

ALC

Beta Release
99 Sep 09

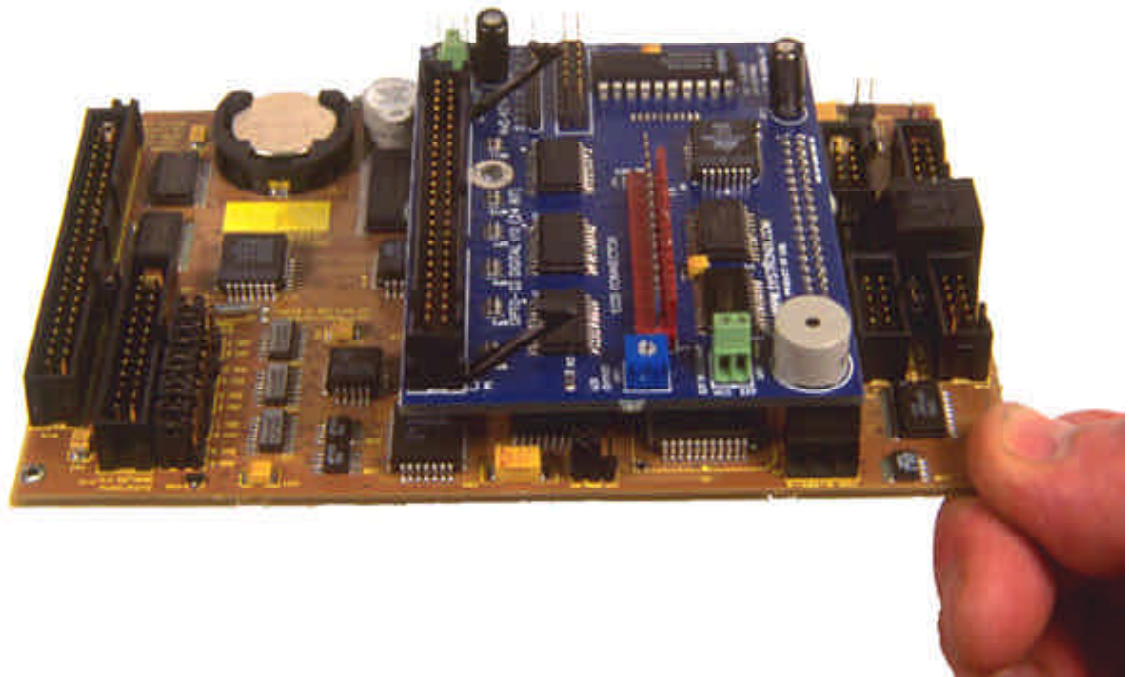


SYSTRONIX®

AnaLogger Controller Networked, Analog-Rich Control System

Powerful local processing combined with multiple industry standard network interfaces and true 12-bit, buffered analog I/O.

Shown in the photo with optional SBX1 mezzanine board.



Datalogger.
Analog Controller.
Hardware supports four popular networks!
Battery-operable.

5.5 MIPS. 512 KB DataFlash. RS232, RS485, CAN, MicroLan, SBX.

ALC just might be the perfect analog embedded controller for you.

Zip through tasks with the Dallas 80C320 High Speed Micro with a full 64K each of code and data memory, 8 channels of 12-bit ADC and 2 channels of 12 bit DAC, (all op-amp buffered).

Connect to almost anything with RS232 multidrop, RS485, CAN, and Dallas MicroLan. Each board has a unique ID for conflict-free addressing.

ALC uses a low power, low noise switching regulator. Economical alkaline cells power it for weeks.

Available in a development version with BCI51 Pro, all device drivers, example programs, and support. Then purchase it as a volume-priced OEM system.

- Low power, high-speed CMOS design with multiple firmware-controlled power saving options.
- Unique ID number for network and Internet addressability.
- Dual UARTs configurable as dual RS232 ports or one RS232 with one RS485.
- 512 KBytes Flash memory for extended data logging.
- Powerful serial loader&utility EPROM.
- 6-24 VDC power input, with low-noise, high-efficiency switching regulator.
- Standard 100mm by 160mm Eurocard size
- Real technical support included!
- Latest info at www.systronix.com

What is an AnaLogger/Controller?

ALC is designed to be configurable for multiple missions. It's suitable as an analog datalogger with its 512 KBytes of DataFlash-. But the powerful 80C320 processor also equips it for analog servo loops, CAN, Dallas MicroLan and RS485 networks as well as digital I/O and RS232 serial communications. Add an industry standard SBX board for even more options!

True 22 MHz 5.5 MIP Zero Wait-State Performance

The High Speed Micros have improved I/O Port capacitive load drive capability, especially on Port 0. This is different enough from generic 12- and 16- MHz 8051s to merit careful system design. Add the timing requirements of 25- and 33- MHz memory access and it's clear that just stuffing an HSM controller into an old, slow 8051 board will only deliver part of the performance you could have. HSM/KISS is rigorously designed to meet all manufacturer's timing requirements over worst case temperature and power variations, *with no "wait states"*. Accept no substitutes.

Full 128 KBytes of Code and Data NVRAM

ALC's 8051-compatible Dallas 80C320 controller comes complete with 64 KBytes each of code and data memory implemented in a single low power 128Kx8 SRAM with a 10 year lithium battery (easily replaced). The result is 60 KBytes each of code and data (both are nonvolatile), and a 4 KByte memory mapped I/O space.

512 KBytes DataFlash Logging and File System Memory

ALC includes the new 4 MBit Atmel DataFlash memory for exceptional data logging capability. The DataFlash devices have a very small sector size and are ideal for storing numerous small data files. They are also double buffered. The included Systronix DataFlash driver permits read access to your data while logging continues at the same time.

What is the Systronix Serial Loader?

With our serial loader, the Dallas High Speed Micro family is now as simple to program as the Dallas DS5000 family. Using any terminal communication software (such as HyperTerminal), you can reprogram ALC in seconds over its serial port without changing jumpers or unplugging and erasing EPROMs.

What is the BCI51-PRO BASIC Compiler?

...the easiest and quickest way to program an 8051! QuickBASIC users will feel right at home. BCI51-PRO allows you to program all 8051 and 8052 family parts with external data memory (movx memory). BCI51-PRO includes excellent documentation and support, including a complete suite of example I/O drivers. Why struggle with C or assembly? With BCI51 you can write your application in days instead of weeks.

How do I order?

Pricing is available soon. Please email sales@systronix.com or check www.systronix.com.

SBX LCD and Keypad Option:

This compact SBX board includes a 16-pin latching header for an LCD, a 4x5 keypad decoder, and 24 bits of bidirectional TTL I/O capable of sinking 250 mA with a standard 25x2 Opto-22 header.

CAN Net Interface Options:

Twisted pair cable driver with screw terminals

I/O Termination Boards:

ALC I/O uses the standard Opto-22 output connector configuration.

Systronix® Inc.

555 South 300 East #21, Salt Lake City, Utah, USA 84111
Tel:(801)-534-1017 Fax:(801)-534-1019 www.systronix.com

ALC TECHNICAL DETAILS

Microcontroller 25 MHz Dallas Semiconducto DS80C320 running at 22.1184 MHz.

Memory 128 KByte NVRAM (120 KBytes usable) divided into 60 KBytes of code and 60 KBytes of data. NVRAM is backed up with a 10-year, user replaceable Lithium battery. The battery can be replaced with power on so there is no loss of code or data. 512 KByte serial-interface Atmel DataFlash data logging memory.

Power Unregulated 6-24 VDC or 5 VDC regulated. 5.5x2.5 mm unregulated input power jack. Regulator is reverse-polarity, short-circuit and over-temperature protected. A single alkaline 9V battery powers ALC over 48 hours, and six C cells for months. With a 9V battery, sleep mode current is 250 uA. Idle mode, 8 mA, run mode 80 mA.

Serial I/O Two RS232 serial I/O one for each UART in the 80C320. COM0 is firmware-switchable to RS485. Both RS232 ports are multi-drop capable.

Analog I/O 10 channels of 12-bit ADC with op-amp buffers. Input range of each channel is jumper-selectable 0-2.5, -2.5 to +2.5, or 0 to 5.0. On-board voltage references independent of VCC. Two channels of 12-bit analog output are op-amp buffered with a range of 0-4.095 volts (resolution of 1 mV per count). Analog I/O is presented on an industry standard 26-pin header.

Digital I/O Eight buffered digital inputs switch at 2.5 volts, and include a 50 Kohm pulldown. Eight digital outputs are low-side, open-drain DMOS transistors with 50V and 150 mA continuous sink-current capability. One output is shared with the ALC piezo beeper.

Easy Program Loading Serial program loading of HEX files can be initiated by on-card pushbutton. The serial loader is only active in LOAD mode. In RUN mode it is inactive, giving your program complete control of all controller memory and resources.

Size Standard 100x160 mm single Eurocard size, hundreds of enclosures available (some stocked by Systronix) including RF shielded, NEMA rated, etc.

Environmental Commercial temperature 0 to 70 deg C.

Support & Warranty Unlimited friendly technical support. One year warranty against defects, and fast turn-around on repairs and service.

Documentation, Development & Options:

- Printed user manual & technical reference, wall cube power supply, quick reference card, component PDF data sheets.
- Systronix RAD51 IDE and assembler
- Sample programs in assembly code and Systronix BCI51 Real-time Compiled BASIC
- Check our web site for information on ALC Development Kits and options which include BCI51 Pro BASIC Compiler, ALC, SBX1, LCD, Keypad and more.

rev 1999 sep 10 bab