

ADC

ADC

- 10 Bit successive approximation ADC
- Measurement range of 0 V to 3.3 V
 - separate voltage pins for analog 3V supply (V_{3A}) and analog ground (V_{SSA})
- Capable of performing more than 400,000 10-bit samples per second.
- Burst conversion mode for single or multiple inputs
- Optional conversion on transition on input pin or Timer Match signal

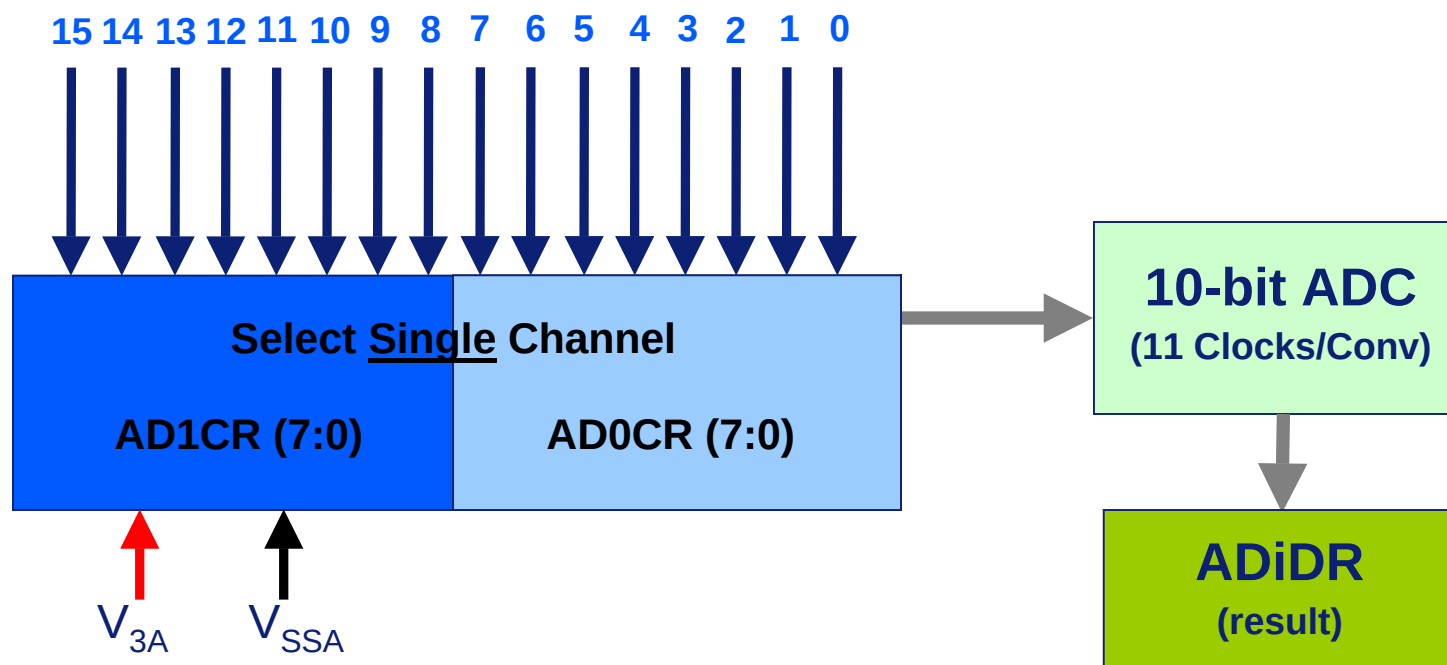
The LPC213x Family

Device	Number of ADCs	ADC Channels	DAC
LPC2131	1	8	NO
LPC2132	1	8	YES
LPC2134	1	8	YES
LPC2136	2	16	YES
LPC2138	2	16	YES

ADC – Software Controlled Mode

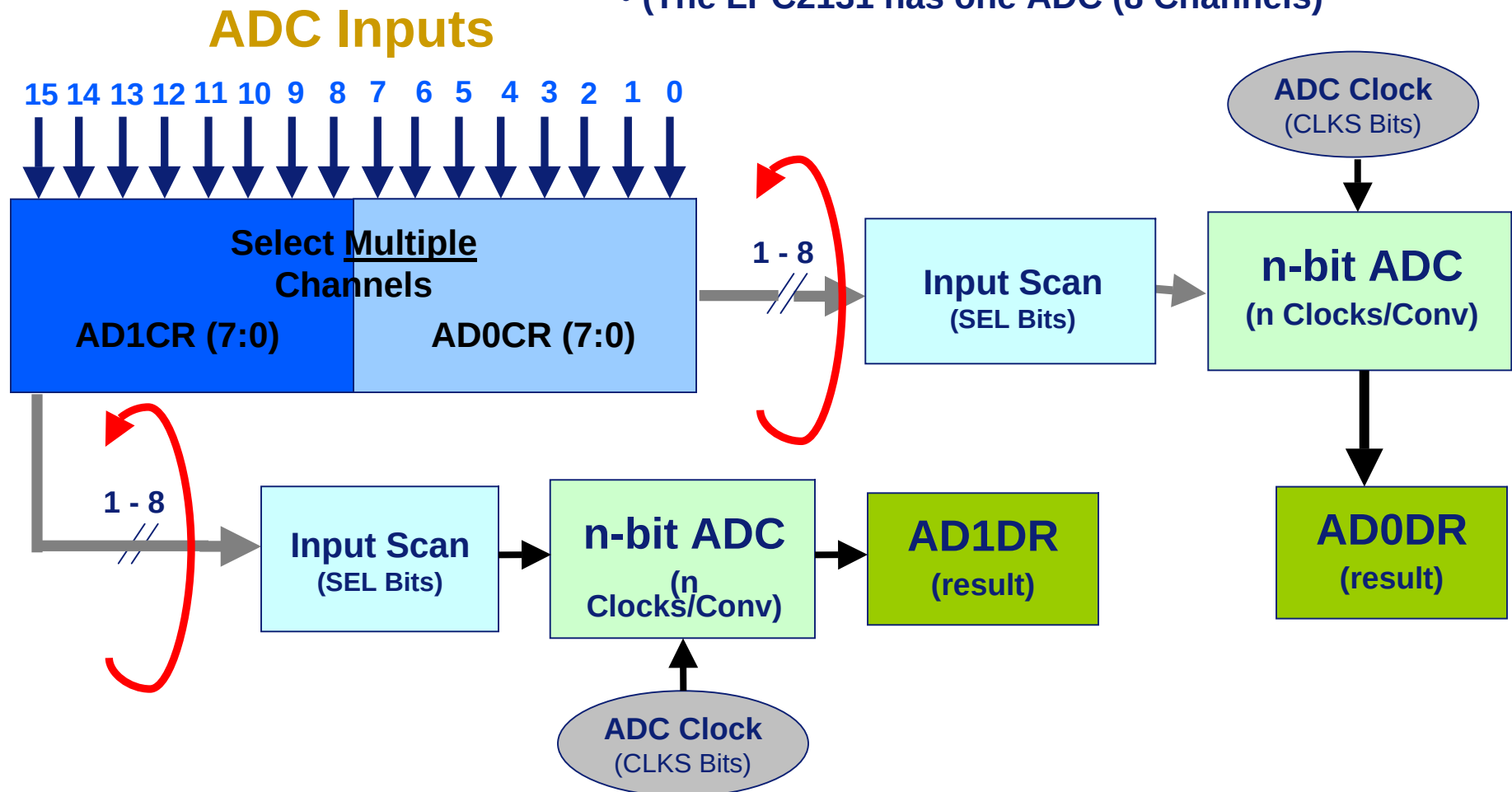
- All conversions are 10-bit and take 11 Clocks
- 4.5 MHz Maximum
- Allows Conversions to be started by external edge

ADC Inputs



ADC – Burst Mode

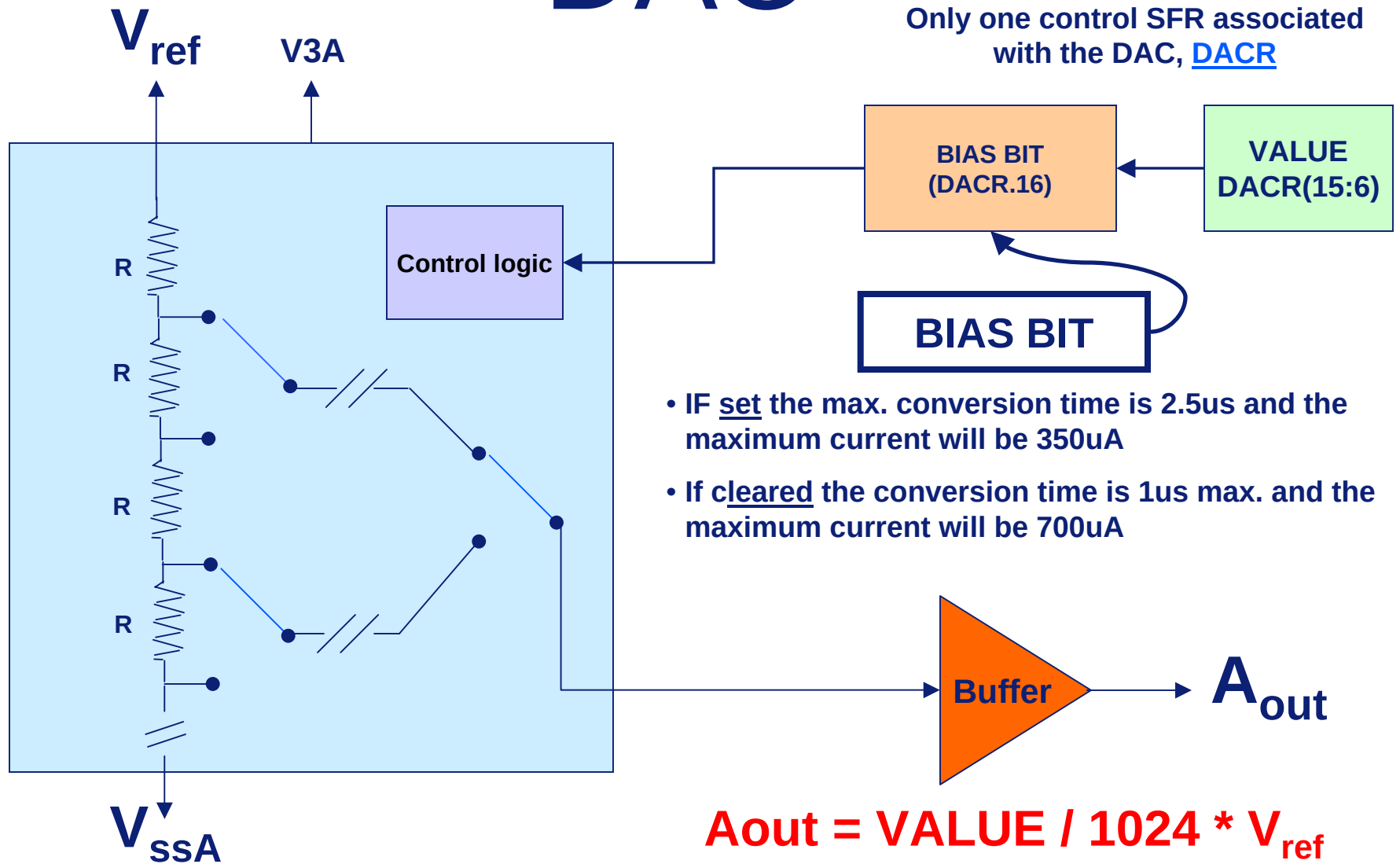
- Result accuracy and speed (n) are programmable
- Inputs selected by the SEL bits are scanned
- (The LPC2131 has one ADC (8 Channels))



Digital to Analog Converter (DAC)

- 10-Bit Resolution
- Resister String Architecture
- Buffered Output
- Power-Down Mode
- Selectable Speed vs. Power

DAC



Just one Register

ADCR	Name	Description	Reset Value
5:0	Reserved	User software should not write ones to reserved bits. The value read from a reserved bit is not defined.	0
15:6	VALUE	After the selected settling time after this field is written with a new VALUE, the voltage on the A _{OUT} pin (with respect to V _{SSA}) is $VALUE/1024 * V_{ref}$.	0
16	BIAS	If this bit is 0, the settling time of the DAC is 1 μ S max, and the maximum current is 700 μ A. If this bit is 1, the settling time of the DAC is 2.5 μ S and the maximum current is 350 μ A.	0
31:17	Reserved	User software should not write ones to reserved bits. The value read from a reserved bit is not defined.	0

