



**CIC-700**

## CIC-700

### LONWORKS CONTROL NETWORK SYSTEM



Echelon, LON, LONWORKS, LonTalk, Neuron, LONMARK, 3120, 3150, NodeBuilder, the LonUsers logo, the Echelon logo, and the LONMARK logo are registered trademarks of Echelon Corporation. LonPoint, LonPoint Schedule Maker, LonMaker and Lonsupport are trademarks of Echelon Corporation.

Echelon networking technology enables end-users to remotely connect, monitor, control, sense, and diagnose intelligent devices. Today, thousands of intelligent devices and appliances are equipped with LonWorks networks. You can find them in every aspect of the device networking environment from HVAC and lighting in buildings, collecting energy usage information or data across a wide grid of 27 million houses-24 hours a day. LonWorks networks simplify system management, conserve energy, improve operations and reduce costs.

Solutions enabled by LonWorks networks create new revenue streams, increase productivity, lower operating costs, and enhance competitive differentiation for manufacturers, utilities, cable operators, telecommunications companies, internet service providers and other providers.

LonWorks solutions provide a unique opportunity for manufacturers of everyday devices to offer new, revenue-generating services, gain useful data about their products and customers, improve brand value, and increase customer retention. For example, manufacturers of dishwashers, washing machines, and other appliances can collect usage data from LonWorks devices that can be used to increase sales as well as improve future product features. They can use the network connection to add new functionality to their products over time with fee upgrades, pay-per-use, or as a free incentive to build customer loyalty. With remote diagnostic capabilities providers can anticipate appliance failures and trigger service calls, reducing downtime for consumers. The ongoing relationship promotes customer loyalty and increases repeated purchases. Such services can also generate new revenue streams for manufacturers by taking on the role of service provider.

#### Objective

Echelon's Lonworks Control network technology creates a new generation of control network. CIC-700 Lonworks control network training system tries to help students accelerating their steps to catch up this popular trend. It not only helps students to understand the new control network theory but also provides lots of hands on experiments to learn the implementations of the new technology.

#### Features

- Implement the real Lonworks control network system on a single table
- Provide complete system tools for users to develop and integrate Lonworks control network
- Explain profound control network theories in an easy-to-understand way, fitting for one semester
- Provide more than 7 real everyday devices, such as fire alarm, temperature sensor and fan for control of network exercises
- Detailed step-by-step experiment manual

#### Specifications

##### Software



LonMaker CD & User's Guide



NodeBuilder Development Tool CD



## Micro-Computer/Internet Educational Equipment

### Hardware

#### 1. i-LON™ 10 Ethernet Adapter

- (1) Connects LONWORKS networks to TCP/IP Ethernet networks for residential, commercial and utility applications.
- (2) Twisted pair (TP/XF-FT-10) LONWORKS® channel supports 10 Mbps Ethernet interface.

#### 2. LTM-10A

- (1) Neuron chip : 3150
- (2) RAM : 32KByte
- (3) Flash : 64KByte
- (4) Include I/O Connector, Service button, Reset button, Power Supply
- (5) Network : FT-10

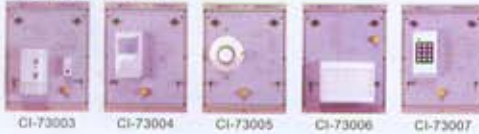


#### 3. Essential Module



CI-73001 CI-73002

#### 4. Twist pair Module



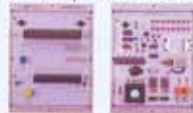
CI-73003 CI-73004 CI-73005 CI-73006 CI-73007

#### 5. Power line Module



CI-73008 CI-73009

#### 6. Development Module



CI-730010 CI-78001

#### 4. CI-73004 Focus Module

- (1) Neuron® Chip : 3120
- (2) Sensor type : Quad Element Pyro, low noise
- (3) Occupancy detector
- (4) Wide detection area
- (5) Sensitive to the changes in infra-red energy
- (6) Environment : 0°C~ 50°C, RH max 90%
- (7) Network : FT-10

#### 5. CI-73005 Smoke Module

- (1) Neuron® Chip : 3120
- (2) Sensor type : Zitons radio detector
- (3) Optical detection
- (4) High temperature/temperature rise detection
- (5) Output for remote alarm or locale siren
- (6) Environment : 0°C~70°C, RH max 90%
- (7) Network : FT-10

#### 6. CI-73006 Tri Sound Module

- (1) Neuron® Chip : 3120
- (2) Fire alarm siren
- (3) Intrusion alarm siren
- (4) Warning alarm siren
- (5) Multi-zone functions
- (6) Environment : 0°C~ 50°C, RH max 90%
- (7) Network : FT-10

#### 7. CI-73007 Decode Module

- (1) Neuron® Chip : 3120
- (2) Code lock and control panel
- (3) Status indication
- (4) Number keypad input
- (5) Environment : 0°C~ 50°C, RH max 90%
- (6) Network : FT-10

#### 8. CI-73008 Lamp Control Module

- (1) Neuron® Chip : 3120
- (2) AC input : 110 V
- (3) Max Capacity : 300 W
- (4) Intelligent dimmer Control
- (5) Environment : 0°C~ 50°C, RH max 90%
- (6) Network : PLT-22

#### 9. CI-73009 Fan Control Module

- (1) Neuron® Chip : 3150, Memory: 32K Flash
- (2) AC input : 110V
- (3) Timer control : 1, 2, 4, 8 minutes
- (4) Fan speed control : High/Middle/Low
- (5) Environment : 0°C~ 50°C, RH max 90%
- (6) Network : PLT-22

#### 10. CI-73010 DIO Module

- (1) Neuron® Chip : 3150
- (2) Readable/Writeable Neuron® Chip
- (3) 24 Optically isolated Input/ 16 Relay Output
- (4) Remote control I/O Signal
- (5) Peer to Peer distributed control systems
- (6) Environment : 0°C~ 45°C, RH max 90%
- (7) Network : FT-10

#### 11. CI-78001 DIO Extension Module

- (1) Sensor : 8 bits ADC for temperature sensor / VR Reed switch X 1 ; Toggle switch x 16
- (2) Actuator : Buzzer X 1  
Fan X 1  
Motor X 1  
Solenoid control valve X 1  
Relay x 2  
7-Seg x 2

### List of Modules

#### 1. CI-73001 Power supply

- (1) AC Input voltage : 110/220 V
- (2) Isolation transformer : Primary 110 V/220 V, Secondary 110 V, Power 165 VA, Frequency 50/60 Hz
- (3) DC Power supply : 5 V / 5 A, 12 V / 4 A, 24 V / 1.3 A

#### 2. CI-73002 Router Module

- (1) Neuron® Chip : 3150
- (2) Transceiver : A-Side: TP/FT-10 A  
B-Side: PL-22 X/L-N
- (3) Power consumption: <6 VA
- (4) Environment : 0°C~40°C, RH max 75%

#### 3. CI-73003 Penta Sens Module

- (1) Neuron® Chip : 3120
- (2) Sensor type : PIR and UltraSonic
- (3) Occupancy detector
- (4) Light level sensor
- (5) Glass break detector
- (6) Temperature sensor
- (7) Intrusion detector
- (8) Environment : 0°C~ 50°C, RH max 90%
- (9) Network : FT-10