



CIC-700

LonWorks Control Network System



* Notebook is excluded

Echelon networking technology enables end-users to remotely connect, monitor, control, sense, and diagnose intelligent devices. LonWorks networks simplify system management, conserve energy, improve operations and reduce costs.

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 down time for consumers.

► Objective

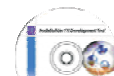
Echelon's LonWorks control network technology creates a new generation of control network. CIC-700 LonWorks control network training system tries to help students accelerating their steps to catch up this popular trend. It not only helps students to understand the new control network theory but also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

► Specifications

► Software



LonMaker CD



NodeBuilder development tool CD

► 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

► Hardware

1. U10 USB Network Interface

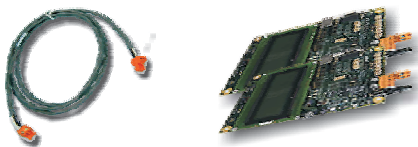
The U10 USB network Interface connects to TP/FT-10 (ANSI/CEA-79.3) free topology LonWorks channels directly through a detachable, quality network connector included. The U10 interface is fully compatible with TP/FT-10 channels with or without linking power.





2. FT 5000 EVB Evaluation Board

- (1) Processor : FT 5000 smart transceiver
- (2) Processor clock : 10MHz
- (3) Operating input voltage : +9 to 12VDC
- (4) Dimensions : 140mm x 105mm x 30mm
- (5) I/O devices : 4-line x 20-character LCD display
 - 4-way joystick with center push button
 - 2 push-button inputs
 - 2 LED outputs
 - Light-level sensor
 - Temperature sensor



3. Essential Module



CI-73001



CI-73002A

4. Twist pair Module



CI-73003A



CI-73004A



CI-73005



CI-73006A



CI-73007A

5. Power line Module



CI-73008



CI-73009

6. Development Module



CI-73010



CI-78001

►List of Modules

1. CI-73001 Power supply

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

2. CI-73002A Router Module

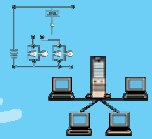
- (1) Neuron® chip : 3150
- (2) Transceiver : A-Side : TP/FT-10 A
B-Side : PL-22 X/L-N
- (3) Power consumption: <6 VA
- (4) Environment : 0°C~40°C, 75% RH max

3. CI-73003A 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, 90% RH max
- (9) Network : FT-10

4. CI-73004A 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 infrared energy
- (6) Environment : 0°C~ 50°C, 90% RH max
- (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, 90% RH max
- (7) Network : FT-10

6. CI-73006A Tri Sound Module

- (1) Neuron® chip : 3150
- (2) Fire alarm siren
- (3) Intrusion alarm siren
- (4) Warning alarm siren
- (5) Multi-zone functions
- (6) Environment : 0°C~ 50°C, 90% RH max
- (7) Network : FT-10

7. CI-73007A Decode Module

- (1) Neuron® chip : 3150
- (2) Code lock and control panel
- (3) Status indication
- (4) Number keypad input
- (5) Environment : 0°C~ 50°C, 90% RH max
- (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, 90% RH max
- (6) Network : PLT-22

9. CI-73009 Fan Control Module

- (1) Neuron® chip : 3150
- (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, 90% RH max
- (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, 90% RH max
- (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 Experiments

1. Installing system software and hardware
2. Creating a LonWorks network
3. Creating a two-channel network
4. Programming a network node
5. Designing a smart home network
6. Backing up and restoring a control network
7. Developing a prototype application