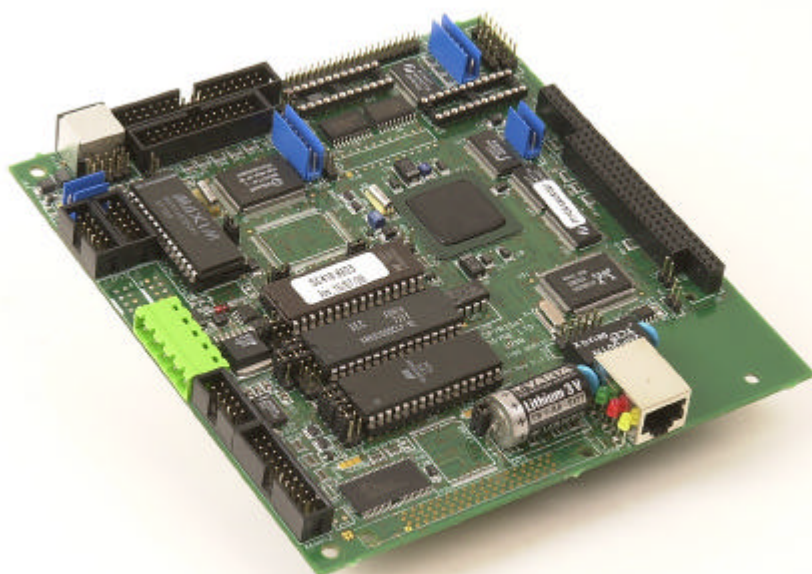


# Total Control

- Total Embedded Solution
- Ultra Low-Power Capability
- Optional Extensive 'Total I/O' Section
- On-Board LAN
- Application-Specific Expansion Capability



## Introduction

Dexdyne is proud to add **Total Control** to its range of embedded controllers. **Total Control** is designed for OEM users requiring a low power single-board computer with a very high level of integration.

**Total Control** incorporates features such as: multiple RS-232 or RS-485 ports, triple independent battery-backed real-time clocks, 10 Base-T Ethernet, support for Flash Disks, ROM disks and Disk-On-Chip (up to 288Mb SSD storage), as well as a comprehensive ready-made optional 'Total I/O' section with 64 channels of digital I/O, analogue-to-digital converter and alphanumeric/graphical LCD support.

Due to its unique "zipper" feature, **Total Control** also provides an ideal low-power kernel for custom projects at a fraction of the time and cost usually incurred with new designs.

## Specifications

### Standard Features

#### CPU

AMD SC410 33, 66 or 99 MHz CPU.

#### Ports

1 x Parallel.  
3 x Serial (2 x RS232 and 1 x RS232/485).  
Optional additional 2 x RS232 ports.

#### Interfaces

FDD, EIDE HDD, I<sup>2</sup>C and IrDA.  
3 x memory sockets for battery-backed RAM, Flash/EPROM disk or Disk-On-Chip<sup>®</sup> support.  
12 x 6 Matrix keypad.  
10-BaseT/10 Mbps Ethernet connectivity.

#### System Architecture

Supporting up to 3 x battery-backed RTC's.  
8Mb EDO SMT DRAM.  
1 x Optional 144pin SO-DIMM socket for additional memory expansion.

#### Power Supply

Single 5V operation.  
Low power (<20mA) operation possible.

#### SMT Flash Option

2 x SMT 2/4/8 Flash sites.  
(Can be supplied with pre-written FFS)

#### Total I/O Option

64 Channels of Digital I/O in banks of 8 as:  
- Fully opto-isolated input;  
- Buffered TTL output / TTL input.  
8/12bit 7-channel A/D converter.  
Alphanumeric/graphical LCD support.

#### Expansion

PC104 expansion – for ISA connectivity.  
ISA "Zipper" for low cost and fast turnaround on custom design projects.

#### Physical Dimensions

160mm x 152mm CPU section only.  
160mm x 248mm CPU + Total I/O section.



Dexdyne Ltd.  
15 Market Place  
Cirencester, Glos.  
GL7 2PB. U.K.

Telephone: (44) 01285 658122  
Facsimile: (44) 01285 655644  
Email: [sales@dexdyne.com](mailto:sales@dexdyne.com)  
Web site: [www.dexdyne.com](http://www.dexdyne.com)

## PROCESSOR AND ASSOCIATED DEVICES

- Processor:** *Total Control* is fitted as standard with the low power AMD SC410-33Mhz processor (66 & 99Mhz versions also available).
- System Memory:** *Total Control* is fitted as standard with 8Mb of SMT EDO RAM and has an optional SO-DIMM socket accepting upto 33Mb.
- Real Time Clock:** Optional third serial RTC providing triple battery-backed independent real-time clocks (two supplied as standard).
- Watchdog Timer:** Software-triggerable watchdog timer (supplied as standard) to ensure recovery from lockout conditions.
- Serial EEPROM:** On-board 128byte serial EEPROM device is supplied for configuration data to be retained under battery-failure conditions.
- SSD Support:** *Total Control* is fitted with 3 x 32pin DIL memory sockets supporting 512Kb Flash Disks, 256, 512 or 1Mb EPROM Disks and M-System's Disk-On-Chip® 2000 series. With capacities from 4Mb to 288Mb, this gives the ability to store most operating systems in solid state disk. Also available are two sites for 2, 4 or 8Mb SMT flash devices and can be supplied with pre-written Datalight Flash-FX™ Flash Filing System.

## PERIPHERAL INTERFACES

- Serial Ports:** 3 x RS232 serial ports (2 x RS-232 and 1 switchable RS-232/RS-485) supplied as standard. Optional two additional RS232 channels.
- Disk Interfaces:** Both IDE hard disk interface and floppy disk interface for up to two drives, supplied as standard.
- Printer Interface:** Enhanced parallel port supplied as standard (LPT1 compatible).
- Expansion Ports:** ISA PC-104 type expansion connector, supplied as standard. This gives the user maximum flexibility of choice for any special required interfaces such as PCMCIA, together with the use of any other standard or special purpose PC-104 compatible board available from a number of suppliers.
- Ethernet Interface:** Supplied as standard with 10 Base-T Ethernet sub-system including on-board RJ-45 UTP connector.
- Miscellaneous I/F:** Standard PC-compatible speaker and PS/2 keyboard interfaces as well as I<sup>2</sup>C Bus and IrDA interfaces.
- Power Requirements:** Single 5V operation with <500mA current consumption, 20mA operation possible in standby modes.

## TOTAL I/O OPTION

Comprehensive ready-made optional 'Total I/O' section with 64 channels of digital I/O, analogue-to-digital converter and alphanumeric/graphical LCD support (see 'Total I/O' data sheet for more details).

## CUSTOM APPLICATIONS

Due to *Total Control's* unique "zipper" feature, custom I/O sections can be easily and quickly added for users requiring a complete custom single-board solution at a fraction of the cost usually incurred for a complete new design.

## SOFTWARE OPTIONS

*Total Control* supports a wide variety of operating systems including Dexdyne's own purpose developed embedded Linux OS 'Subliminal Linux', Datalight's ROM-DOS v6.22, Microsoft's MS-DOS v6.22, Windows 9x, etc. These systems can be provided pre-loaded into on-board SSD if desired.

