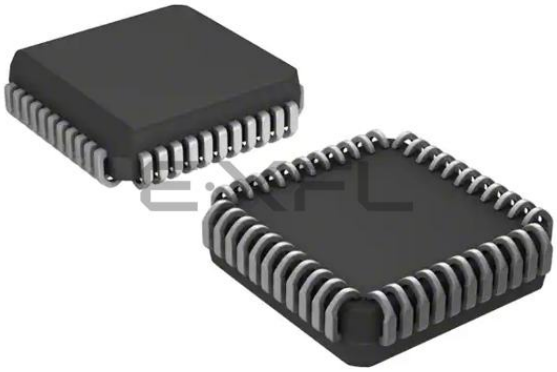

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What is "Embedded - Microcontrollers"?

"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Active
Core Processor	eZ8
Core Size	8-Bit
Speed	20MHz
Connectivity	I²C, IrDA, SPI, UART/USART
Peripherals	Brown-out Detect/Reset, DMA, POR, PWM, WDT
Number of I/O	31
Program Memory Size	48KB (48K x 8)
Program Memory Type	FLASH
EEPROM Size	-
RAM Size	4K x 8
Voltage - Supply (Vcc/Vdd)	3V ~ 3.6V
Data Converters	A/D 8x10b
Oscillator Type	Internal
Operating Temperature	0°C ~ 70°C (TA)
Mounting Type	Surface Mount
Package / Case	44-LCC (J-Lead)
Supplier Device Package	-
Purchase URL	https://www.e-xfl.com/product-detail/zilog/z8f4821vn020sg

Option Bits

Option bits allow user configuration of certain aspects of the Z8 Encore! XP F64xx Series operation. The feature configuration data is stored in the Flash memory and read during Reset. The features available for control via the option bits are:

- Watchdog Timer time-out response selection interrupt or Reset
- Watchdog Timer enabled at Reset
- The ability to prevent unwanted read access to user code in Flash memory
- The ability to prevent accidental programming and erasure of the user code in Flash memory
- Voltage Brown-Out configuration is always enabled or disabled during STOP Mode to reduce STOP Mode power consumption
- Oscillator mode selection for high-, medium-, and low-power crystal oscillators or an external RC oscillator

Operation

This section describes the type and configuration of the programmable Flash option bits.

Option Bit Configuration By Reset

Each time the option bits are programmed or erased, the device must be Reset for the change to take place. During any reset operation (System Reset, Reset, or Stop Mode Recovery), the option bits are automatically read from the Flash memory and written to Option Configuration registers. The Option Configuration registers control operation of the devices within the Z8 Encore! XP F64xx Series. Option bit control is established before the device exits Reset and the eZ8 CPU begins code execution. The Option Configuration registers are not part of the Register File and are not accessible for read or write access.

Option Bit Address Space

The first two bytes of Flash memory at addresses 0000H (see Table 99) and 0001H (see Table 100) are reserved for the user option bits. The byte at Flash memory address 0000H configures user options. The byte at Flash memory address 0001H is reserved for future use and must remain unprogrammed.

Hex Address: FEF

Table 260. Port A H Output Data Register (Px OUT)

Bit	7	6	5	4	3	2	1	0
Field	POUT7	POUT6	POUT5	POUT4	POUT3	POUT2	POUT1	POUT0
RESET	0							
R/W	R/W							
Address	FD3H, FD7H, FDBH, FDFH, FE3H, FE7H, FEBH, FEFH							

Watchdog Timer

For more information about these Watchdog Timer Control registers, see the Watchdog Timer Control Register Definitions section on page 83.

Hex Address: FF0

Table 261. Watchdog Timer Control Register (WDTCTL)

Bit	7	6	5	4	3	2	1	0
Field	POR	STOP	WDT	EXT	Reserved			SM
RESET	See Table 48 on page 84.			0				
R/W	R							
Address	FF0H							

Hex Address: FF1

Table 262. Watchdog Timer Reload Upper Byte Register (WDTU)

Bit	7	6	5	4	3	2	1	0
Field	WDTU							
RESET	1							
R/W	R/W*							
Address	FF1H							

Note: *R/W = Read returns the current WDT count value; write sets the appropriate reload value.