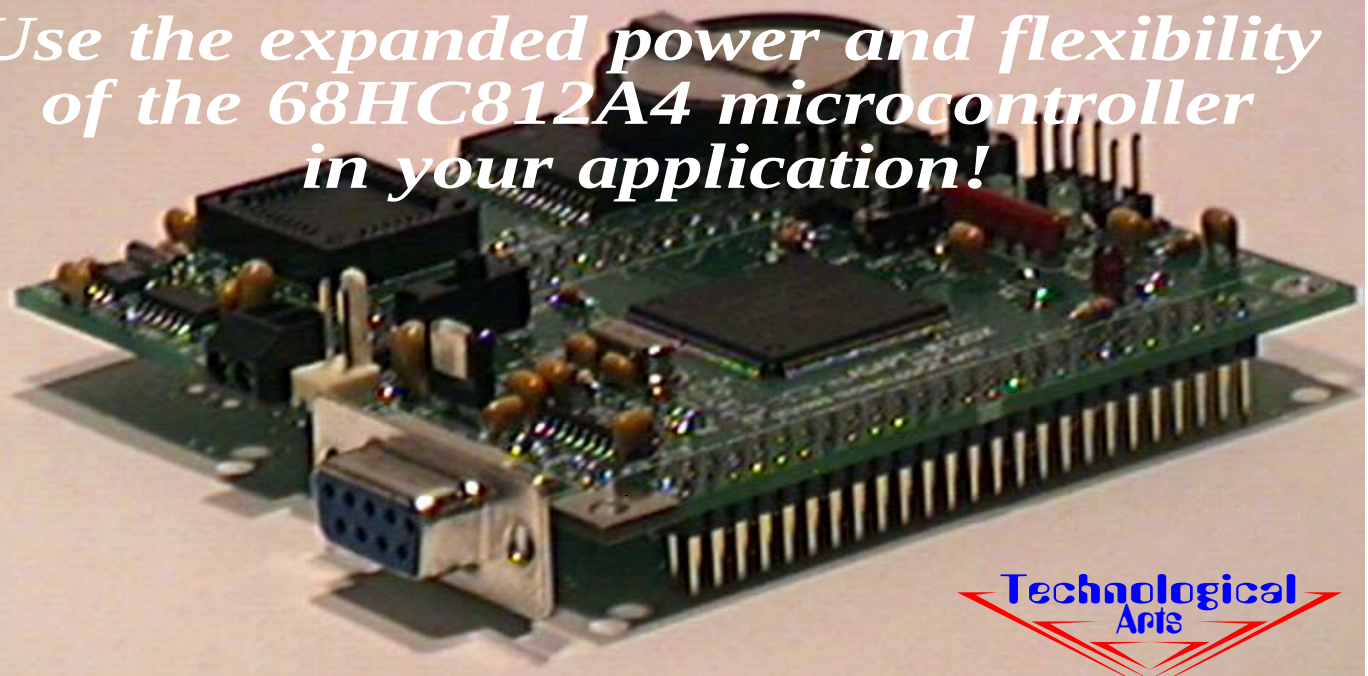
ADAPT812DX

Use the expanded power and flexibility of the 68HC812A4 microcontroller in your application!



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Adapt812DX is based on Motorola s 68HC812A4 16-bit microcontroller. The 68HC12 architecture was carefully designed by Motorola to be highly compatible with the 68HC11, while offering impressive new features and processing power. With many new and powerful instructions and addressing modes, this family offers a very high level of performance for embedded applications. offering expanded memory addressing (to over 5MB), dual SCIs, and key-wakeup capability, making it possible to easily implement complex applications.

Operating in Narrow Expanded Mode Adapt812DX provides up to 512KB Flash and up to 512KB of battery-backed SRAM on-board, along with a clock/calendar chip. Other features include RS232 and RS485 interfaces, a 5-volt regulator, and BDM connector to utilize the Background Debug Mode for easy program development.

The modular design and dual 50-pin connectors provide dozens of I/O lines, and an on-chip bootloader provides fast, easy Flash programming and clock-setting utilities via the serial port.

TECHNICAL SPECIFICATIONS

ADAPT812DX

- compact (3.25" x 3.25") expanded-mode implementation of the 68HC812A4
- versatile connector configurations support solderless breadboard, prototyping cards, ribbon cable, and vertical or horizontal stacking applications
- primary 50-pin connector for dedicated I/O
- secondary 50-pin connector for additional I/O and memory expansion bus
- 128K or 512K bytes Flash (program) and 128K or 512K bytes SRAM (data)
- 8 MHz bus speed (16 MHz crystal)
- includes both RS232 and RS485 interfaces
- universal 6-pin/10-pin connector for access to Background Debug Mode
- supports BDM pods from multiple vendors
- program in C, BASIC, or assembler
- on-chip bootloader for easy in-circuit programming (BDM pod not required)
- includes full schematic, documentation, and application notes

68HC812A4

- 16-bit microcontro1ler in 112-pin thin quad flat pack (TQFP) package
- high degree of 68HC11 architecture and instruction set compatibility
- greatly expanded instruction set has DSP & Fuzzy Logic instructions, memory-to-memory transfers, table lookup, min & max value, and more
- all HC11 addressing modes, plus new indexed addressing modes, including accumulator offset indexing, and auto increment/decrement
- high speed operation (8MHz bus speed, using 16 MHz crystal)
- single chip mode operation using internal 4K EEPROM and 1K SRAM
- expanded mode operation supports up to 4MB program memory, 1MB data memory, and 256K extra decodable peripheral/memory space
- non-multiplexed address and data buses
- seven programmable chip selects provided for glueless interface to memories and peripherals
- selectable narrow (8-bit) or wide (16-bit) bus interface
- two enhanced serial communication interface (SCI) ports support any baud rate to 38.4K bps
- multiple I/O port lines, with programmable pullup resistors on most pins
- programmable reduced-drive on all I/O lines
- multiple “key wakeup” port lines for use with keypad (any key pressed wakes up MCU)
- serial peripheral interface (SPI) port
- eight input capture/output compare lines
- versatile 8-channel, 16-bit hardware timer subsystem
- 16-bit pulse accumulator
- high speed 8-channel 8-bit analog-to-digital converters

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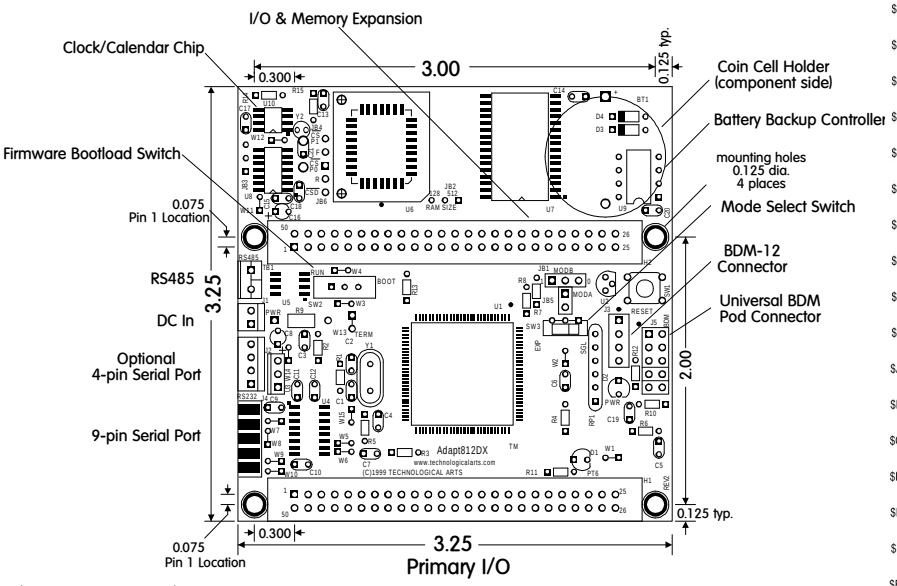
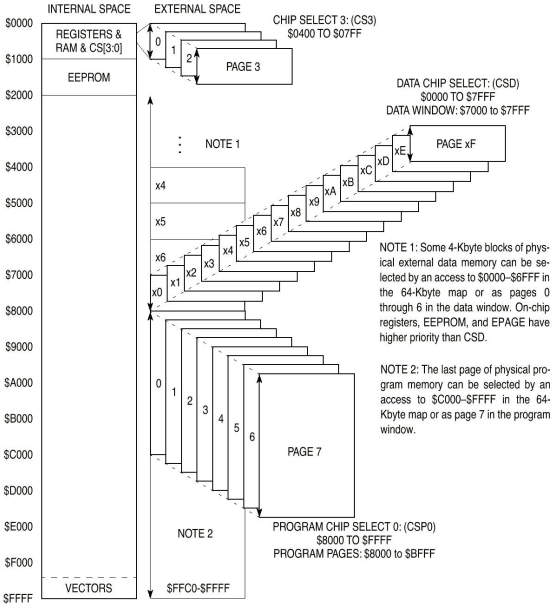




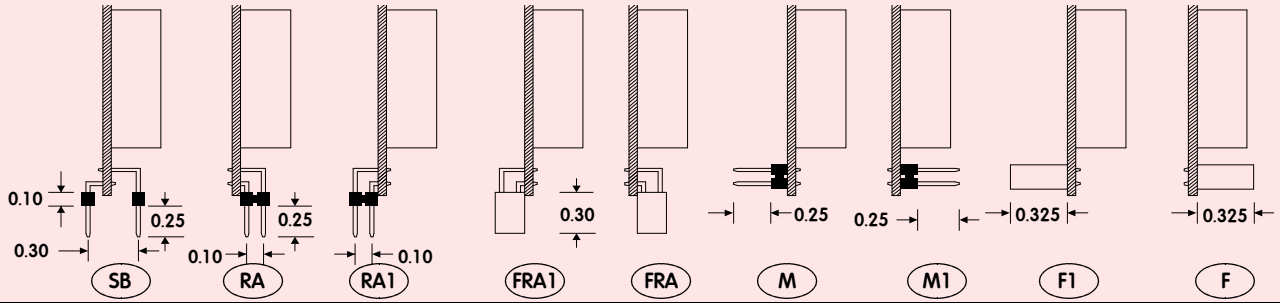
dimensions in inches

Adapt812DX CONNECTOR PINOUTS

H1				H2			
PIN	SIGNAL NAME	PIN	SIGNAL NAME	PIN	SIGNAL NAME	PIN	SIGNAL NAME
1	PS4/MISO	50	GROUND	1	DATA15	50	VCC (+5VDC)
2	PS5/MOSI	49	GROUND	2	DATA14	49	GROUND
3	PS6/SCK	48	PS0/RXD0	3	DATA13	48	CSP1*
4	PS7/SS*	47	+5VDC	4	DATA12	47	CSP0*
5	PS1/TXD0	46	IRQ*	5	DATA11	46	CSD*
6	PT7/OC7/PAI	45	XIRQ*	6	DATA10	45	CS3*/PF3
7	PT6/OC6	44	RESET*	7	DATA9	44	CS2*/PF2
8	PT5/OC5	43	PE7/ARST	8	DATA8	43	CS1*/PF1
9	PT4/OC4	42	KWH0	9	DATA7/KWD7	42	CS0*/PF0
10	PT3/OC3	41	KWH1	10	DATA6/KWD6	41	ADDR21/PG5
11	PT2/OC2	40	KWH2	11	DATA5/KWD5	40	ADDR20/PG4
12	PT1/OC1	39	KWH3	12	DATA4/KWD4	39	ADDR19
13	PT0/OC0	38	KWH4	13	DATA3/KWD3	38	ADDR18
14	PJ7/KWJ7	37	KWH5	14	DATA2/KWD2	37	ADDR17
15	PJ6/KWJ6	36	KWH6	15	DATA1/KWD1	36	ADDR16
16	PJ5/KWJ5	35	KWH7	16	DATA0/KWD0	35	ADDR6
17	PJ4/KWJ4	34	PS2/RXD1	17	R/W*	34	ADDR7
18	PJ3/KWJ3	33	PE4/ECLK	18	ECLK/PE4	33	ADDR8
19	PJ2/KWJ2	32	PS3/TXD1	19	LSTRB*/PE3	32	ADDR9
20	PJ1/KWJ1	31	VRL	20	ADDR0	31	ADDR10
21	PJ0/KWJ0	30	VRH	21	ADDR1	30	ADDR11
22	PAD0/AN0	29	PAD4/AN4	22	ADDR2	29	ADDR12
23	PAD1/AN1	28	PAD5/AN5	23	ADDR3	28	ADDR13
24	PAD2/AN2	27	PAD6/AN6	24	ADDR4	27	ADDR14
25	PAD3/AN3	26	PAD7/AN7	25	ADDR5	26	ADDR15

NOTES: * indicates active low signal

Standard Connector Options



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Modules:
#AD812DXM-❑-❑ & #AD812DXM-❑-❑
Starter Packages:
#AD812DX128SP(-❑-❑) & #AD812DX512SP(-❑-❑)
(default -M-M connectors unless otherwise specified)

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