Circaflex™ 302

Rapid Prototyping & Deployment Control System

STANDARD FEATURES

- For use with NI sb-RIO 9651 SOM
- Power & Status LED's
- Primary Gigabit Ethernet
- USB 2.0 Host Port
- Reset Button
- Micro SD Card Socket

UNIQUE FEATURES

- 5 V Power Input
- 8 x LVTTL Lines
- RTC Battery off-board input

HELPFUL FEATURES

- 5V Power standard
- Strictly regulated power onboard
- Fuses protect Circaflex, modules, and RIO SOM during prototyping
- LED's for power, blown fuses, and most I/O signals help with troubleshooting
- On-board power terminals make prototyping and changes easy
- Two power connectors for proper bench top and deployment use
- Circaflex modules make expansion easy and efficient
- Attractive and powerful user interfaces via embedded computers, remote computers, and Android and iOS devices.
- Can be redesigned and customized to match application requirements

UNIQUELY SMALL AND PORTABLE BUT SMARTLY EXPANDABLE I/O PLATFORM

Circaflex is a family of off-the-shelf control systems, prototyping boards, and signal conditioning modules which combine to make customized embedded control systems based on the National Instruments RIO platform. Each Circaflex product is designed to support a variety of sensors and devices commonly used in industrial, medical, and biotech device development. Using Circaflex engineers and scientists can develop feature-packed control systems for prototyping or deployment, which can be developed or modified in just days without the risk and cost of custom designed control systems.

Circaflex 302 is a prototyping daughterboard for use with the NI sb-RIO 9651 SOM designed originally in conjunction with a portable data tracking application. This diminutive board comes with a standard set of development features, plus a minimal complement of I/O such as 8 high-speed TTL digital inputs/outputs. After prototyping and choosing the modules, use Circaflex software for LabVIEW to create your application.

OEM PRICING

Aggressive discounts are available for higher-volume customers.

For pricing information please call 888-508-7355 (US) or email us at sales@cyth.com.

PROJECTS & CUSTOMIZATIONS

Cyth is the best resource worldwide for embedded control integration projects using NI RIO products like Compact-RIO and Single-Board RIO.

Contact Cyth for advice, product recommendations, and cost estimates for your product development goals.

PACKING LIST (920-00302)

CFX-302 OEM Modular Control System
5V, 2 Amp Power Supply
Quick Start Guide
Circaflex Screwdriver
Circaflex Thumb-drive with software
Spare Fuses, Standoffs

cyth systems

Circaflex™ 302

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FEATURES, CHANNELS, PERIPHERALS

Circaflex provides the necessities to quick-start embedded control projects using the NI RIO SOM 9651, as well as most common basic I/O, plus expansion ports for customization.

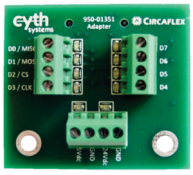
1	Power Input, 5V
3	Fuses to protect Circaflex and RIO SOM
1	LED Red/Green indicators to illustrate power on / blown fuse
2	LED's for Status and Performance
1	Gigabit Ethernet Port
1	USB 2.0 Host port
1	RS-232 Serial / Device Console Port
8	Digital I/O, Low-Voltage TTL/CMOS

CIRCAFLEX I/O EXPANSION MODULES

Circaflex 302 does not have room for Circaflex modules, but can be customized if necessary to provide the I/O below directly or in the form or module sockets. Inquire at Cyth for more information.

8 ch TTL (3.3V, 5V)
8 ch Analog Input
4 ch Analog Input Current
4 ch Analog Output
4 ch Analog Output Current
8 ch Industrial Digital Input
8 ch Industrial Digital Output
4 ch Thermocouple
2 ch RS-485
2 ch CAN Bus
4 ch Solid State Relay
1 ch RTD

2 Axis Stepper/Encoder
1 Axis Stepper Driver
4 ch 12V DC Power Supply
4 ch Power Breakout (5V, 24V)
GPS
IMU



SPECIFICATIONS & DETAILS

General / SOM Features

• Compatible NI sbRIO	NI sb-RIO SOM 9651
• Processor Type	Xilinx Zync 7020 SoC
• Processor Architecture	Dual-Core ARM Cortex A9
• Processor Speed	667 MHz
• Operating System	NI Linux Real-Time
• RAM/Nonvolatile Storage	512 MB / 512 MB
• Environmental Range	-40 to +85 Deg C
• Physical Size	50 x 75 x 29 mm

Input Power

• Voltage	5 V +/- 0.1V
• Current (idle)	1.2 A
• Current (common)	1.2-2.6 A
• Current (max, fused)	4 A
• Power Usage	3-5 W Typical

OnBoard Power

• 3.3 V DC Regulation	0.1%
• 3.3 V DC Current (max, fused)	2A

Network & Communications

• Network Interface	10/100/1000 (Gigabit)
• Network Cabling	auto-neg, half-/full-duplex

TTL Digital I/O

• Settle and Transfer time	< 1 ns
• Maximum Update Rate	200MHz
• Input Off State	Off < 1V, On >2V
• Output Voltage States	Off = 0V, On = 3.3V

Status & Performance LED's

• Code Status	RTOS, FPGA

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