RCEI-715A

Interface for PCMCIA

The Abaco Systems RCEI-715A is an intelligent, high-density, Type II PC Card (PCMCIA) interface that provides up to 12 fully independent ARINC 429/575 channels, along with up to 4 bi-directional avionics level I/O discretes. Features include programmable data rates and parity, error detection, multiple buffering modes, timetagging and automatic transmit slew rate adjustment. Hardware interrupts are not supported.

Configuration options include selection of channel count, along with a mix of ARINC 429, ARINC 573/717, CSDB and ARINC 561 6-wire protocols.

Software

Abaco software tools significantly reduce the time required to integrate ARINC protocols and I/O discretes into your portable application. Included with the RCEI-715A is high-level API (Application Programming Interface) library support for Microsoft Windows 7, 8, 8.1, 10, XP and Vista and Visual Basic and LabWindows/CVI software development. BusTools/ARINC, Abaco's Windows-based GUI solution for bus analysis, simulation and data logging, is optionally available. It provides an easy-to-use interface to avionics data. ARINC 615 Data Loader and LabVIEW support are optionally available.

Architecture

The flexible design of the RCEI-715A provides a powerful hardware foundation that supports multiple avionic protocols in a single, integrated, portable package. Bi-directional discretes support TTL to avionics-level inputs while open-collector outputs enhance application flexibility.

Abaco's powerful API libraries provide total flexibility in receiving and generating ARINC bus traffic.

Tools and Solutions

BusTools/ARINC is an easy-to-use, Windows 7, 8, 8.1, 10, Vista-based ARINC 429 bus analysis, simulation and data monitoring solution that is optionally available on the portable RCEI-715A and other Abaco Systems hardware products. Monitor multiple channels in real-time. Display and enter time-tagged data in hex, binary or engineering units (standard or userdefined). Filter received data by label and/or SDI. View discrete descriptors and user-bit-encoded values. Display historical and real-time charts of individual labels. Use BusTools/ARINC to send multiple messages of varying sizes with automatic ramping. Log all time-tagged data from multiple channels to a single disk file. Replay recorded data on transmit buses.

FEATURES:

- Up to 8 Rx, 4 Tx ARINC 429 channels
- Available with ARINC 429, 573, 717, CSDB and ARINC 561 6-wire on same card
- 4 bi-directional avionics-level discretes
- Configuration available with ARINC 429, avionics-level discretes and digital I/O
- Fully independent channel operation
- Type II PC Card (PCMCIA)
- Easy-to-use BusTools/ARINC Windows-based GUI Bus Analyzer available
- ARINC 615 Data Loader GUI available
- High-level Microsoft® Windows® 7, 8, 8.1, 10, XP and Vista, Visual Basic and LabWindows/CVI software API support
- 64-bit, 1 microsecond time-tagging
- Available with ARINC 615 Data Loader and ARINC 615 cabling

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SYSTEMS

RCEI-715A *Interface for PCMCIA*

Specifications

ARINC 429 Receive Channels

- Number of channels: up to 8
- Baud rates: Programmable 5 KHz to 200 KHz
- Input levels: ± 6.5 to ±13 VDC (A to B)
- Parity: odd, even or none
- Error reportin g: parity
- Buffering: 2048 labels per channel

ARINC 429 Transmit Channels

- Number of channels: up to 4
- Baud rates: Programmable 5 KHz to 200 KHz
- Automatic slew rate adjustment
- Output level: ±10 VDC (A to B)
- Parity: odd, even or none
- Buffering: 2048 labels per channel

Receive Channel Buffering

- 2048 labels per channel or merged mode buffer, independently selectable for each channel
- 64-bit, 1 µsecond resolution time-tag with each word

Software

- API – High-level API libraries for Windows 7, 8, 8.1, 10, XP and Vista, Visual Basic and LabWindows/CVI included
- GUI – Optional BusTools/ARINC GUI bus analyzer
- ARINC 615 Data Loader – Optional GUI
- LabVIEW – Support optional

Physical / Environmental

- Type II PC Card (PCMCIA 2.1 compatible)
- Cabling to 37-pin D-type receptacle connector provided (part number RCONCEI-715A)
- Operating temperature range: 0 to +40° C
- Extended temperature range available
- Relative humidity: 5 to 90% (non-condensing)

Discrete Inputs/Outputs

- Number of bi-directional lines: 4
- Inputs: support avionics-levels (open/gnd or high/low)
- Outputs: low side switches, each capable of sinking 0.5 ampere

Additional Protocols Supported

- ARINC 573/717 Bi-Polar RZ and Harvard Bi-Phase, (Rx and Tx)
- ARINC 561/568 6-wire receive, (Rx only)
- CSDB, (Rx and Tx)

Power (typical)

- +5 VDC: 250 mA (RCEI-715A-84)

MTBF

- 304,000 hours at +25°C, ground benign environment

Ordering information

RCEI-715A-22	ARINC 429 PCMCIA card with 2 RX, 2 TX channels; no discretes, ROHS compliant, card with RCONCEI-715A cable
RCEI-715A-42	ARINC 429 PCMCIA card with 4 RX, 2 TX channels; 1 Bi-Directional discretes, ROHS compliant, card with RCONCEI-715A cable
RCEI-715A-44	ARINC 429 PCMCIA card with 4 RX, 4 TX channels; 4 Bi-Directional discretes, ROHS compliant, card with RCONCEI-715A cable
RCEI-715A-84	ARINC 429 PCMCIA card with 8 RX, 4 TX channels; 4 Bi-Directional discretes, ROHS compliant, card with RCONCEI-715A cable
RCEI-715A-M	PCMCIA card with 2 RX, 2 TX channels OF ARINC 429; 1 RX, 1 TX of either ARINC 717 HBP/ BPRZ or CSDB; 1 RX of ARINC 561 6-wire; 4 Bi-Directional discretes, card with RCONCEI-715A CABLE, ROHS compliant
BTA-R715A-44	ARINC 429 Bus Analyzer bundle (Includes RCEI-715A-44 hardware and BT-ARINC software)

Optional Software

BT-ARINC	BusTools ARINC Windows GUI software for ARINC Bus Analysis, Simulation and Datalogging
CEI-DL	ARINC 615-3 Data Loader GUI
CEI-LV	LabVIEW support for ARINC 429

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