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Find the *Mercury Computer Systems / Echotek ECSG-1R3ADC-PMC* at our website: ***Click HERE***

ECHOTEK™ SERIES

DATASHEET

Computer Systems, Inc. MERCURY

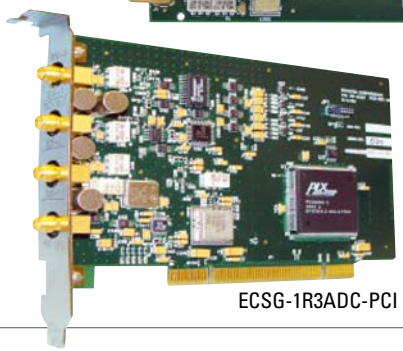
A/D Clock Generator Module

Generates Low Phase Noise Clock and Trigger Signals

- Drives high-resolution converters for demanding applications
- Generates a trigger to synchronize external hardware
- Extended temperature options available



ECSG-1R3ADC-PMC



ECSG-1R3ADC-PCI

The Echotek Series™ A/D clock generator module from Mercury Computer Systems generates low phase noise clock and trigger signals for use with analog-to-digital converters (ADC), digital-to-analog converters (DAC), and digital upconverters. The module is available as a single-wide PMC module or a standard short PCI card.

Typical phase noise is less than -100 dBc at greater than or equal to 1 KHz offset, which makes it well suited to drive today's high-resolution converters used in signals intelligence, electronic warfare, radar, and many other demanding applications. The module can also be used to generate a trigger that is coherent with the clock for synchronizing external hardware.

Clock Generation Circuit

The clock generation circuit is made up of a stable, temperature-compensated 10 MHz reference generator, a voltage controlled oscillator (VCO), and a phase-locked loop (PLL). An external reference can be used in place of the onboard generator. Programmable dividers bring the VCO frequency of 1100 MHz to 1400 MHz, down to the desired clock frequency (1 MHz < Fs < 330 MHz). This clock is then sent to the rest of the board, where it is buffered and output as three separate clock-out signals on SMA connectors. The clock output levels are set at the factory to one of three ranges, which are reflected in the board part number (see Ordering Information).

When the module is used as a trigger source, the second clock output connector serves as this output. The trigger source is either from software or from an external source, in which case the connector of the third clock output serves as the input. In either case, the trigger is qualified by the clock and then driven out the front-panel connector as either a TTL or PECL signal, whose rising edge is synchronous with the rising edge of the clock.

Drivers are supplied for Windows® NT, VxWorks®, and Linux® operating systems, which allow all functions of the clock module to be programmed. Optionally, the clock module can be custom programmed at the factory to auto-boot in a specified configuration.

Features

- Programmably generates A/D clocks from <1 MHz to >100 MHz
- Up to three low phase noise (>-100 dBC at ≥1 KHz offset) A/D clock outputs
- Optional trigger alignment support
- Internal/external reference frequency
- Programmed control via 32-bit, 33 MHz PCI
- PCI Version 2.1-compliant bus interface supports 3.3V and 5V I/O
- 5V input power

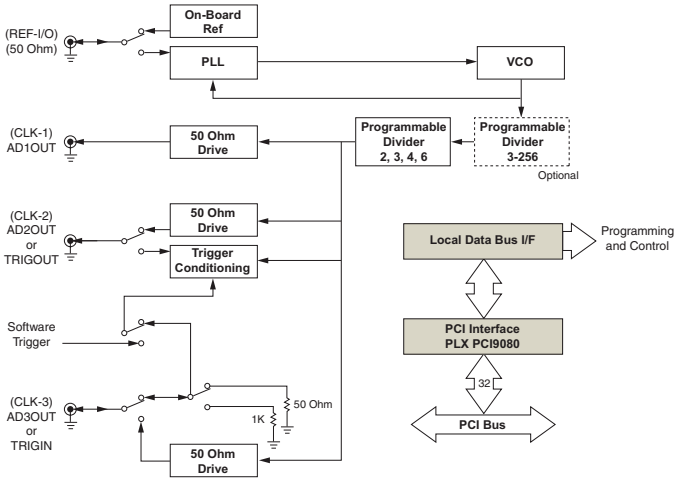


Figure 1. *ECSG-1R3ADC-PMC functional block diagram*

Ordering Information

Model	Part Number	Options
ECSG-1R3ADC-PMC	CC730	Two dividers, 1100-1400 VCO, output = -2 to +4 dbm
ECSG-1R3ADC-PMC	CC731	Two dividers, 1100-1400 VCO, output = 4 to 10 dbm
ECSG-1R3ADC-PMC	CC732	Two dividers, 1100-1400 VCO, output = 10 to 14 dbm
ECSG-1R3ADC-PCI	CC733	Two dividers, 1100-1400 VCO, output = -2 to +4 dbm
ECSG-1R3ADC-PCI	CC734	Two dividers, 1100-1400 VCO, output = 4 to 10 dbm
ECSG-1R3ADC-PCI	CC735	Two dividers, 1100-1400 VCO, output = 10 to 14 dbm

Specifications

Ruggedization level	Commercial
Temperature	
Operating	0°C to 55°C with 300 ft/s appropriate airflow
Storage	-50°C to +85°C
Vibration	0.002g2/Hz from 10 Hz to 2000 Hz random and 2g sinusoidal from 5 Hz to 500 Hz
Shock	20g peak sawtooth, 11 ms duration
Humidity	Up to 95% RH
Cooling	Commercial grade, cooled by blown air, for use in benign environments and software development applications

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