MILITARY & DEFENSE

TIME SYNC

IXI TECHNOLOGY

SPECIAL FEATURES

- IRIG-B Reader/Generator
- Battery Backed RTC
- PMC Support

Time Synchronization Card

for PMC Busses

This feature-rich module reads IRIG-B signals along with remarkable precision. The module can provide the time to the host computer and/or generate IRIG-B time signals to allow other external equipment to be synchronized. Its sophisticated crystal oscillator not only contributes to the device's accuracy, but also can serve as a backup, providing time even when no time source is available.

IXI Technology's highly-accurate card provides time down to 62.5ns resolution in UNIX format. Its time-sourced, disciplined, voltage-controlled crystal oscillator (VCXO) or optional CSAC not only allows it to provide sub-second resolution and "flywheel" during the absence or loss of carrier. The module has a status LED that indicates when the internal time is synchronized with the input time code. The card provides a programmable offset on its internal time from the input time source. The generated IRIG-B output can be configured to be synchronous to the chosen input time source or configured to use the best available time source.

A 1PPS signal is also available for input/output as well as event signals that can be hooked up to external sources to provide timing of certain critical events. External sources can also be hooked up through TTL based signals that can be programmed to generate pulses at timed intervals.

A Real Time Clock (RTC) backed up using a battery keeps time while powered off for cases when the module is powered up and an external time source is not immediately available. Its powerful field-programmable and on-site test capabilities make the card ideal for high mobility applications. In addition, all of its features are designed into an industry-standard PMC card.

This advanced module from IXI Technology offers remarkable reliability and flexibility in the field as well. Connecting the input and output channels enables it to perform "loop-back" tests. Also, an internal loop-back path makes it possible to test without disconnecting cables. Field upgrades are easy, too. By running utilities, the user can update the onboard Field Programmable Gate Array (FPGA) binary or firmware.

The card includes a driver for any one of the supported operating systems, a loop-back cable for testing, an excellent documentation package and sample C language code that can be freely used in application software. For precision, reliability and flexibility, the Time Synchronization Card is unmatched.

GENERAL PRODUCT FEATURES

Time Codes

- IRIG serial time code format B reader/generator

IRIG-B Reader

- 0.35-7V(rms) sine wave, amplitude modulated, 1 kHz carrier detect
- 3:1 to 6:1 mark-to-space ratio
- 10 millisecond maximum carrier failure detect time
- 10 kOhm input impedance
- 62.5 nanosecond timing accuracy

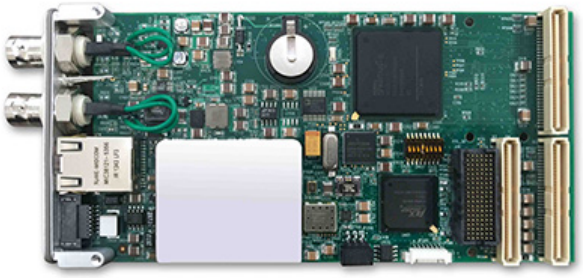
IRIG-B Generator

- Sine wave, amplitude modulated, 1 kHz carrier
- 3:1 mark-to-space, 2.1 V(rms) mark, 0.707 V(rms) space

50 ohm output impedance PMC Bus Features

Bus Features

- PCI 2.2 compliant (supports Plug & Play)
- 32-bit, 33 MHz or 66 MHz frequency
- +5V or +3.3V signaling (Universal card) XMC Bus Features
- ANSI/VITA 42.0 Switched Mezzanine Card
- Optional ANSI/VITA 61.0 XMC Connector
- PCI Express ANSI/VITA 42.3 compliant Other Features



Time Synchronization Card

Other Features

- 1PPS Input/Output
- TTL Inputs/Outputs
- Field Programmable Gate Array (FPGA) technology
- External/internal loop-back test
- Flywheel operation
- Alarm clock
- Programmable reference source for generator
- Programmable interrupts
- RTC backed up by battery
- RoHS compliant

Software Drivers Available*

- Choice of driver included with board purchase: Windows®XP/Vista/10, Linux®, Solaris™, LynxOS®, Vxworks

TECHNICAL SPECIFICATIONS

Time code interface	IRIG serial time code format B (IRIG STD 200-4)
Supported IRIG-B formats	B120, B121, B122, B123
Time code connector	Two coaxial RF (Amphenol P/N 31-10-75)
1PPS	Input/Output
TTL	Inputs/Outputs
RTC	Battery backed or super cap
Form factor	Single wide, non-extended PMC (Per IEEE 1386)
PCI bus interface	PCI 2.2 compliant universal (+3.3V or +5V I/O) 32 bit
Relative humidity	0% to +90% (non-condensing)
Operating temperature	0°C to +55°C
PMC Power consumption	+5V@1.2A, +3.3V@0.6A
XMC Power consumption	+12V@0.5A, +3.3V@0.6A