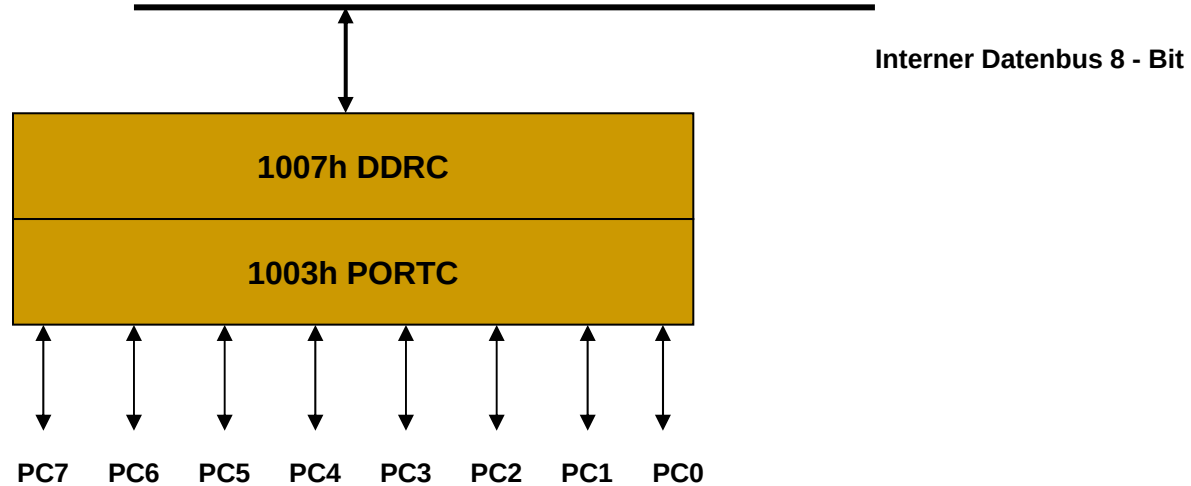
Parallele Schnittstelle D



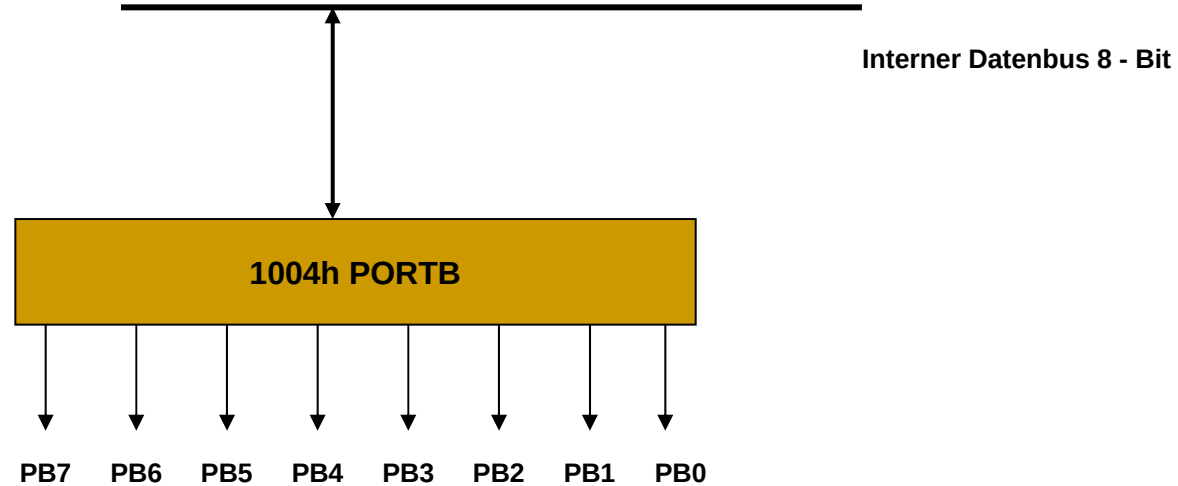
Queued Serial Peripheral Interface - QSPI



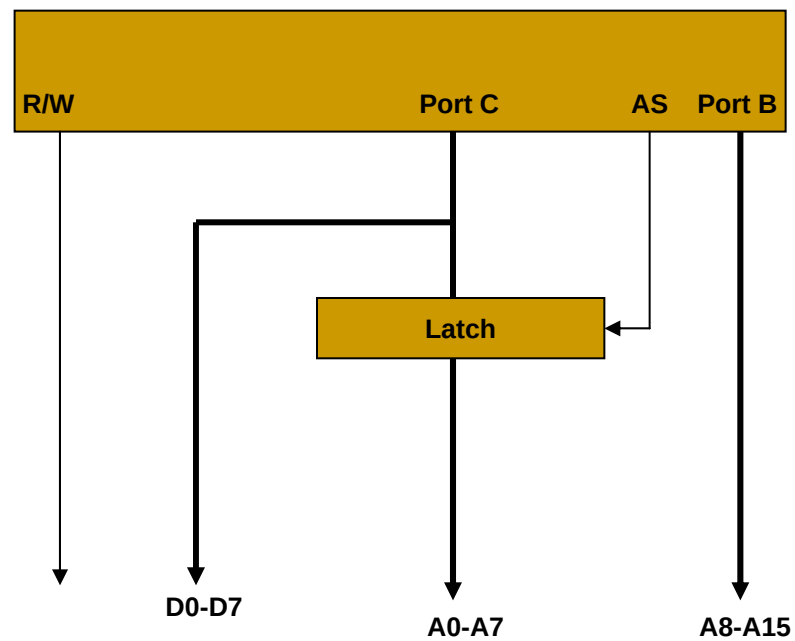
Parallele Schnittstelle C



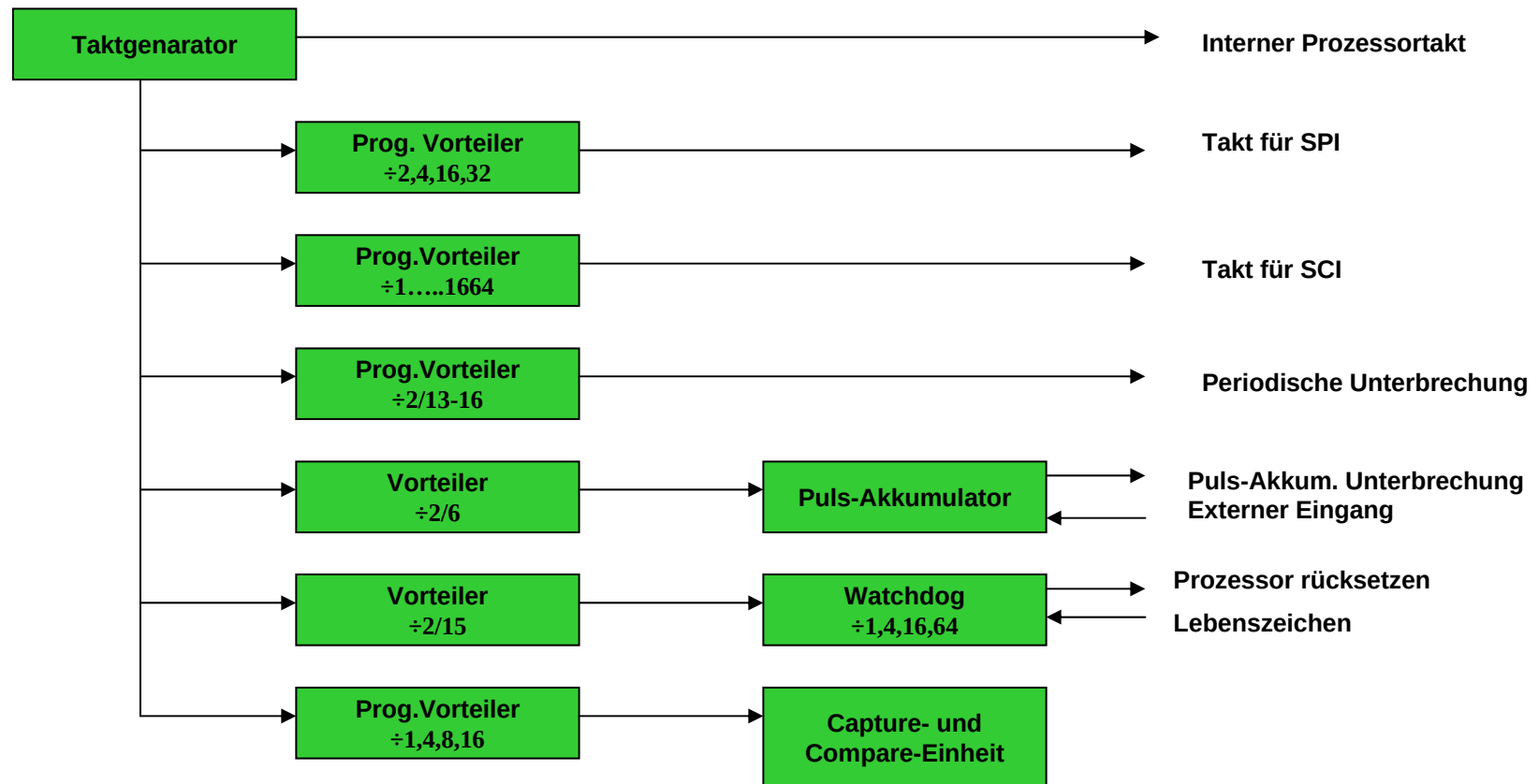
Parallele Schnittstelle B



Erweiterungsbus des MC68HC11



Das Zähler- und Zeitgebersystem



Die Capture- und Compare- Einheit

