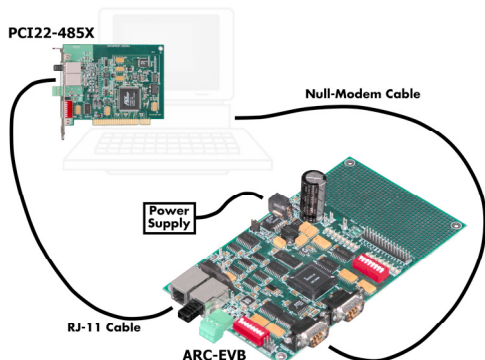


ARCNET® Evaluation System



Benefits

- Provides all the components required to have an ARCNET network "up and running" in under 10 minutes
- Utilizes the latest state-of-the-art technology with a COM20022 ARCNET controller
- Prototyping area for customer components
- Includes Keil compiler/debugger and allows users to debug their ARCNET code on the board
- Uses Atmel T89C51 microcontroller which allows the uploading of firmware into FLASH and its execution
- 16 k of flash and 63 k of RAM
- Includes sample ARCNET firmware and sample Windows application program
- Supports data rates up to 10 Mbps using a transformer-coupled ARCNET transceiver

Contemporary Controls created an ARCNET evaluation system to allow individuals to easily learn and apply in their designs this deterministic and predictable ARCNET technology. By using the hardware and software provided in the ARC-EVS product, individuals can have a demonstration system "up and running" in 10 minutes or less. Users supply the PC with a Windows OS — everything else is in the kit. The kit contains: one PCI22-485X ARCNET interface adapter (for installation in a PCI slot in the PC); one ARC-EVB ARCNET evaluation board with 8 input switches and 8 LED outputs; power supply; RJ-11 cable to connect the PCI22-485X to the ARC-EVB; two terminators to terminate the ends of the network cable; software drivers for Windows 95, 98, 2000, NT and XP; sample application software to read and display the input status and to control the LED outputs; and one null-modem cable to do a serial download and debugging of an application program.

The key component of the ARC-EVS is the ARC-EVB which is designed with an Atmel T89C51 microcontroller. The microcontroller contains 16 kB of FLASH memory to hold the provided test application (Modbus over ARCNET) — or the user's firmware. This enables users to download their firmware into FLASH and execute it. The FLASH memory can also hold the Keil monitor, which permits users to debug their embedded ARCNET code on the board.

Another part of the board's design features the SMSC COM20022 ARCNET controller (backward compatible with the COM20020) which can support data rates from 156 kbps to 10 Mbps using a 20 MHz crystal.

The ARC-EVS functions in three modes. The first mode is termed the Keil debug mode in which the board will execute a Keil monitor program. The users will download his application into the boards RAM and control its execution through the Keil debugger. In the second mode the user can program the Atmel microcontroller with the provided ARCNET firmware. This allows the user to communicate with a Windows PC using the provided PCI22 card and the sample Windows application. The third mode allows the user to download and execute his own firmware in the FLASH memory of the board.

The sample Windows application gives the user the ability to view and set 8 bits of I/O on the ARC-EVB via the special Modbus over ARCNET protocol. An 8-position DIP switch is provided as the input device and 8 associated LEDs report the state of each input. An additional 8 LEDs indicate the status of the output signals. The PCI22-485X is a PCI-based ARCNET interface adapter containing the same ARCNET controller (COM20022). When the card is inserted in a computer and connected to the ARC-EVB via the provided RJ-11 cable, a fully functional network is created.

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Specifications

Environmental	
Operating	0°C to 60°C
Storage	-40°C to +85°C
Data Rates	
PCI22-485X	10 Mbps, 5 Mbps, 2.5 Mbps, 1.25 Mbps
ARC-EVB	10 Mbps, 5 Mbps, 2.5 Mbps, 1.25 Mbps
Dimensions	
PCI22-485X	4.2" x 5.5" (107 mm x 140 mm)
ARCNET Evaluation Board	7" x 4" (177.8 mm x 101.6 mm)
Shipping Weight	3 lbs
I/O Mapping	COM20022 occupies 16 bytes of I/O space
PCI22-485X	COM20022 occupies 16 bytes of I/O space
Interrupt Lines	Supports PCI INTA
PCI22-485X	Supports PCI INTA
Compatibility	PCI22 series NIMs are fully compatible with all of Contemporary Controls' ARCNET products and PCI bus computers

Transceiver Specifications (2.5 Mbps)

Transceiver	Description	Cable	Connectors	Cable Length		Max Nodes/Bus Segment
				Min	Max	
-485X	AC coupled EIA-485	IBM type 3	RJ-45, screw	0	700ft/213m	13

Power Requirements

Model	+5 V	+9 V
PCI22-485X	400 mA	
ARC-EVB		110 mA

Ordering Information

Model	Description
ARC-EVS	ARCNET Evaluation System

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