



CEI-830-U

ARINC High Density PCI Express Interface

Features

- Up to 16 Rx and 16 Tx ARINC 429 channels
- High performance, high density interface with large buffers
- 1 and 4 lane PCI Express interface available
- Advanced, high-level software API included for Windows XP, 2000, Me, NT, 98, 95, VxWorks and Integrity O/S
- Supports maximum data throughput on all Channels simultaneously
- Independent, software-programmable bit rates for all channels
- 66/33 MHz PCI and PCI-X bus operation
- Fully independent channel operation
- IRIG-B Receiver/Generator optional
- Supportable throughout program lifetime with Product Lifetime Management (PLM) program

Hardware

Available in a range of configurations to match your needs, the 32 channel CEI-830-U provides complete, integrated databus functionality for ARINC 429, ARINC 575 and selected 2-wire, 32-bit protocols.

The CEI-830-U supports maximum data throughput on all channels while providing on-board message scheduling, label filtering, multiple buffering options, time-tagging and error detection. Configurations with support for ARINC 717, ARINC 573, and IRIG-B Receiver (AM or DC/TTL) and Generator (DC/TTL) support are optional. The IRIG-B DC level signal can be utilized to synchronize time stamps across multiple boards. Conformal coating is available.

Several CEI-830-U configurations offer combinations of ARINC 429 channels along with ARINC 717/573 Dual-Mode functionality. Dual-Mode functionality programmatically supports either HBP (Harvard Bi-Phase) or BPRZ (Bi-Polar Return to Zero) across a very wide range of Bit Rate/Subframe combinations. Contact GE Intelligent Platforms for PMC, PCI, CPCI or other platform support of these ARINC protocols.

Software

GE Intelligent Platforms software tools and solutions significantly reduce the time required to integrate ARINC 429 and other avionics protocols into your application. Included with the CEI-830-U is our flexible, high-level, API (Application Programming Interface) support for Windows XP, 2000, NT, Me, 98, 95, VxWorks and Integrity O/S. This

powerful API supports multiple cards, and is compatible with GE Intelligent Platforms API support on PCI, PCI Express, PC/AT, PC/104, PC/104-Plus, CompactPCI and PCMCIA platforms. Optional software includes LabVIEW support and BusTools/ARINC, GE Intelligent Platforms ready-to-use, Windows-based GUI solution for ARINC 429 analysis, simulation and data logging.

Architecture

CEI-830-U features include independent, software programmable data rates and parity, error detection and automatic transmit channel slew rate adjustment. 2 MBytes of on-board RAM. All channels operate independently. Standard configuration is front bezel I/O.

Data Handling

On-board firmware, large data buffers, and a high-level API are integrated to provide total flexibility in monitoring and generating ARINC bus traffic. Simultaneous Scheduled and Burst Mode (FIFO) messaging is supported on all ARINC 429 transmit channels. Each ARINC 429 receive channel provides simultaneous Dedicated and Buffered Mode storage, along with label/SDI filtering.

Three different methods are provided to buffer received data:

- Buffered Mode utilizes a separate circular buffer for each channel.
- Merged Mode combines all received data into a single, time-sequenced circular buffer
- Dedicated Mode provides a snapshot of the very latest data.



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Specifications

ARINC 429 Receive Channels

- Number of channels: up to 16
- Data rates: 12.5 KHz, 100 KHz or 5 KHz to 150 KHz programmable
- Standard input levels: ± 6.5 to ± 13 VDC (A to B)
- Filtering: label and/or SDI
- Parity: odd, even or none
- Error reporting: parity

ARINC 429 Transmit Channels

- Number of channels: up to 16
- Data rates: 12.5 KHz, 100 KHz or 5 KHz to 150 KHz programmable
- Automatic slew rate adjustment
- Output level: ± 10 VDC (A to B)
- Parity: odd, even or none
- Error injection option: parity, gap, high or low bit count

Software

- API
 - Includes high-level API for Windows XP, 2000, NT, VxWorks, Linux and Integrity O/S
 - Source code API library included
- GUI - Optional BusTools/ARINC GUI bus analyzer
- LabVIEW - Optional CEI-LV support is available

Physical

- PCI Express Interface Card standard height, half length (4.376 x 6.600 inches)
- Front bezel connector I/O

Environmental

- Standard operating temperature range: 0° C up to +70° C
- Relative humidity: 5 to 90% (non-condensing)
- Optional conformal coating

Power (typical)

- +3.3 VDC: 500 mA
- +5 VDC: 50 mA
- +12 VDC: 100 mA (no loads)
- -12 VDC: 100 mA (no loads)

Optional Configurations

- A range of ARINC 429 Rx/Tx combinations
- Optional IRIG-B Receiver (AM or DC/TTL) and Generator (DC/TTL)
- 1 and 4 lane PCI Express interface available
- Optional conformal coating

Contact factory for custom requirements

Ordering Information

CEI-830-44U

ARINC 429 High Density PMC on 1 lane PCI Express carrier card with 4 Rx, 4 Tx channels, front I/O

CEI-830-44U4

ARINC 429 High Density PMC on 4 lane PCI Express carrier card with 4 Rx, 4 Tx channels, front I/O

CEI-830-88U

ARINC 429 High Density PMC on 1 lane PCI Express carrier card with 8 Rx, 8 Tx channels, front I/O

CEI-830-88U4

ARINC 429 High Density PMC on 4 lane PCI Express carrier card with 8 Rx, 8 Tx channels, front I/O

CEI-830-1616U

ARINC 429 High Density PMC on 1 lane PCI Express carrier card with 16 Rx, 16 Tx on front I/O

CEI-830-1616U4

ARINC 429 High Density PMC on 4 lane PCI Express carrier card with 16 Rx, 16 Tx on front I/O

CEI-830-0116U

ARINC 429 High Density PMC on 1 lane PCI Express carrier card 1 Rx, 16 Tx channels, front I/O

CEI-830-0116U4

ARINC 429 High Density PMC on 4 lane PCI Express carrier card 1 Rx, 16 Tx channels, front I/O

CEI-830-1601U

ARINC 429 High Density PMC on 1 lane PCI Express carrier card 16 Rx, 1 Tx channels, front I/O

CEI-830-1601U4

ARINC 429 High Density PMC on 4 lane PCI Express carrier card 16 Rx, 1 Tx channels, front I/O

-K suffix Conformal coating

-W suffix IRIG-B Receiver (AM or DC/TTL) Generator (DC/TTL)

For detailed information including systems options contact GE Intelligent Platforms

About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Enterprise Solutions. For more information, visit www.ge-ip.com.

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