Summary

This module allows outputting waveforms at a continuous compounded rate of 500 Kpps. A state machine is extracting the output data from a 1 Mword FIFO buffer. The buffer space is only used by the channels updated by the state machine, i.e. if only 16 channels use the FIFO, each has about 64 kSamples.

Writing to the FIFO supports DMA access, allowing fast transfer rates to the board.

The onboard state machine allows recycling the FIFO data to produce a continuous recurrent waveform with no processor intervention once the data has been input in the FIFO.

Extra information in the data words contains the destination channel as well as range and gain and instructions for the state machine. These instructions allow smooth changes from one set of data to the next one. This scheme also supports faster refresh rates on some channels compared to others.

Features

- 2 μS settling time, 0-5v range
- Six Programmable Output Ranges per channel
- Up to 30ma Output Drive
- Output Specification:
  - 16 Bits Settling time: 700ns (typ)
  - Low Offset: 125µV (typ)
  - Offset Drift: 0.35 µV/ºC (typ)
- Unipolar: 0V to 5V, 0V to 10V
- Bipolar Mode: ±5V, ±10V, ±2.5V, –2.5V to 7.5V, +10 mA continuous, +30 mA max
- 1 LSB Max DNL and INL Over the Industrial Temperature Range
- 1 MWords x 32 bits dynamically allocatable between channels
- 500 KSPS throughput
- Power-On Reset to 0V
- Flash ram for configuration file
- Two stage buffers
- Global output buffer w/ internal or external triggering
- 4 User Digital I/O, (TTL levels, outputs: 48 mA sinking, 12 mA sourcing)
- Optional A/D for reading back

Applications

- Process Control and Industrial Automation
- Precision Instrumentation
- Direct Digital Waveform Generation
- Software-Controlled Gain Adjustment

PMC interface

- PLX 9056- VIO 3.3/5.0 Volts
- 32 Bit, 33/66 MHz
- DMA for maximum throughput from the host

Operating: Environmental

- Operating temperature
  - Commercial: 0 to +55 °C
  - Optional: -40°C to +85°C
- Non-operating: -55°C to 95 °C
- Airflow requirement: .5 CFM
- Humidity: 5 to 90% (non-cond.)
- Altitude: 0 to 10’000 ft

Mechanical: Environmental

- Power: +5/+3.3V, +12, -12 volts
- Vibration: 0.5G RMS 20-2000 Hz rand
- Shock: 20 G, 11 ms, ½ sine
- Weight: 3 oz.
- MTBF: >250000 hours

www.alphitech.com  email us: engineering@alphitech.com
ORDERING INFORMATION

Part Number: PMC-SoftDAC-xxF 32 Channels with Memory DAC, output buffers, 2 microsecond
-08  8 Channels
-16  16 Channels
-20  20 Channels
-24  24 Channels
-32  32 Channels

PMC-SoftDAC-xxF-I Same as above with -40 to +85 C

Optional Accessories

Part Number : TB-68-SCSI  68 pin terminal block  and 1 meter SCSII cable
CBL-68-SCSI  68 pin, 1 meter SCSII cable

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