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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	Obsolete
Core Processor	HC05
Core Size	8-Bit
Speed	2.1MHz
Connectivity	SPI
Peripherals	LCD, POR, WDT
Number of I/O	16
Program Memory Size	16KB (16K x 8)
Program Memory Type	OTP
EEPROM Size	-
RAM Size	512 x 8
Voltage - Supply (Vcc/Vdd)	3V ~ 5.5V
Data Converters	-
Oscillator Type	Internal
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	80-QFP
Supplier Device Package	80-QFP (14x14)
Purchase URL	https://www.e-xfl.com/product-detail/nxp-semiconductors/mc705l16cfue

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Addr.	Register Name		Bit 7	6	5	4	3	2	1	Bit 0
$0031	LCD Data Register 17 (LCDR17) See page 101.	Read: Write:	F33B3	F33B2	F33B1	F33B0	F32B3	F32B2	F32B1	F32B0
		Reset:	Unaffected by reset							
$0032	LCD Data Register 18 (LCDR18) See page 101.	Read: Write:	F35B3	F35B2	F35B1	F35B0	F34B3	F34B2	F34B1	F34B0
		Reset:	Unaffected by reset							
$0033	LCD Data Register 19 (LCDR19) See page 101.	Read: Write:	F37B3	F37B2	F37B1	F37B0	F36B3	F36B2	F36B1	F36B0
		Reset:	Unaffected by reset							
$0034	LCD Data Register 20 (LCDR20) See page 101.	Read: Write:	0	0	0	0	F38B3	F38B2	F38B1	F38B0
		Reset:	Unaffected by reset							
$0035	Reserved		R	R	R	R	R	R	R	R
↓										
$003D	Reserved		R	R	R	R	R	R	R	R
$003E	Miscellaneous Register (MISC) See page 67.	Read: Write:	FTUP	STUP	0	0	SYS1	SYS0	FOSCE	OPTM
		Reset:	*	*	0	0	1	0	1	0
$003F	Reserved		R	R	R	R	R	R	R	R

* Unaffected by reset but initialized by power-on reset

= Unimplemented R = Reserved U = Unaffected

Figure 2-3. Main I/O Map (Sheet 5 of 5)

2.4 Option Map for I/O Configurations

Most of the I/O configurations are done in the option map (Figure 2-4). Some options still remain as mask options for the MC68HC05L16 such as a pullup resistor for the $\overline{\text{RESET}}$ pin and resistors for the OSC1/OSC2 and XOSC1/XOSC2 pins. These mask options may be read by the MOSR ($000F) in the option map.

The option map is located at $0000–$000F of the main memory map and it is available when the OPTM bit in the MISC register ($003E) is set. Main registers at $0000–$000F are not available when OPTM = 1.

I/O port data direction registers are contained in the option map in Figure 2-4.