

# NT960/PCI

## Applications

The NT960/PCI is a RISC-based, high performance I/O subsystem for PCI bus compatible computers. It is expandable from 16 to 128 asynchronous RS-232 and/or RS-422/485 and/or 20mA Current Loop serial ports for multi-user, multi-channel communications. You will find the NT960/PCI in mission critical applications such as Point of Sale, Industrial Automation, Process Control and Data Communications. The NT960/PCI is an ideal solution for applications that require connections to a wide variety of serial devices.

## Features

- The NT960/PCI host adapter and the ACM external modules allow you to expand from 16 to 128 asynchronous RS-232, and/or RS-422/485, and/or 20mA Current Loop serial ports.
- CLCD1400 quad UARTs with 24 bytes of Tx/D/RxD FIFO buffers control each port.
- Provides DIP switchable line load/bias options for the RS-422/485 electrical interface.
- Independent port configuration with baud rates from 50 bps to 115.2 Kbps; data bits of 5, 6, 7 or 8; stop bits of 1, 1.5, or 2, and odd, even, or stick parity.
- Male DB-9 connectors (ACM/16 and ACM/Flex16 modules) and RJ-45 connectors (ACM/16RJ module).
- Easy installation comes with comprehensive manual, driver software.

## Benefits

### *High Speed, High Performance Communications*

The NT960/PCI is built around a powerful Intel i960 JX™ RISC processor and 1MB of SRAM. Cirrus Logic CD1400 RISC communication controllers with 24 byte Tx/D/RxD FIFOs per port offer high-speed data communications up to 115.2 Kbps per port. These features substantially reduce serial I/O bottlenecks on the host CPU and result in enhanced performance for the total system.

### *Hardware Flexibility*

The NT960/PCI offers hardware flexibility and adaptability for your application. You can configure each port's baud rate, parity, data and stop bits independently to suit your needs. The highly modular and lightweight design of the ACM external modules allows you to easily integrate it into your application. Serial Line Interface Modules (SLIMs) provide different electrical interfaces such as RS-232, RS-422/485 and 20mA Current Loop in the same ACM/Flex16 module. As hardware requirements change within your application, you may field upgrade the ACM/Flex16 with the appropriate SLIM. SLIMs offer a highly flexible solution for a wide range of I/O requirements.

### *Expandability*

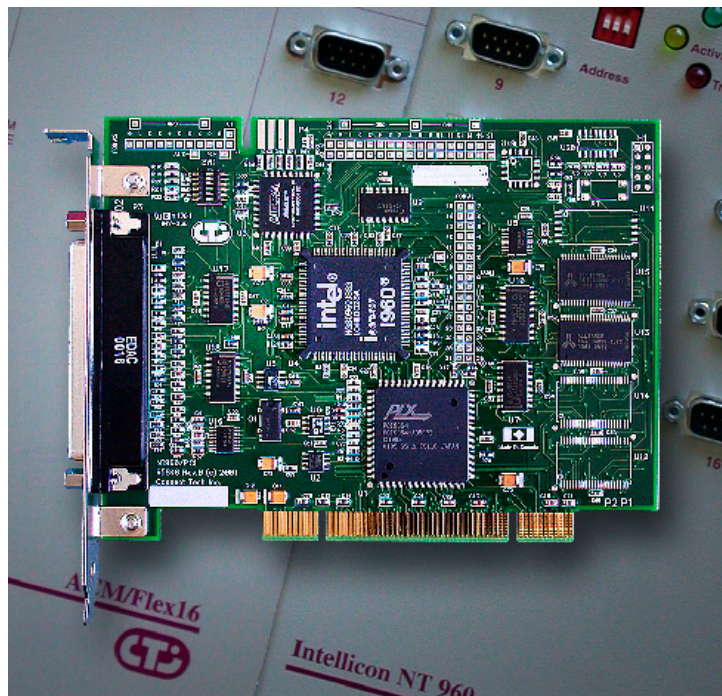
For the most demanding multi-user/multi-channel applications, the NT960/PCI host adapter and the ACM external modules offer a modular approach to port expansion. One NT960/PCI host adapter can handle up to 128 serial ports.

### *Software Compatibility*

The NT960/PCI comes with device drivers for QNX, Windows XP, Windows NT/2000 (contact Connect Tech for most current list). Device drivers are developed and maintained in-house by our team of experienced software engineers.

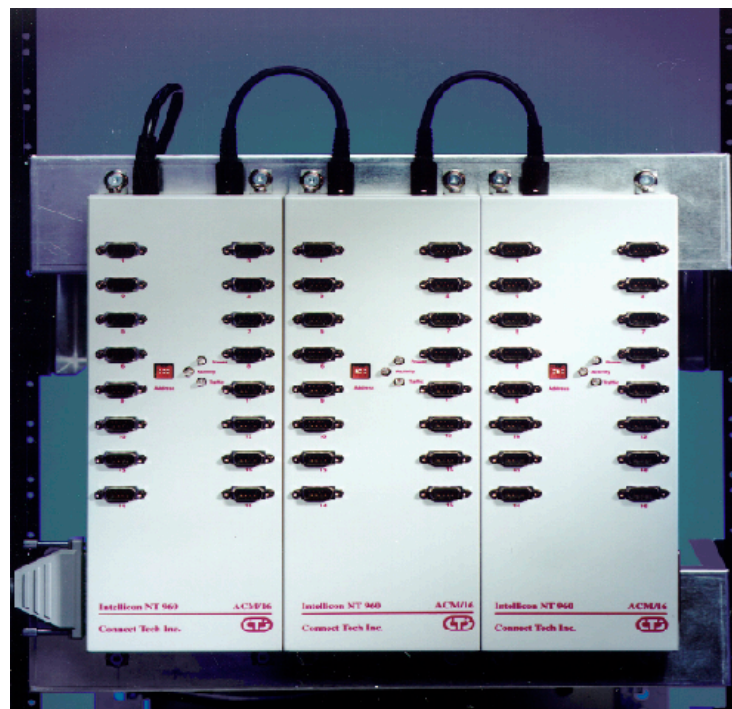
### *Easy to Use*

The NT960/PCI comes with software device drivers and a comprehensive installation manual. Software installation is customized to use the standard interface provided with the operating system. The NT960/PCI host adapter has no DIP switches to set and the ACM/16, ACM/16RJ and ACM/Flex16 modules provide easy to read power, status and interface LEDs for diagnostic purposes.



### *Warranty and Service*

Connect Tech, an ISO 9001 registered company, has provided high performance communication solutions since 1985, building and testing products to meet high standards of quality and reliability. This reputation is built on Connect Tech's expertise in the design and manufacture of serial communications hardware and software. With us you have direct access to a team of experts experienced at understanding your requirements – from software design to hardware manufacturing, testing, training and support. NT960/PCI products are covered by our excellent no cost customer support and a lifetime warranty. At Connect Tech our business is customer satisfaction.



# Specifications

## NT960/PCI I/O subsystem

### NT960/PCI parts

NT960/PCI Host Adapter c/w 1MB SRAM

NT960 bus cable – 6 ft. long

NT960 ACM/16 external module

NT960 ACM/16RJ external module

NT960 ACM/Flex16 external module

NT960 ACM/Flex16 RS-232 SLIM

NT960 ACM/Flex16 RS-422/485 SLIM

NT960 ACM/Flex16 20mA Current Loop SLIM

NT960 universal power supply with AC line cord  
(North America)

NT960 universal power supply without AC line cord  
(International)

NT960 ACM/16 power cable \*

*Note: \* required for linking power between multiple NT960 ACM/16,  
ACM/16RJ, ACM/Flex16 modules*

## NT960/PCI hardware configurations

NT960/PCI parts	Number of Ports							
(Quantity required for configuration)	16	32	48	64	80	96	112	128
NT960/PCI Host Adapter - 1MB	1	1	1	1	1	1	1	1
NT960 universal power supply *	1	1	1	2	2	2	3	3
NT960 bus cable	1	1	1	1	1	1	1	1
NT960 ACM/16/16RJ/Flex16 module	1	2	3	4	5	6	7	8
NT960 ACM power cable *	0	1	2	3	4	5	6	7

*Note: \* the power supply and power cable quantities for the configurations  
above are for RS-232 and 20mA Current Loop only. RS-422/485  
configurations require one power supply for every 32 ports*

## NT960/PCI host adapter

Memory	1MB SRAM		
Processor	33MHz Intel i960 JXTM 32bit RISC processor		
I/O addresses	Assigned by Plug and Play resources		
Interrupts	Assigned by Plug and Play resources		
Memory addresses	Assigned by Plug and Play resources		
Operating environment	<i>Temperature (operating):</i> 0° – 70° C <i>Temperature (storage):</i> -60° – 100° C <i>Humidity:</i> 0 – 90% no condensing		
Power requirements	+3.3 VDC: 900 mA (typical), 1.2 A (maximum)		
Regulatory approvals	FCC Class A; ICES-003 Class A; EN55022 Class A; EN50082-1; EN55024		
Dimensions	<i>Length:</i> 14.70 cm./5.79 in. <i>Height:</i> 10.60 cm./4.17 in. <i>Width:</i> 1.50 cm./0.59 in. <i>Weight:</i> 0.10 kg./0.22 lbs.		

### ACM modules

ACM/16	ACM/16RJ	ACM/Flex16
<b>Number of ports (module)</b> 16 asynchronous ports		
<b>Interface</b> RS-232C		RS-232C and/or RS-422/485 and/or 20mA Current Loop (interfaces on SLIMS)
<b>Connectors</b>	DB-9      RJ-45	DB-9
<b>Communication controllers</b> CLCD1400 RISC UARTs		
<b>FIFO</b> 24 bytes Tx/D/RxD FIFOs per port		
<b>Baud rates</b> 50 bps – 115.2 Kbps		
<b>Data bits</b> 5, 6, 7 or 8 bits (plus optional parity)		
<b>Parity</b> Even, odd, no or forced parity		
<b>Signals</b>		<i>RS-232:</i> DTR, DSR, RTS, CTS, RI, Tx/D, Rx/D, DCD  <i>RS-422/485:</i> RTS ±, Tx/D ± CTS ±, Rx/D ±  <i>20mA:</i> Tx/D, Rx/D (passive)
<b>Max. number of ports</b>		Up to 128 ports per host adapter (eight ACM/16 and/or ACM/16RJ and/or ACM/Flex16 modules)
<b>Operating environment</b>		
<i>Temperature (operating):</i> 0° – 70° C <i>Temperature (storage):</i> -60° – 100° C <i>Humidity:</i> 0 – 90% no condensing		
<b>Power requirements</b>		<i>RS-232, 20mA:</i> one NT960 universal power supply required for every 48 ports  <i>RS-422/485:</i> one NT960 universal power supply required for every 32 ports
<b>Regulatory approvals</b> FCC Class A; ICES-003 Class A; EN55022 Class A; EN50082-1; EN55024		
<b>Dimensions</b>	<b>length:</b>	32.81 cm./12.92 in.
	<b>width:</b>	11.56 cm./4.55 in.
	<b>height:</b>	4.06 cm./1.60 in.
<b>Shipping weight</b>	<b>length:</b>	32.85 cm./12.93 in.
	<b>width:</b>	11.55 cm./4.55 in.
	<b>height:</b>	4.84 cm./1.91 in.
<b>Shipping weight</b>		0.76 kg./1.68 lbs.
<b>Shipping weight</b>		0.84 kg./1.85 lbs.
<b>Shipping weight</b>		0.84 kg./1.85 lbs.

**Device driver support:**  
QNX, Windows XP,  
Windows NT/2000

**System requirements**  
One 32 bit, 3.3V or Universal PCI slot

**Warranty**  
Lifetime



**Connect Tech Inc.**

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