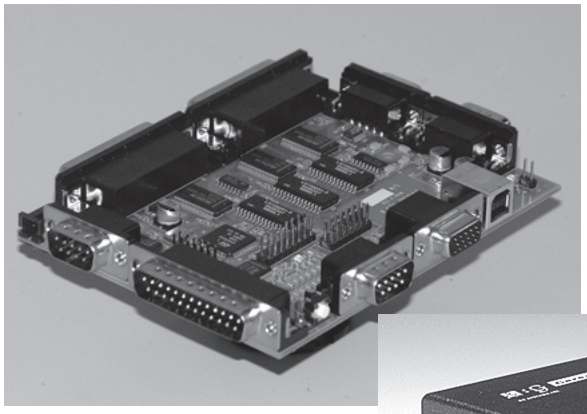
BG Systems
Analog to Serial Converter

CerealBox2®



Overview

The CerealBox2 is a small I/O device that uses either USB or the RS-232 serial protocol to transfer data to and from a host computer. It can be used for both inputs and outputs, and is used to sample (drive) analog and digital devices. It can be used for data aquisition and as an interface between I/O hardware and the host.

A key benefit of the CerealBox2 is the dual host interface. In RS-232 mode, it can directly replace existing BG Systems' products based on the LV824. In USB mode it is a plug and play device which can either be use the standard HID interface or the source code library can be used to develop custom software interfaces to the CerealBox2.

The CerealBox2 is a self contained unit that plugs into an AC power supply and comes with a cable to connect it to a USB or serial port on the host – all you have to provide are cables for the analog and digital I/O signals. The small size of the CerealBox2 means that it can be conveniently placed near the analog device, with the cable running to the host.

The base model (DW16-108-J) has eight 12 bit analog inputs, eight 10 bit analog inputs and 108 general purpose I/O (GPIO). Optionally, the digital channels can be set to outputs, and analog output channels can be added. To any of the models listed six 24-bit encoder counters can be added.

The number of channels to be sampled, the baud rate, and the configuration of the GPIO are all set in software.

- **The default analog input voltage range is 0 to 5 vDC.**
- **Voltage ranges 0 to +10 vDC, -5 to +5 vDC and -10 to +10 vDC can be selected in software.**

The compact size, ease of use, and convenience of installation make the CerealBox an excellent choice for the interface between external I/O devices and a host computer.

Technical Specifications

Resolutions

Analog	Resolution	Range
Inputs A	12 bit	0-5 to -10 to +10 vDC
Inputs B	10 bit	0-32 vDC
Outputs	12 bit	0-5 vDC
Digital	Low	High
Inputs	0.8 vDC	3.5 vDC
Outputs	0.1 vDc	3.3 vDC

Communications Protocol

RS-232 serial protocol without hardware handshaking, supported by most operating systems.
USB 2.0 Full speed.

Dimensions

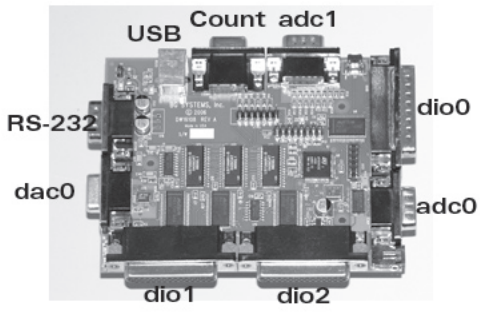
The dimensions of the case are 5.5" x 4" x 1" (140 x 100 x 25mm). Weight is 10 oz.

Power Supply

The CerealBox2 is shipped with a 400 mAmp 9 vDC wall-plug power supply. The power connector is center pin positive. A second connector on the CerealBox2 accepts regulated 5 vDC power. Operating current is 200 mA.

Cables and Connection

The CerealBox2 is connected to the computer with a 6 foot USB or 25 foot serial cable. The standard serial cable provided is a PC-DB-9 "null-modem" cable.
Connections are as shown:



Software Interface

Source code, written in C, is provided on CD and includes all functions needed to configure and sample the CerealBox2. The software is fully compatible with BG Systems FlyBox® and the original CerealBox, which allows actual vehicle controls to be connected to the CerealBox2 as a direct replacement for a FlyBox.

Platforms Supported

The CerealBox2 has been tested on Unix, Linux, Windows and Apple Macintosh platforms.

Update Rates

Depending on the baud rate, and channels being sampled, update rates between 30-200 Hz can be achieved.
In USB mode update rates of 1 KHz can be sustained.

FLASH Memory

On board FLASH memory can be used for firmware upgrades and storing parameters.

Baud Rate Supported

The CerealBox2 can communicate at RS-232 baud rates between 2400 and 115200 bps.

Warranty

Twenty four months.

Contact Information

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