

# Technological Arts Inc.

*Technological Arts*

## 9S12



[NanoCore12](#)



[Adapt9S12C](#)



[Adapt9S12D](#)



[Adapt9S12E](#)



[Adapt9S12X](#)



[Esduino](#)



[Debugging Tools](#)

[Adapt9S12P](#)

## Overview

**A comprehensive range of products based on the Freescale S12 16-bit microcontroller family** Starting from the low end, we offer a group of three product types, all based on the 9S12C, a low-cost variant with modest quantities of memory and input/output pins: **NanoCore12**, **Esduino**, and **Adapt9S12C**. Each of these product families is implemented in a different hardware form-factor to appeal to different user preferences.

**NanoCore12** consists of a family of DIP modules and accessories, and is suitable for those needing a physically small, low-cost platform, that can be plugged directly into a solderless breadboard or a DIP socket. This is the product that Freescale featured during its launch of the 9S12C variant in 2004.

**Esduino** is similar to NanoCore12, utilizing the 9S12C, except that it is laid out in a form-factor emulating the popular Arduino board, so that users can take advantage of the many hardware products that have been created for that platform-- especially application boards, known as "shields". This makes it relatively easy and cost-effective to implement almost any application you can think of.

**EsduinoXtreme** is a next generation board implementing the more capable 9S12GA240 and integrated USB interface in an Arduino-shield-compatible format. Users can take advantage of the many available shields

and the power of Freescale's CodeWarrior IDE (or other tools) to implement even the most demanding applications.

**neCore12** is an application-specific DIP module utilizing the 9S12NE64, specifically designed for embedded networking use, as it has an on-chip Ethernet interface.

**Adapt9S12C** is a low-cost 9S12C-based product rendered in the legacy "Adapt11" hardware form-factor that launched Technological Arts as a company back in 1995. With its standard 50-pin I/O header pinout offered in a multitude of connector configurations, it is a versatile module that can be plugged directly into a solderless breadboard, or mated with other application cards and prototyping cards in a wide range of topologies.

**A higher level of embedded power** The higher-end **Adapt9S12** family encompasses the broadest range of 9S12 variants (D, E, NE, XD, XE, and XS), implemented in a standardized module form-factor, with an ample number of I/O lines, brought out via two standard 50-pin header footprints. The large selection of connector styles offered for these headers, together with the wide range of application and prototyping cards available, comprise a powerful system for development, training, and product deployment. The fact that all Adapt9S12 microcontroller modules are available as OEM products, with extended product longevity, makes them especially suitable for embedding into OEM products. Keep this in mind when tempted by low-cost development boards that may be here today and gone tomorrow. Those boards are usually created by chip manufacturers to promote their latest microcontroller introduction, and sold below cost until they are all gone-- never to be manufactured again!

Adapt 9S12 and Adapt9S12X Product Selector Guides:

- [Adapt9S12](#)
- [Adapt9S12X](#)

## [Resources](#)

[9S12 starter course, including videos, created by Prof. Jonathan Valvano, University of Texas at Austin](#)



**Adapt9S12C128 MCU Module**  
**USD \$79.00**

Adapt11 form-factor 9S12C128 MCU module with RS232 and CAN interfaces, 128K Flash and 4K RAM

[\[Product Details...\]](#)



**Adapt9S12C32 MCU Module**  
**USD \$69.00**

Adapt11 form-factor 9S12C32 MCU module with RS232 and CAN interfaces, 32K Flash and 2K RAM  
[\[Product Details...\]](#)



**Adapt9S12DG128SM0 with Serial Monitor, min. config.**  
**USD \$115.00**

This is the best value for educational and OEM applications! Serial Monitor factory installed. Populated with RS232 interface only (no RS485 or CAN transceivers). [\[Product Details...\]](#)



**Adapt9S12DP512M0 Module, Minimal Configuration**  
**USD \$129.00**

This is one of our most popular boards! D-Bug12 factory installed. RS232 interface only (no CAN, RS485).  
[\[Product Details...\]](#)



**Adapt9S12DP512M1 Module, CAN Configuration**  
**USD \$139.00**

This is one of our most popular boards! D-Bug12 factory installed. RS232 interface + dual CAN transceivers (no RS485). [\[Product Details...\]](#)



**Adapt9S12DP512M2 Module, Full Configuration**  
**USD \$149.00**

This is one of our most popular boards! D-Bug12 factory installed. Populated with RS232, RS485, and dual CAN transceivers. [\[Product Details...\]](#)



**Adapt9S12DP512SM0 with Serial Monitor, min. config.**  
**USD \$129.00**

This is one of our most popular boards! Serial Monitor factory installed. Populated with RS232 interface only (no RS485 or CAN transceivers). [\[Product Details...\]](#)



**Adapt9S12DP512SM1 Module with Serial Monitor, CAN config.**  
**USD \$139.00**

This is one of our most popular boards! Serial Monitor factory installed. Populated with RS232 interface and dual CAN transceivers (no RS485). [\[Product Details...\]](#)



**Adapt9S12DP512SM2 Module with Serial Monitor, Full config.**  
**USD \$149.00**

This is one of our most popular boards! Serial Monitor factory installed. Populated with RS232, RS485, and dual CAN transceivers. [\[Product Details...\]](#)



**Adapt9S12E128 Full Module with 112-pin MCU**  
**USD \$149.00**

Adapt9S12 form-factor module based on 112-pin 9S12E128 MCU, populated with RS232, RS485, IrDA transceivers, and dual op amp for DAC channels. [\[Product Details...\]](#)



**Adapt9S12E128 Module with 112-pin MCU, Minimal**  
**USD \$139.00**

Adapt9S12 form-factor module based on 112-pin 9S12E128 MCU, minimally populated with RS232 transceiver. [\[Product Details...\]](#)



**Adapt9S12E256 Fully-populated Module with 112-pin MCU**  
**USD \$159.00**

Adapt9S12 form-factor module based on 112-pin 9S12E256 MCU, populated with RS232, RS485, IrDA transceivers, and dual op amp for DAC channels. [\[Product Details...\]](#)



**Adapt9S12E256 Module with 112-pin MCU, Minimal  
USD \$149.00**

[\[Product Details...\]](#)



**Adapt9S12EQ128 w/ 80-pin MCU (no IrDA)  
USD \$99.00**

OEM Adapt module featuring 80-pin version of 9S12E128 with RS232 and RS485 transceivers. Special low price while quantities last! [\[Product Details...\]](#)



**Adapt9S12EQ128 OEM Module w/ 80-pin MCU, Minimal  
USD \$89.00**

Low-cost OEM Adapt module populated with 80-pin 9S12E128 MCU and RS232 transceiver. Special low pricing while quantities last! [\[Product Details...\]](#)



**Adapt9S12PRU Module  
USD \$58.00**

Adapt11 form-factor 9S12P128 MCU module with CAN, jumper-selectable RS232/USB, 128K program flash, 4K data flash, and 6K RAM [\[Product Details...\]](#)



**Adapt9S12XDP512M2 XGATE MCU Module**  
**USD \$139.00**

Adapt9S12 form-factor module implementing 9S12XDP512 MCU and essential support circuitry. [\[Product Details...\]](#)



**Adapt9S12XEP100M2 XGATE MCU Module**  
**USD \$139.00**

Adapt9S12 form-factor module implementing 9S12XEP100 MCU and essential support circuitry. [\[Product Details...\]](#)



**Adapt9S12XS128 MCU Module**  
**USD \$99.00**

Adapt9S12 form-factor module implementing 9S12XS128 MCU and essential support circuitry. [\[Product Details...\]](#)



**Adapt9S12XS256 MCU Module**  
**USD \$119.00**

Adapt9S12 form-factor module implementing 9S12XS256 MCU and essential support circuitry. [\[Product Details...\]](#)

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