



---

# Technological Arts Inc.

*Technological Arts*

## Adapt912 low-cost MCU Module (no Vfp generator)

USD \$149.00



### Product Info

- compact (2.25" x 3.25") modular implementation of Freescale's 68HC912B32 microcontroller:
  - 53 I/O lines, all programmable as input or output
  - 10 input-only lines
  - 4-channel (8-bit) or 2-channel (16-bit) PWM
  - 8-channel, 10-bit analog-to-digital converter
  - memory map:
    - 32K Flash
    - 768 bytes EEPROM
    - 1K RAM on-chip
  - 
  - one J1850 Interface
  - one Serial Communications Interface (SCI)
- 
- SCI switch-selectable between RS232 (9-pin D-sub) and RS485 (2-pin terminal block) interfaces
- versatile connector design for use with solderless breadboards, prototyping cards, or embedding into your design
- virtual plug-in replacement for Adapt11 family of boards (minor differences)
- primary 50-pin connector (H1) for dedicated I/O
- secondary 50-pin connector (H2) for additional I/O or expanded mode memory bus
- memory expandable offboard to 64K with 8-bit or 16-bit data bus

- Background Debug Mode (BDM) fully supported for loading and debugging your code
- universal 6-pin/10-pin BDM connectors support BDM pods from multiple vendors
- doubles as a BDM pod for use with first-generation HC12 MCUs, (has BDM IN and BDM OUT connectors)
- D-Bug12 firmware on-chip (same as Freescale's EVB912) permits operation in BDM Pod mode, JMP-EE, and EVB mode
- program in C, BASIC, or assembler (or any other language available for HC12)
- fully compatible with ImageCraft ICC12 (68HC12 C cross-compiler)
- requires external regulated 12VDC supply for Flash Erase/Program voltage
- convenient Flash programming voltage switch and testpoint
- 500mA 5V regulator on-board, delivers adequate current for most applications

### What you get:

- this product ships with hardcopy data sheet and schematic diagram
- data sheets, manuals, and all other resources for this product can be found in our [Support Library](#)

### **Before you order...**

**All of our [standard connector options](#)** are available for this board. Stackable ("FM") headers incur a price premium. The product photo above shows "F1" connector on both H1 and H2. Please make your choice of connectors before adding this item to your shopping cart. Otherwise, the board will be shipped with the default option (i.e. no connectors on H1 and H2).

### **[Product Details](#)**

Adapt912 is functionally identical to the Freescale EVB912B32 Evaluation Board-- with a few improvements. It is in a compact, modular "Adapt12" form factor, compatible with prototyping cards, backplanes, and solderless breadboards ("proto boards"). It includes a 5-volt regulator, and both RS485 and RS232 transceivers (jumper-selectable) on board. Like the EVB912B32, Adapt912 has Freescale's D-Bug12 monitor/debugger contained in on-chip Flash. This program has four jumper-selectable modes of operation, invoked when the processor comes out of reset. Modes 1, 3, and 4 require a dumb terminal, or the use of a terminal program on a host computer (PC, Mac, Amiga, workstation, etc.).

**Here are a few ways you can use Adapt912:** (1) As a standalone target, you can utilize D-Bug12 to write/debug programs in the 768-byte on-chip EEPROM. Once you are comfortable working with the chip, you can write larger applications and program them into Flash (erasing D-Bug12 first). There is a small write-protected "bootblock" in Flash, which contains the BOOTLOADER code implemented by Mode4, above, so if you wish to re-load D-Bug12 at some later time, it is quite easy to do so. By the way, the Flash is erasable/programmable thousands of times under normal operating temperatures and voltages, so you don't have to worry about wearing it out anytime soon. You'll need to use a regulated 12VDC supply to power the board in order to provide the necessary Flash programming voltage (V<sub>fp</sub>). A convenient switch is provided to apply V<sub>fp</sub> when required.

(2) As a Background Debug Mode (BDM) Pod, Adapt912 functions as an interface between a terminal and any 'HC12 board (target). Just connect the Adapt912 "BDM OUT" connector to the target board's "BDM IN" connector via a 6-conductor or 10-conductor ribbon cable, and configure the Adapt912 Mode Select jumpers to Mode 4. The target board could be another Adapt912, an Adapt812, Adapt812DX, Adapt912D60,

Adapt912DG128, or any other 'HC12 board that has a 6- or 10-pin BDM interface connector. The host for using the BDM Pod can be any type of dumb terminal, or any computer running a terminal program. The board functioning as a BDM pod will receive its 5V operating power from the target board.

[Vendor Information](#)