

FEATURES

- (2) 12-bit A/D, 10 MSPS/ch, differential, synchronous analog inputs
- 32 KBytes memory/channel
- 5V only operation
- Programmable trigger levels on analog inputs
- Post/pretriggering capability
- External TTL trigger, 1 external clock
- (4) 10 MSPS muxed inputs
- (16) digital inputs, (16) digital outputs
- Trigger on input channel, external TTL input, or software (auto-trigger)
- Programmable input ranges of [+/-] 5.0V, 2.5V, 1.0V, and 0.50V (bipolar standard)
- Software Drivers for DOS in C/Pascal and DLLs for Win95/NT

DESCRIPTION

The CS210 PC/104 module features two (2) 12-bit, high speed differential/synchronous input channels, each capable of capturing data synchronously at 10 MSPS.

This module also comes configured with additional functions including (4) additional 10 MSPS multiplexed/differential analog input channels, (32) channels of CMOS/TTL compatible digital I/O (16 in, 16 out) and (4) unipolar or bipolar voltage outputs with 12 bits resolution.

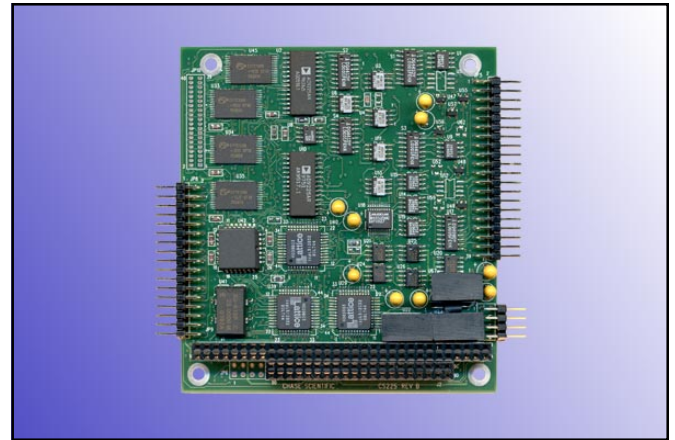
All analog I/O is available on a 40-pin header while all digital I/O is available on a separate 34-pin header.

Triggering

Post and pre-triggering capability is built-in and are selectable in 1 sample increments. Sources for the trigger include either of the analog inputs using 1 of 256 levels of software selectable trigger thresholds, a software generated trigger, or an external TTL signal.

Timing and A/D Conversion

Timing is managed by a on-board controller referenced to a crystal oscillator. The clock frequencies available are



APPLICATIONS

- Portable Test and Measurement Systems
- Medical Test and Monitoring
- Spectroscopy
- CCD Imaging, Infra-red Imaging
- Ultrasonic Testing

divided down in powers of 2. An external clock source can also be used to synchronize the module with another instrument.

After triggering the data is stored into on-board memory the data is then transferred from the card to system memory via memory-to-memory transfers.

Memory

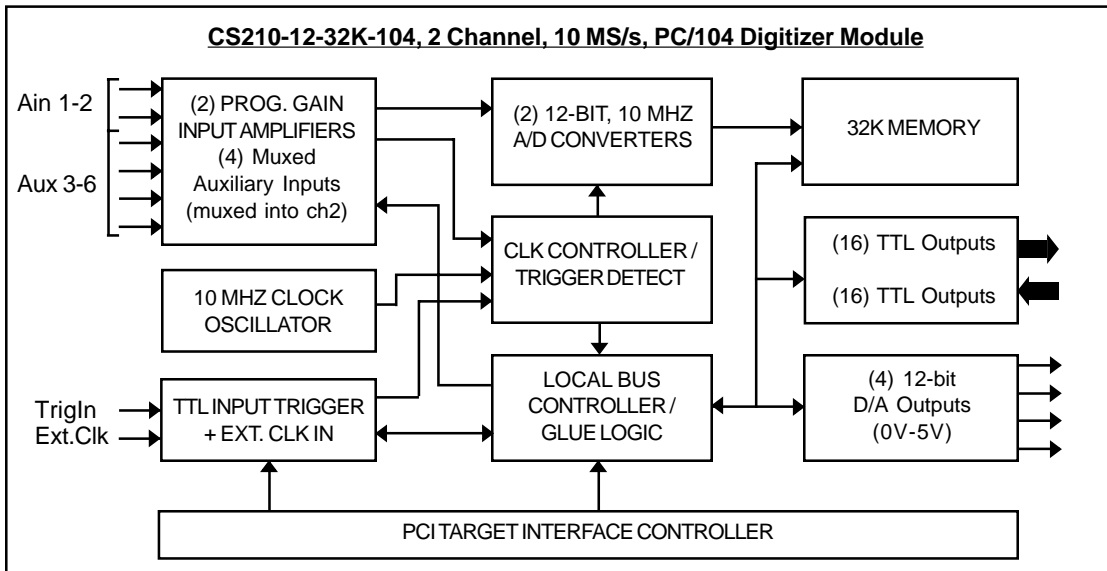
The CS210 comes with up to 32Ksamples of memory per channel. Other settings include 1K and 8K.

Construction

The CS210 module was designed with the latest in high frequency layout techniques to improve noise immunity and was designed to use a minimum of space and power to avoid cooling and other form factor issues.

Software Drivers, User Interface

A universal DLL is available for Win95/98/NT along with complete set of source drivers for DOS in C and Pascal. A simple debug program (GUI) for Windows is also included with the drivers to allow the user to verify that the hardware is functional and installed properly.



SPECIFICATIONS

HIGH SPEED ANALOG INPUTS

Number of Inputs:	(2) synchronous, differential, bipolar
A/D Resolution	12-bit (1 part in 4096)
Conversion Rate:	10 MS/s maximum
Acquisition mode:	One Shot
Input Bandwidth:	5 MHz nominal at 50% range
Input Ranges	
Programmable:	[+/-] 5.0V, 2V, 1V, 0.5V
Fixed Gain Mode:	User Specified (+/- 2 Volts default)
Input Coupling:	DC
Input Resistance:	1 Megohm nominal
OverVoltage Protection:	+/- 20V maximum
Memory	
32K Samples:	Software selectable at 1K, 8K, 32K
Timebase	
Standard:	Software selectable from 10 MHz, 5 MHz, 2.5 MHz, ... 625 KHz
External CLK:	TTL input from 625 KHz - 10MHz
Trigger	
Location:	Pre-/post-triggering selectable in 1 sample increments
Sources:	ch1, ch2, software, and external TTL signal
Slope:	Positive, negative
Coupling:	DC
Voltage Threshold:	Full input range, 12-bit resolution (applies to analog inputs only)

AUXILIARY, LOW SPEED ANALOG INPUTS

(same as high speed above except for following)

Number of Inputs:	(4) multiplexed, differential
Acquisition mode:	One Shot
Input Bandwidth:	500 KHz nominal at 50% range

OverVoltage Protection: +55V / -35V

ANALOG OUTPUTS

Number of outputs:	(4) single ended
D/A Resolution:	12-bit (1 part in 4096)
Output Range:	0 to 5V

DIGITAL I/O

Number of I/O:	16 TTL inputs, 16 TTL outputs
Output Drive:	+/- 24 mA

GENERAL

Power Supply:	+5 VDC +/-10% @ 1.0A typical
Operating Temperature :	0 to +70 degrees C standard
Operating Humidity:	5% to 95% noncondensing
Size:	PC/104 module

Option Summary:

Option 1: 0V to 5V Unipolar Inputs

ORDERING INFORMATION

Model Number	Description
CS210-12-32K-104*	2 channel, 10 MS/s, 12-bit, 32K/ ch, PC/104 module
Option 1	0V to 5V Unipolar Inputs

* Free Drivers for DOS, Win 95/NT

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