



MICROCHIP



**New 8-bit PIC[®] MCUs With
Integrated Configurable Logic
in 6- to 20-pin Packages**

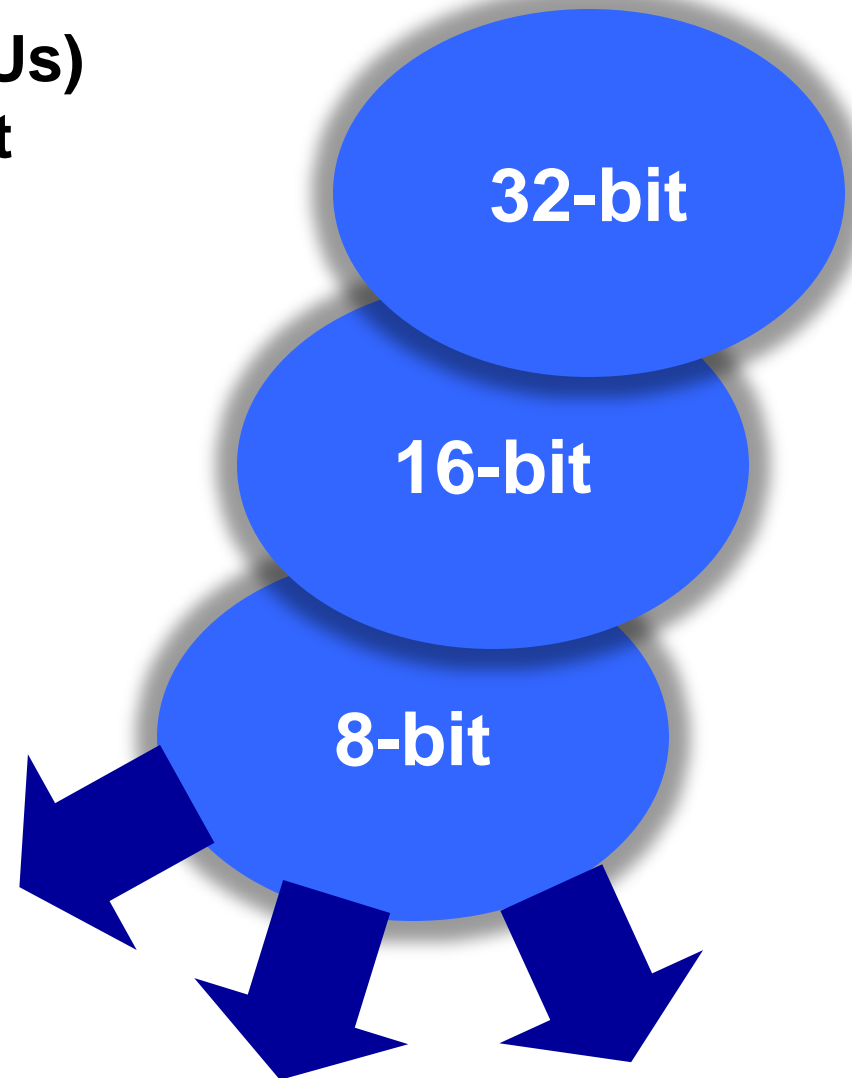
Expanding the Microcontroller Market

- **New Microcontrollers (MCUs) promote expansion of 8-bit market by offering:**

- Next-generation peripherals
- Lower power consumption
- Lower cost
- Smaller size

- **Enables unique & non-traditional uses:**

- Configurable-logic control
- Electronic glue
- Disposable applications
- Many new electronic uses ...





PIC10F32X / PIC1XF150X Family

PIC10F32X

6-pin

Midrange (x14) Core

Up to 512W Flash

64B RAM

16 MHz

8-bit ADC

1.8 – 5.5V

2x 8-bit Timers

2x PWMs

Configurable Logic Cell (CLC)

Complimentary Waveform Generator (CWG)

Numerically Controlled Oscillator (NCO)

Temperature Indicator

PIC1XF150X

8-, 14- and 20-pin

Enhanced Midrange (x14) Core

Up to 8 KW Flash

Up to 512B RAM

16 MHz

10-bit ADC

1.8 – 5.5V

16-bit Timer, 2x 8-bit Timers

4x PWMs

Up to 4x Configurable Logic Cell (CLC)

Complementary Waveform Generator (CWG)

Numerically Controlled Oscillator (NCO)

Temperature Indicator

Up to 2x Comparators

Up to 1x I²C™/SPI

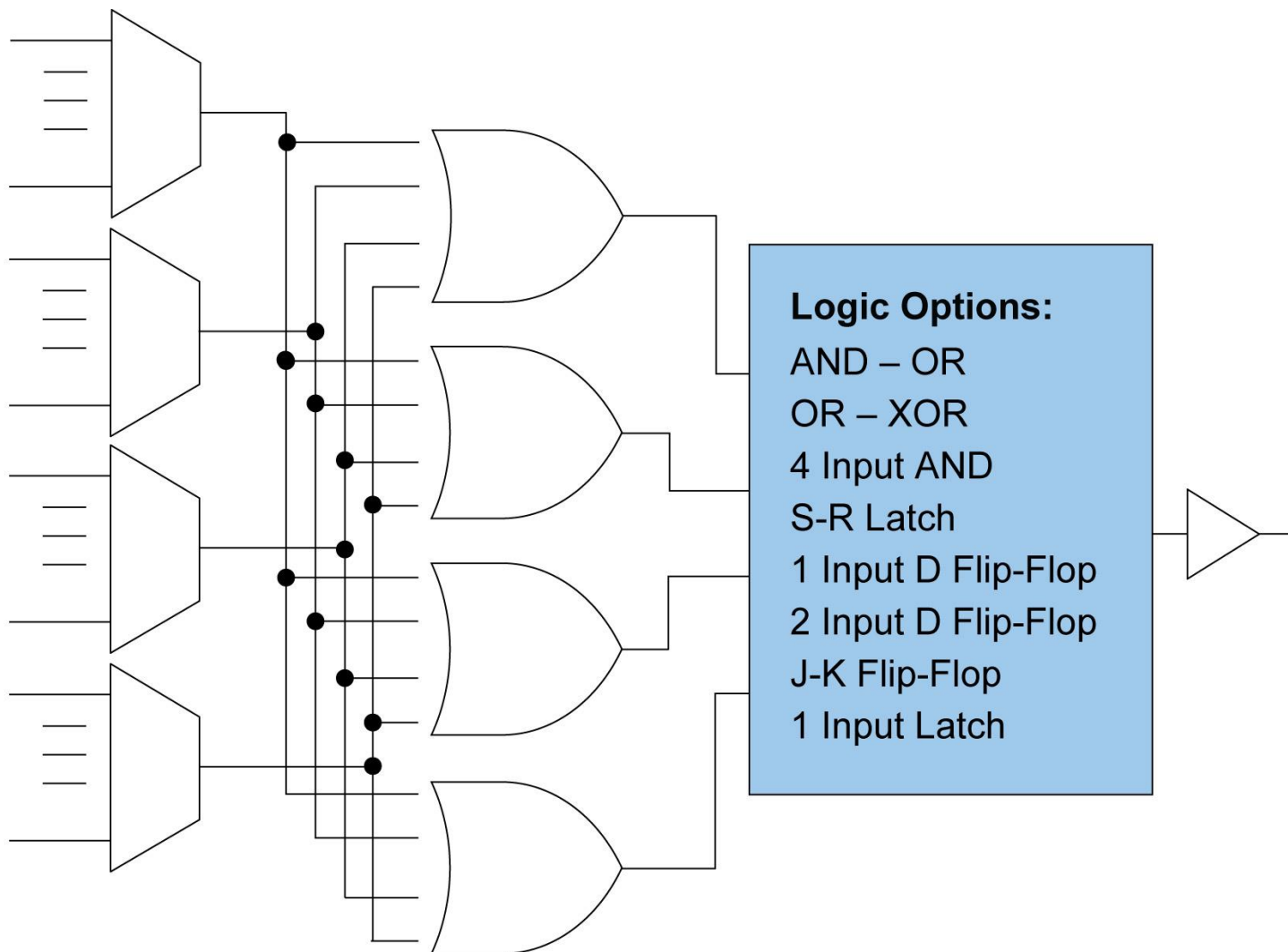
Up to 1x EUSART



Configurable Logic Cell (CLC)

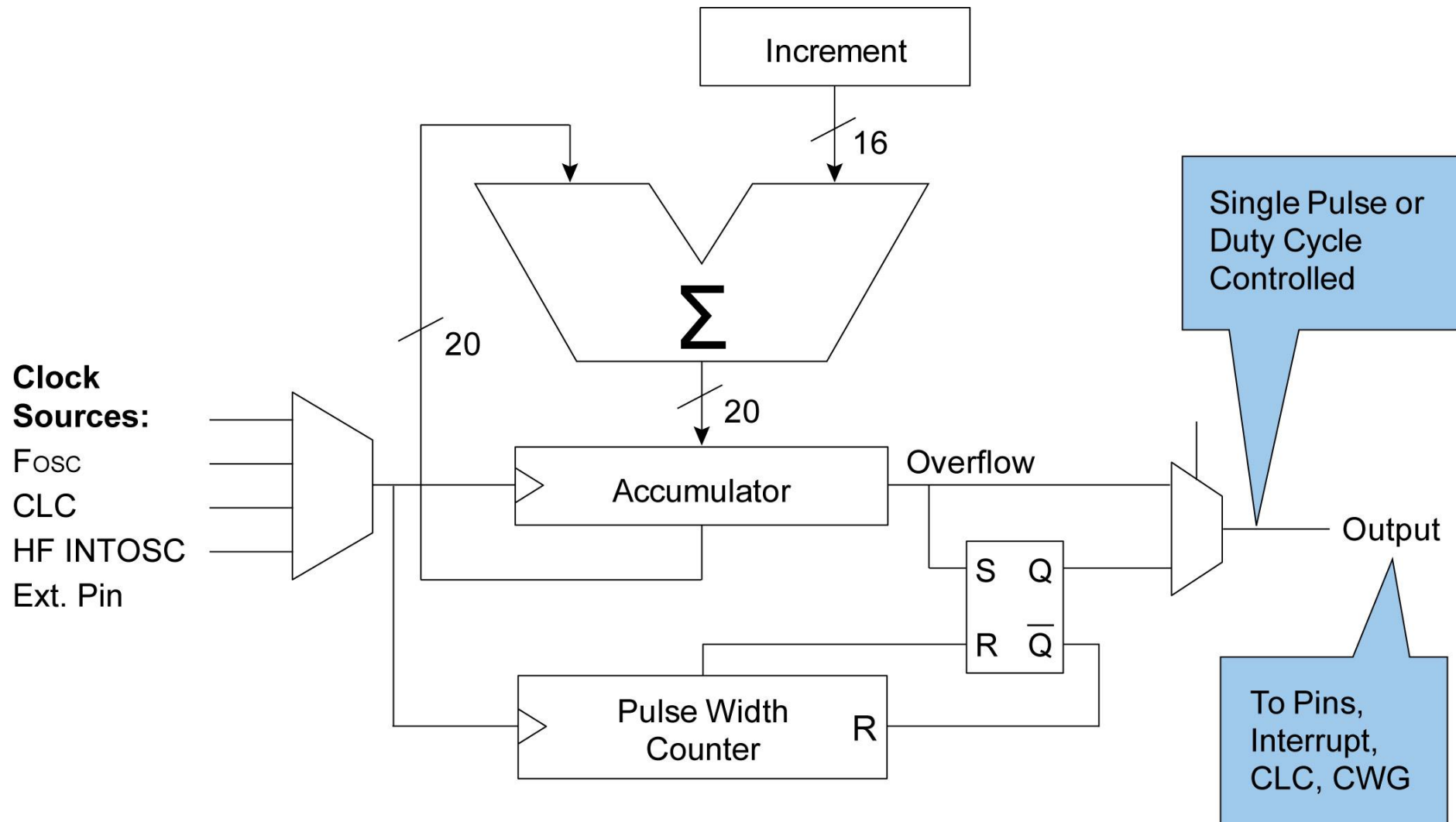
Inputs:

I/Os
PWMs
Comparators
Timers
Oscillator Sources
Communications
ADC Triggers
NCO
CLC Outputs



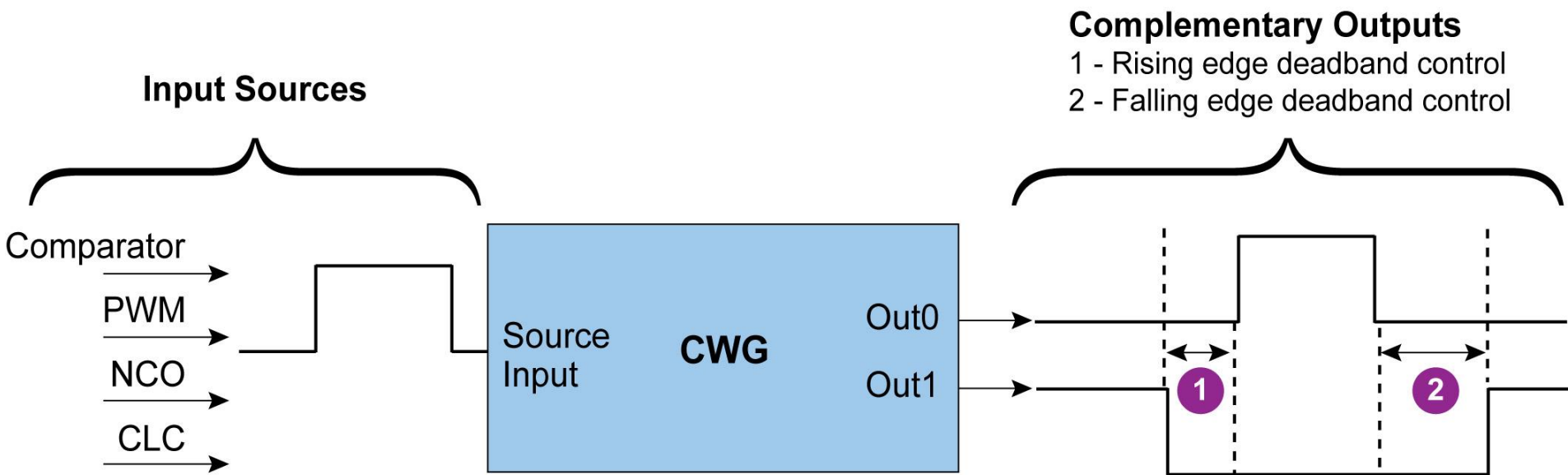


Numerically Controlled Oscillator (NCO)





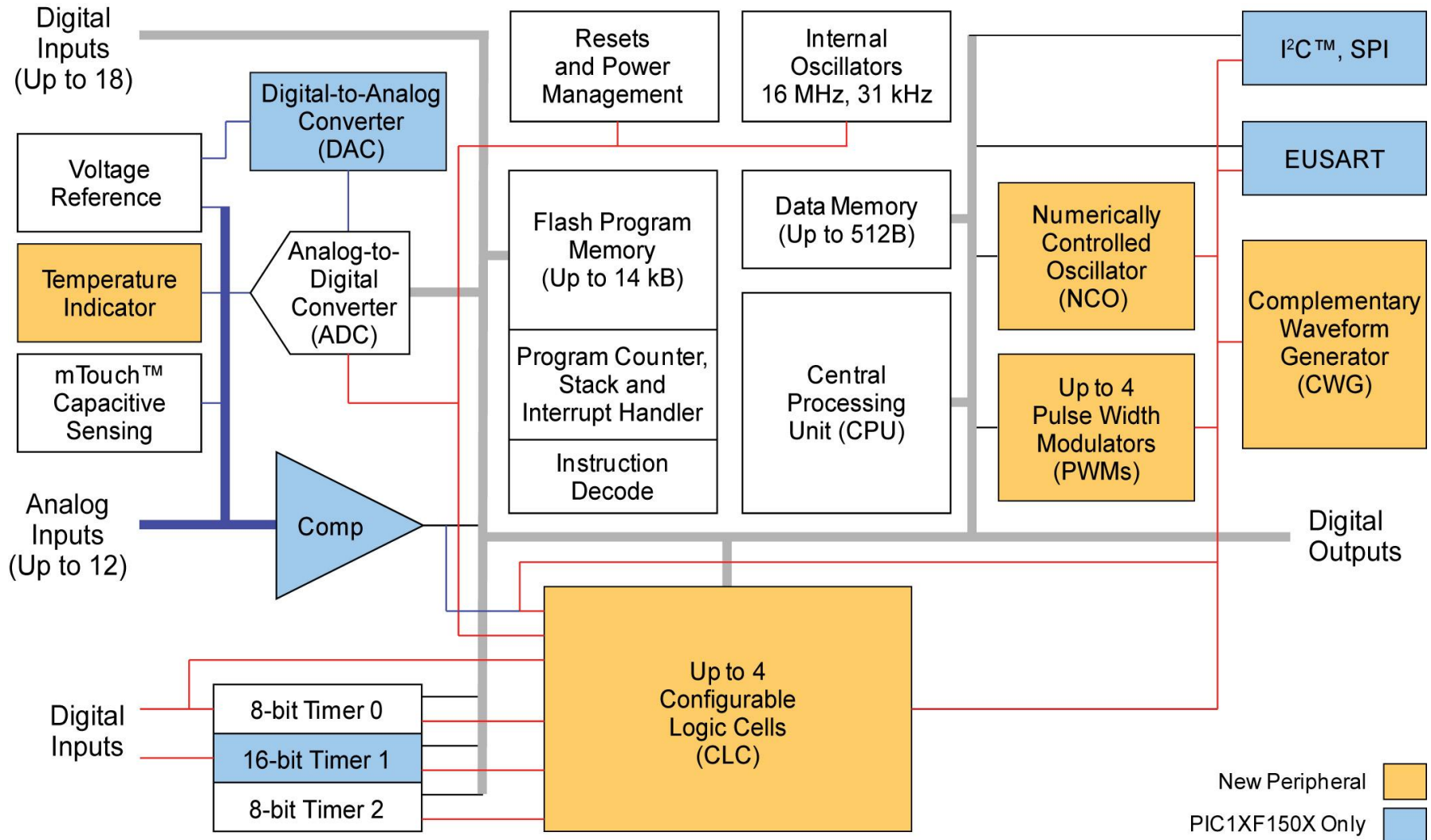
Complementary Waveform Generator (CWG)



- Complementary Outputs
- Dead-band Control
- Polarity Control
- Auto-shutdown/Restart
- Shutdown Output Override
- Selectable Input Sources



PIC10F32X & PIC1XF150X Family Block Diagram





MCU Packaging, Pricing & Availability

6-pin **PIC10F320/PIC10F322**



2X3 DFN



SOT-23



PDIP

8-pin **PIC12F1501**



2x3 DFN



MSOP



SOIC



PDIP

14-pin **PIC16F1503**



3x3 QFN



TSSOP



SOIC



PDIP

20-pin **PIC16F1507/PIC16F1508/
PIC16F1509**



4x4 QFN



SSOP



SOIC



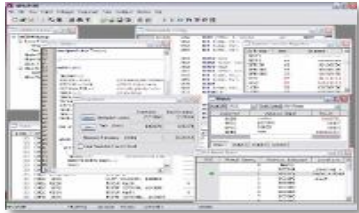
PDIP

- Starting at \$0.37 @ 10KU
- PIC10F320/322 and PIC16F1507 are available at announcement
- PIC1XF1501/1503/1508/1509 will be released over next two quarters
- Samples: <http://www.microchip.com/samples>
- Purchase volume-production quantities: <http://www.microchipdirect.com>
- Product datasheets and other collateral: <http://www.microchip.com/8bit>



Development Tools Support

Supported by standard tool suite



MPLAB® IDE



**MPLAB® ICD 3,
PICkit™ 3**



MPLAB® PM3



**Hi-TECH C®
Compilers**

Development Platform



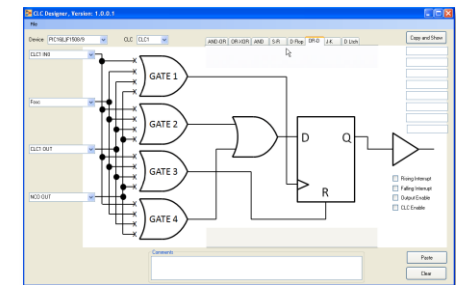
**PICDEM™ Lab Development Kit
(Part # DM163045)**

**PICDEM™ Lab Development Kit
(part # DM163045, \$134.99)**

Development platform for
6- to 20-pin MCUs



**F1 Evaluation Platform
(part # DM164130-1, \$39.99)**
Development code for enhanced
Mid-range core products



**Use “CLC Configuration Tool”
for easy CLC programming**

Free Download from MCU Web pages
at <http://www.microchip.com>



PIC10F32X & PIC1XF150X Microcontrollers

- **8-bit Microcontrollers with Integrated Configurable Logic in 6- to 20-pin Packages**
- **Integrated next-generation peripherals**
 - Configurable Logic Cell (CLC)
 - Numerically Controlled Oscillator (NCO)
 - Complementary Waveform Generator (CWG)
- **Low-power performance**
 - Active current < 30 μ A/MHz
 - Sleep current < 20 nA
- **Optimized feature set for low-cost applications**
 - Enables unique & non-traditional uses - configurable logic control, electronic glue, disposable applications and many more...



MICROCHIP

Back-Up Slides



Product Feature Set

Device	FLASH (Bytes)	RAM (Bytes)	I/O Pins	ADC	Comp.	5-bit DAC	Comms.	CLC	CWG, NCO, Temp Ind	PWM	8-/16-bit Timers
--------	------------------	----------------	-------------	-----	-------	--------------	--------	-----	--------------------------	-----	---------------------

6-pin

PIC10(L)F320	448	64	4	3x 8-bit	-	-	-	1	✓	2	2/0
PIC10(L)F322	896	64	4	3x 8-bit	-	-	-	1	✓	2	2/0

8-pin

PIC12(L)F1501	1.75K	64	6	4x 10-bit	1	✓	-	2	✓	4	2/1
---------------	-------	----	---	-----------	---	---	---	---	---	---	-----

14-pin

PIC16(L)F1503	3.5K	128	12	8x 10-bit	2	✓	MI ² C™, SPI	2	✓	4	2/1
---------------	------	-----	----	-----------	---	---	-------------------------	---	---	---	-----

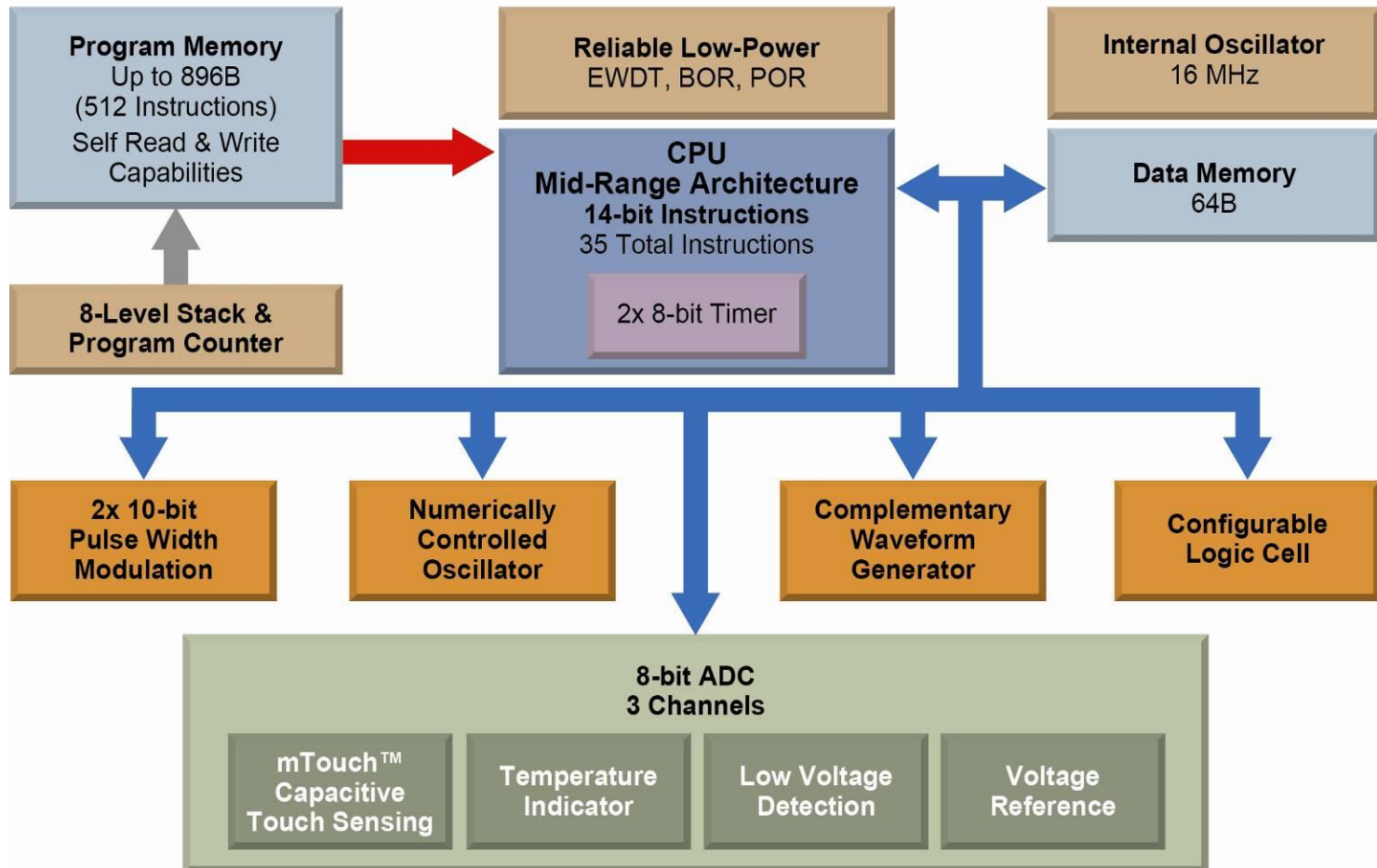
20-pin

PIC16(L)F1507	3.5K	128	18	12x 10-bit	-	-	-	2	✓	4	2/1
PIC16(L)F1508	7K	256	18	12x 10-bit	2	✓	EUSART, MI ² C™, SPI	4	✓	4	2/1
PIC16(L)F1509	14K	512	18	12x 10-bit	2	✓	EUSART, MI ² C™, SPI	4	✓	4	2/1

PIC10F32X Block Diagram



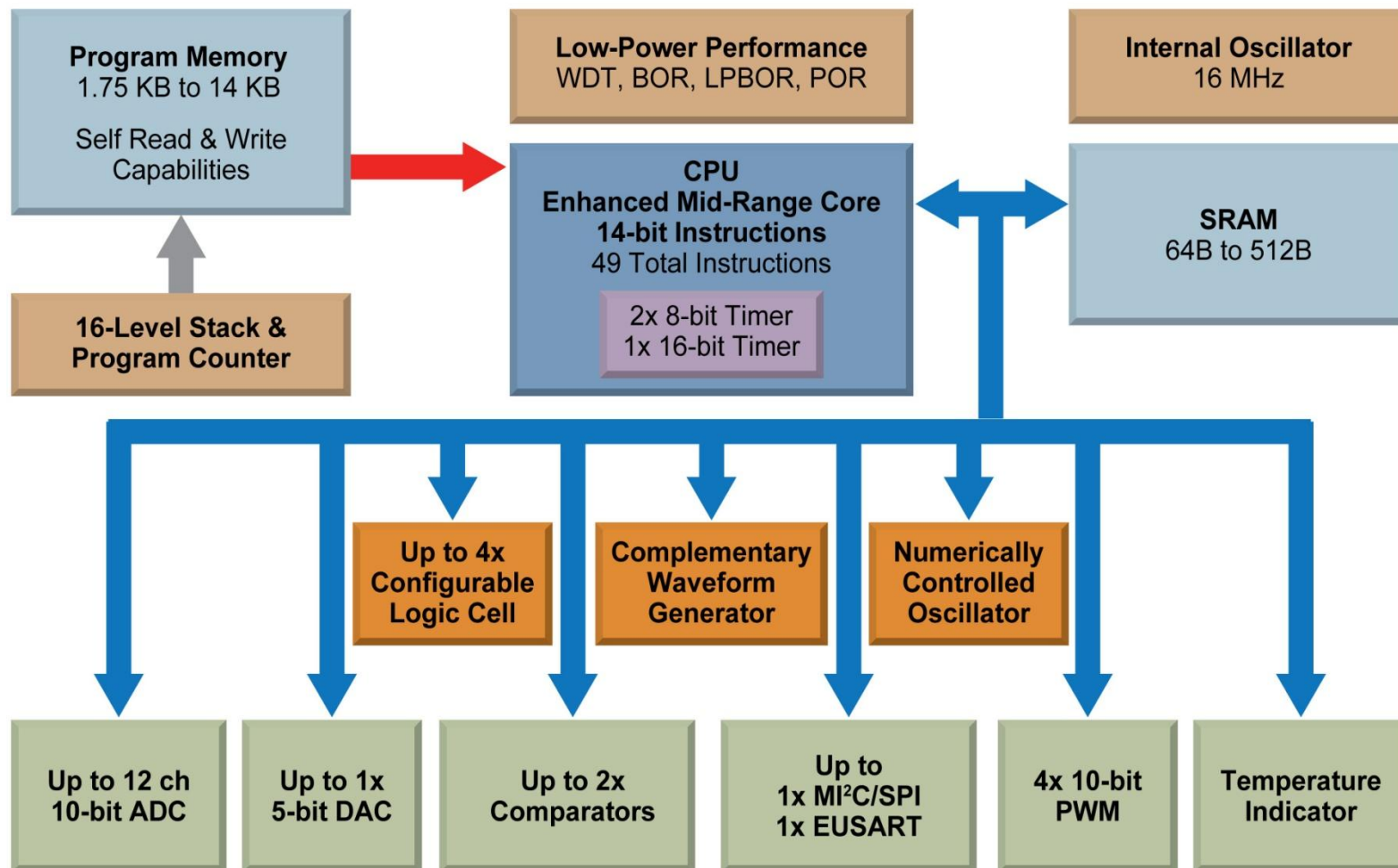
PIC10F32X Block Diagram
6-pin 8-bit Microcontrollers



PIC1XF150X Block Diagram



PIC1XF150X Block Diagram
8- to 20-pin 8-bit Microcontrollers





MICROCHIP

Thank You

*Note: The Microchip name and logo, HI-TECH C, MPLAB, and PIC are registered trademarks of Microchip Technology Inc. in the U.S.A., and other countries.
mTouch, PICDEM, and PICkit are trademarks of Microchip Technology Inc. in the U.S.A., and other countries.
All other trademarks mentioned herein are property of their respective companies.*