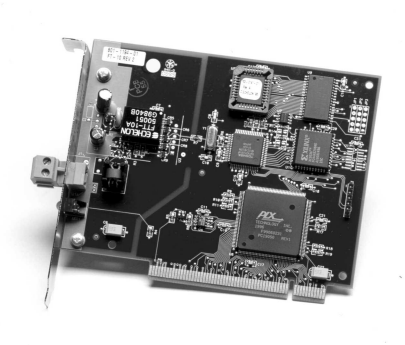
# PCLTA-20 PCI LonTalk® Adapter
# Models 74401, 74402, 74403, 74404, 74405, and 74405R



- 32-bit PCI adapter card for LONWORKS® networks
- Plug-and-play capability with Microsoft® Windows® 95/98/2000 and Windows NT®
- Downloadable firmware allows updates without accessing or changing hardware
- Integral FTT-10A, RS-485, TPT/XF-78, or TPT/XF-1250 transceiver; optional SMX™ transceiver for PLT-22, and custom transceivers
- LNS® network services interface (NSI) supports LNS applications
- CE Mark, U.L. Listed, cU.L. Listed
- Network driver for Windows 95/98/2000/XP/Server 2003 and Windows NT available

## Description

Models 74401, 74402, 74403, and 74404 are replaced with a newer version of PCLTA product line called PCLTA-21 PCI Network Adapter.

The PCLTA-20 PC LonTalk Adapter is a high-performance LONWORKS interface for personal computers equipped with a 32-bit Peripheral Component Interconnect (PCI) interface and a compatible operating system. Designed for use in LONWORKS control networks that require a PC to monitor, manage, or diagnose the network, the PCLTA-20 adapter is ideal for industrial control, building automation, and process control applications. The PCLTA-20 adapter features either an integral twisted pair transceiver or an SMX transceiver interface, downloadable memory, a network management interface, and plug-and-play capability with Microsoft Windows 95/98/2000 and Windows NT.

Model 74405R is compliant with the European Directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment.

The PCLTA-20 adapter provides both LNS network services interface (NSI) functionality for use with LNS tools, and Microprocessor Interface Program (MIP)-compatible network interface functionality for use with LonManager® API-based tools.

Installation software for the PCLTA-20 adapter is provided with the LonMaker® Integration Tool, LNS DDE Server, and LNS Application Kit software distributions, or may be downloaded from the developer's tool box section of the Echelon web site. It includes a software-based control panel and a software driver for Microsoft Windows 95/98/2000/XP/Server 2003 and Windows NT. The control panel provides a convenient means of setting and modifying installation parameters, diagnosing card operation, and displaying error messages. The adapter supports plug-and-play operation, simplifying installation.

The LNS network operating system allows any number of installation, maintenance, monitoring, and control devices to exist in a system and to adapt to network configuration changes automatically. Users can reconfigure the system from any user interface device anywhere on the network and ensure that all monitoring and control stations are always up-to-date with respect to the system's configuration. When used with the appropriate software, the LNS network services interface (NSI) functionality of the PCLTA-20 adapter allows the attached host to run LNS applications.

In both NSI mode and MIP modes, the adapter also permits the host PC to act as an LONWORKS application device, running application-specific programs while the adapter handles lower layer functions such as media access control, collision avoidance, message validation, authentication, and priority processing. The host application, including its network variables, can be changed at any time without modifying the adapter. The PCLTA-20 adapter combined with the host PC can also be used with applications that require more processing power, memory, input/output capability, or network variable connections than are provided by the Neuron® Chip alone.

Firmware for the adapter is downloaded from the host PC. This allows the adapter to be updated as new versions of the software and firmware are released, without modifying or physically accessing the PCLTA-20 adapter. This feature extends the useful service life of the adapter, and minimizes the cost and time associated with software and firmware updates.

## Specifications

| | |
|---|---|
| Processor | Neuron 3150® Chip |
| Processor Input Clock | 10MHz |
| Memory | 58Kbytes SRAM |
| Twisted Pair Network Connector | Models 74401, 74402, 74403: Weidmüller 2-conductor BLA<br>Model 74404: Weidmüller 3-conductor BLA<br>Model 74405: Varies with SMX transceiver |
| Operating Input Voltage | +5VDC ±5% |
| Operating Input Current | Models 74401, 74402, 74403, 74404: 300 mA typical, 1A maximum<br>Model 74405: 300 mA typical, 3A maximum |
| PC Bus Interface | 32-bit PCI |
| Indicator | Service LED |
| Neuron Chip Service Pin Function | Service pin message controlled by host application |
| Configuration State | Displayed on host |
| Temperature | |
| Operating | 0 to +70° C |
| Non-operating | -45° to +85° C |
| Humidity (non-condensing) | |
| Operating | 25 to 90%RH @ 50° C |
| Non-operating (12 hour) | 95%RH @ 50°C |
| Dimensions (excluding card edge fingers) | Models 74401, 74402, 74403, 74404: 3.87" (9.8cm) H x 5.20" (13.2cm) L<br>Model 74405: 3.69" (9.4cm) H x 7.36" (18.7cm) L |
| EMI | FCC Part 15 Level B and EN55022 Level B |
| CE Immunity | EN50082-1:1997<br>EN61000-4-2: 8K air discharge, 4K contact discharge<br>EN61000-4-3: 3V/m<br>EN61000-4-4: 1KV power, 5KV 5/0<br>EN61000-4-5: 2KV common mode, 1KV differential mode<br>EN61000-4-6: 3Vrms<br>EN61000-4-8: 3A/m<br>EN61000-4-11: 30%, 60%, and >95%<br>ENV50240 (900MHz Key): 3V/m |
| Listings | U.L. 1950, cU.L. per CSA C22-2 No. 950 |

## Documentation

The *LonWorks PCLTA-20 PC LonTalk User's Guide* may be downloaded from Echelon's web site.

| Document | Echelon Part Number |
|---|---|
| LonWorks PCLTA-20 PC LonTalk User's Guide | 078-0179-01 |

## Ordering Information

| Product | Echelon Model Number |
|---|---|
| PCLTA-20 Adapter - TP/FT-10A | 74401 |
| PCLTA-20 Adapter - TP/XF-78 | 74402 |
| PCLTA-20 Adapter - TP/XF-1250 | 74403 |
| PCLTA-20 Adapter - TP-RS485 | 74404 |
| PCLTA-20 Adapter - SMX adapter | 74405, 74405R (RoHS-compliant) |

Copyright © 1995-2006, Echelon Corporation. Echelon, LON, LonWorks, LonMark, LonBuilder, NodeBuilder, LonManager, LonTalk, LonUsers, LonPoint, Digital Home, Neuron, 3120, 3150, LNS, i.LON, LonWorld, ShortStack, Panoramix, LonMaker, the Echelon logo, and the LonUsers logo are trademarks of Echelon Corporation registered in the United States and other countries. LonLink, LonResponse, LonSupport, LONews, Open Systems Alliance, OpenLDV, Powered by Echelon, LNS Powered by Echelon, Panoramix Powered by Echelon, LonWorks Powered by Echelon, Networked Energy Services Powered by Echelon, NES Powered by Echelon, Digital Home Powered by Echelon, Pyxos, and Thinking Inside the Box are trademarks of Echelon Corporation. Other trademarks belong to their respective holders.

Disclaimer

Neuron Chips, Free Topology Twisted Pair Transceiver Modules, and other OEM Products were not designed for use in equipment or systems which involve danger to human health or safety or a risk of property damage and Echelon assumes no responsibility or liability for use of the Neuron Chips or Free Topology Twisted Pair Transceiver Modules in such applications. ECHELON MAKES AND YOU RECEIVE NO WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, STATUTORY OR IN ANY COMMUNICATION WITH YOU, AND ECHELON SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

003-0335-01D