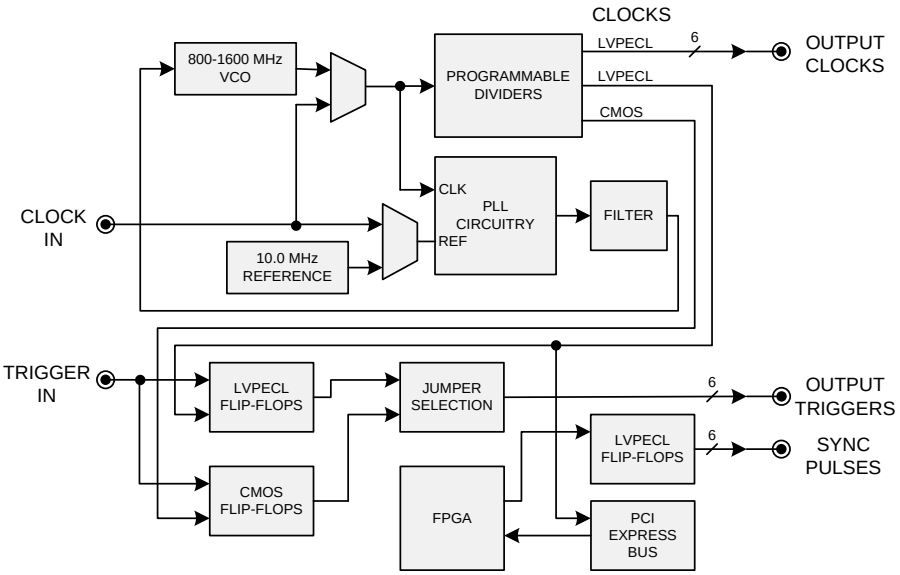
Product Information Sheet

SYNC1500-6

6 Channel, 1500MHz Clock/Trigger Driver

SYNC1500-6 Board



Functional Block Diagram

FEATURES

- High Speed Clock and Trigger Driver
- 1 Clock or Reference Clock Input, 1 Trigger Input and 6 Clock, Trigger and Sync Output Channels
- PCIe x1 Interface to the PC
- Programmable Onboard Clock up To 1500 MHz
- Provides Precise Clock and Triggers for Synchronizing up to 6 Data Acquisition and Signal Generator Boards:
  - PX1500-4
  - PX14400
  - PDA16
  - PDAC4000

OVERVIEW

The SYNC1500-6 (SYNC) was created to allow for both high board (or channel) count master/slave synchronized A/D and D/A systems as well as increased system scalability. With the SYNC card module, synchronized channel record or playback systems are no longer bound to single chassis configurations and can span multiple chassis, which allows for significantly greater I/O and processing resources versus a single chassis system.

The SYNC provides clock and trigger distribution for up to 6 data acquisition and signal generator boards. It also provides 6 Sync Pulse outputs that are required for synchronizing the ADCs on multiple PX1500-4 boards. When utilized in conjunction with the PX1500-4, a system can be mechanized incorporating up to 24 channels of fully synchronized, very-high-speed data acquisition.

The SYNC board is designed for PC systems and utilizes a single lane PCI Express bus (PCIe) interface. This PCIe x1 interface is plug-in compatible with all PCIe lane configurations (x1, x4, x8 and x16).

An onboard frequency synthesized clock allows the ADC sampling rate to be set to any value from 25 MHz to 1500 MHz, offering maximum flexibility for sampling rate selection. The synthesized clock is locked to an on-board 10 MHz reference. An externally provided 10 MHz reference can also be selected.

Software is provided for setting up the various board features including the output clock frequency (when using the onboard clock source).

Signatec, Inc. • 359 San Miguel Drive, Suite 300 • Newport Beach, CA 92660 USA • Phone (949) 729-1084 • Fax (949) 729-9114 • http://www.signatec.com

SYNC1500-6 SPECIFICATIONS AND ORDERING INFORMATION

Input Signal Connections

Trigger	: MMCX
Clock	: MMCX

Output Signal Connections

Clocks (6)	: MMCX
Triggers (6)	: MMCX
Sync Pulses (6)	: MMCX

Trigger Input

Signal Type	: digital, TTL level
Impedance	: 200 ohms
Active Edge	: Positive

Clock Input

Signal Type	: Analog or Digital
Coupling	: AC
Impedance	: 50 ohms
Frequency	: 10 MHz to 1500 MHz
Amplitude	: 800 mV p-p (-200/+700)

Internal Synthesized Clock

Frequency range	: 25-1500 MHz
Resolution (Setability)	: better than 62.5 PPM
Accuracy	: better than 5 PPM

Reference Clock

Internal	: 10.0 MHz ± 5 PPM
External	: 10.0 MHz ± 50 PPM (required for lock)

Output Clocks

Output Coupling	: AC
Required Termination	: 50 ohms
Amplitude	: 800 mV p-p (typical)

Output Triggers

Signal Type	: LVPECL (+3.3V) or CMOS
Required Termination	: 50 ohms to +1.3V (LVPECL only)

Output Sync Pulses

Signal Type	: LVPECL (+3.3V)
Required Termination	: 50 ohms to +1.3V

Power Requirements

+12V	: TBD
+3.3V	: TBD

Absolute Maximum Ratings

Trigger Input	: -0.2V to +3.5V
Clock Input	: 3 volts peak to peak
Ambient Temperature	: 0 to 50 C

Part Numbers

SYNC1500-6-1	: LVPECL Output Triggers
SYNC1500-6-2	: CMOS Output Triggers

Cables

All signal cables are sold separately from the board.

Output signal cables are RG-178 with MMCX connectors on one end and SMA connectors on the opposite end.

Input Signal cables are RG-178 with MMCX connectors on one end and either SMA or BNC connectors on the opposite end.

Documentation & Accessories

The SYNC1500-6 is supplied with an operator's manual which describes the operation of both the hardware and the software. Supplied software disks contain a function library for Microsoft Visual C/C++, example programs, and all source code to libraries and examples.

Product Warranty

All Signatec products carry a full 1-year warranty. During the warranty period, Signatec will repair or replace any defective product at no cost to the customer. This warranty does not cover customer misuse or abuse of the products or physical damage not reported within 15 days of the time of shipment by Signatec.

Notes:

Signatec reserves the right to make changes in this specification at any time without notice. The information furnished herein is believed to be accurate, however no responsibility is assumed for its use.

Data Sheet Revision 1.00 – 12/17/2009