

## TNCS Computer Hardware

### Description

Transmission Network Control System (TNCS) is an element management system for monitoring and controlling broadband transmission network elements. TNCS implements a technically efficient and flexible client / multi-server architecture to manage the various elements. The typical TNCS installation will consist of a combination of software, computer hardware, cable kits, RF modems, transponders, and services.

In TNCS, the computer hardware provides the foundation for a cost-effective scalable system. Depending on the performance and application requirements, different computer hardware components will be required.

Most TNCS applications use one of the easy to order Scientific-Atlanta software and computer hardware bundled packages for Headends, Hubs, and Client applications. However, for added flexibility the individual components can be ordered for new or existing TNCS applications. (For more details on the bundled packages, refer to the TNCS Bundled Computer/Software Packages data sheet)



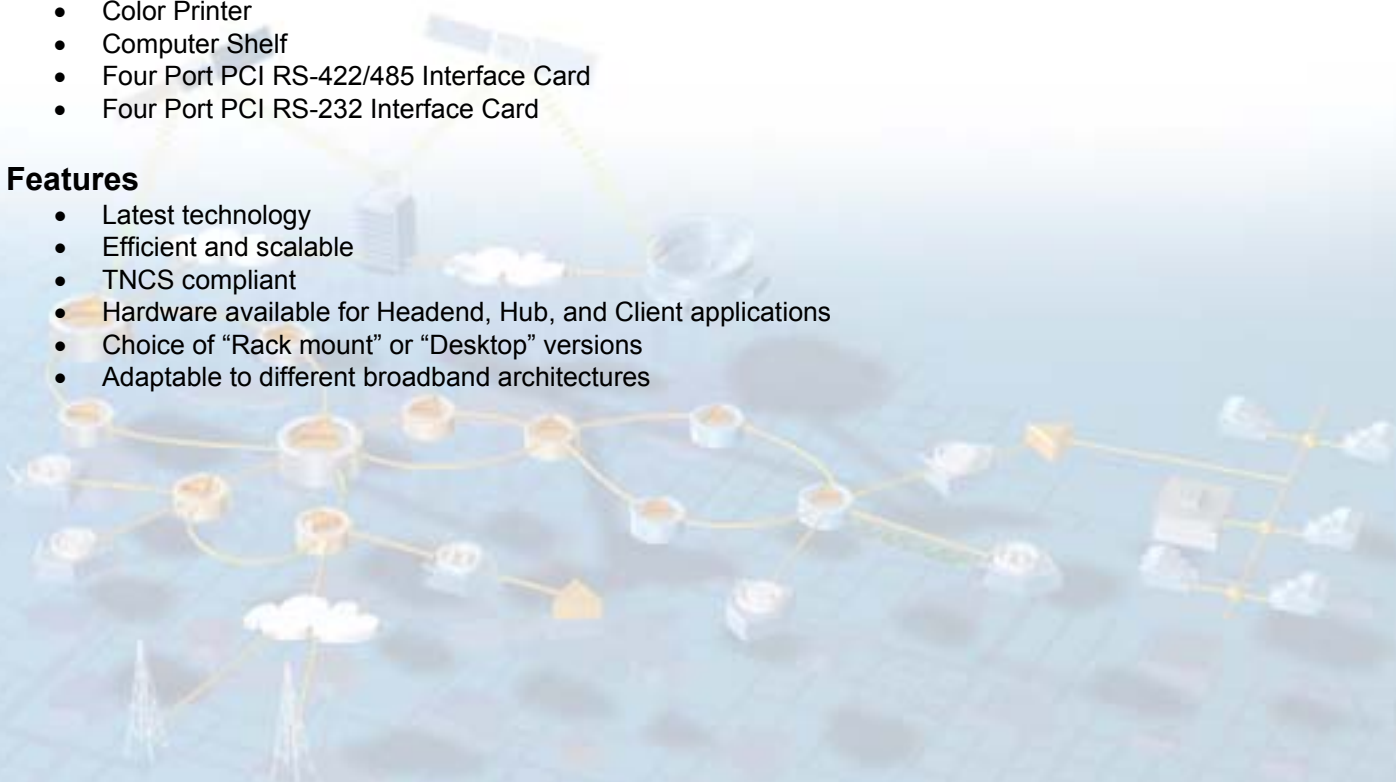
### Computer Hardware Components

The following computer hardware is commonly used in TNCS:

- Server Desktop Computer
- Server Rack mount Computer
- 17" Monitor with internal speakers
- Rack mount Monitor Cabinet
- Rack mount Keyboard and "Flip-up" Monitor
- Rack mount Keyboard and Mouse
- Client Desktop Computer
- Client Laptop
- UPS Power Supply
- Color Printer
- Computer Shelf
- Four Port PCI RS-422/485 Interface Card
- Four Port PCI RS-232 Interface Card


### Features

- Latest technology
- Efficient and scalable
- TNCS compliant
- Hardware available for Headend, Hub, and Client applications
- Choice of "Rack mount" or "Desktop" versions
- Adaptable to different broadband architectures





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## Ordering Information

PART NUMBER	DESCRIPTIONS	DETAILS	ILLUSTRATION
738693	TNCS Server Desktop Computer	<p>Includes: Desktop CPU, 17" Monitor with internal speakers, keyboard, mouse, CD Writer, Ethernet Card, internal 56K modem, speakers, and Windows NT Workstation.</p> <p>Application: The desktop server computer runs the TNCS software that has monitored network devices directly connected to its communications port(s). A server regularly polls its connected devices for status information. This server is part of the TNCS Headend Bundle C and TNCS Hub Bundle C.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Base Unit: Dell 800 GX110/Medium Desktop 133MHz FSB, 4MB Int Vid, Int 10/100 NIC w/RWU, Sound 256K Cache</li> <li>• Floppy Disk Drive: 3.5, 1.44MB Floppy Drive, GX100/110 Mid-Desktop, Mini-Tower</li> <li>• O/S: Windows NT Workstation SP5, NTFS, Compact Disk, English, Optiplex</li> <li>• Mouse: Microsoft Intellimouse (PS/2) for Windows 9x or NT, GX100/110</li> <li>• Modem: Aztech PC99 Data/Fax 56K v.90 PCI Modem, GX100/100</li> <li>• CD-ROM: 12/8/40X CD-RW (CD Writer)</li> <li>• Sound Card: Integrated Sound Blaster, Compatible with AC97 Audio</li> <li>• Memory: 128MB, NONECC, 100MHz SDRAM, 1DIMM, GX100/110</li> <li>• Misc: Symantec Norton Antivirus 2000, CD &amp; Documentation, English</li> <li>• Keyboard: Quietkey Space saver 104-key Keyboard, GX100/110</li> <li>• Hard Drive: 10GB, EIDE, 7200 RPM, Hard Drive, GX100/110, M/T Chassis</li> <li>• Monitor: 17" monitor with internal speakers</li> </ul> <p>Note: This computer can be mounted in a 19" equipment rack using a rack mount shelf (716186).</p>	




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PART NUMBER	DESCRIPTIONS	DETAILS	ILLUSTRATION
735727	TNCS Server Rack mount Computer	<p>Includes: Rack-mount CPU, Ethernet Card, internal 56K Modem, Speakers, Four Port PCI RS-422/485 &amp; RS-232 Interface Cards, Windows NT Workstation, and rack-mount hardware.</p> <p>Application: The rack mount server computer runs the TNCS software that has monitored network devices directly connected to its communications port(s). This server regularly polls its connected devices for status information. This server is part of the TNCS Headend Bundle A &amp; B and TNCS Hub Bundle A &amp; B.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Base Unit: Pentium III/Celeron 810E ATX Motherboard, PIII 800/100MHz FCPGA CPU (with fan/heat sink)</li> <li>• Floppy Disk Drive: FD-1.4 MB Floppy Drive</li> <li>• O/S: Windows NT 4.0 Workstation with Internet Explorer</li> <li>• Modem: PCI 56K Internal Modem V.90 US ROBOTICS</li> <li>• CD-ROM: 40X EIDE CD-ROM</li> <li>• Sound Card: SoundBlaster Audio/USB/Video – 4MB Video 133MHz Mem</li> <li>• Memory: 128MB Low Profile DIMM, PC133 Un-buffered</li> <li>• Misc: Amplified Speakers with Shield, 4 PCI Slot, 10/100 Ethernet</li> <li>• Hard Drive: Quantum 15Gb IDE Hard Drive</li> <li>• Dimension: 4 RU, 18" Length</li> <li>• Occupies 4 RU in a 19" Equipment Rack</li> </ul> <p>Note: Monitor and keyboard are not included. Refer to part numbers 738034, 730165, and 735740 for more details.</p>	
738034	17" Monitor with internal speakers	<p>Includes: 17" monitor with internal speakers</p> <p>Application: This monitor provides adequate viewing of the TNCS Software in a headend room environment. For space saving, internal speakers are also provided. This monitor is part of the TNCS Headend Bundle B and TNCS Hub Bundle B.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• 17" (16.0" diagonal viewable area)</li> <li>• 0.24mm horizontal dot pitch, 0.13 vertical, 0.27mm diagonal, 90° deflection</li> <li>• IBM® PC and PC compatibles (from VGA up to 1,280 x 1,024 non-interlaced)</li> <li>• Audio: 2W (x2) @ 1kHz, THD: 10%, 200Hz-20kHz +/-3dB</li> <li>• Power: AC 80-240VAC/50-60Hz (auto switch), 125W (typ)</li> <li>• Operating Temperature: 32°F to 104°F (0°C to 40°C)</li> <li>• Weight: 16.5 kg (36.3 lbs.)</li> <li>• Dimensions: 16.2" (W) x 15.9" (H) x 16.8" (D)</li> </ul>	


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PART NUMBER	DESCRIPTIONS	DETAILS	ILLUSTRATION
735741	Rack mount Monitor Cabinet	<p>Includes: Rack mount monitor cabinet</p> <p>Application: The cabinet is ideal for securely mounting the TNCS 17" monitor in a 19" equipment rack. This monitor cabinet is part of the TNCS Headend Bundle B and TNCS Hub Bundle B.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Rack mount functionality for standard monitors</li> <li>• Shield your monitor from EMI Protective Lexan face plate</li> <li>• Easy access to monitor controls</li> <li>• Adjustable floor and restraining brackets</li> <li>• Dimensions: 19" x 19.2" x 22.1" (483 x 488 x 561 mm)</li> <li>• Occupies 11 RU in a 19" Equipment Rack</li> </ul>	
735740	TNCS Rack mount Keyboard and "Flip-up Monitor"	<p>Includes: Rack mount keyboard, flip-up monitor, and touch-pad</p> <p>Application: The rack mount keyboard and flip-up monitor is rack-mounted in a 19" equipment rack with the TNCS Server Rack mount Computer (735727). Ideal for space saving applications. The rack mount keyboard and monitor is part of the TNCS Headend Bundle A and TNCS Hub Bundle A.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Full Keyboard w/ Integrated Touch-pad Pointing Device</li> <li>• Active Matrix Color Panels for High Resolution Display in 10.4" or 13.8" Sizes</li> <li>• Plug-n-Play Compatibility w/ VGA and SVGA Video Cards for easy installations</li> <li>• Lockable Drawer for Added System Security</li> <li>• Occupies 2 RU in a 19" Equipment Rack</li> </ul>	
730165	TNCS Rack mount Keyboard and Mouse	<p>Includes: Rack mount Keyboard and Mouse</p> <p>Application: The rack mount keyboard and mouse is rack-mounted in a 19" equipment rack with the TNCS Server Rack mount Computer (735727). Ideal for space saving applications. This keyboard and mouse is part of the TNCS Headend Bundle B and TNCS Hub Bundle B.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Drawer Mount, 19" Rack Mount</li> <li>• Useable without lifting out of the drawer</li> <li>• Occupies 1 RU in a 19" Equipment Rack</li> </ul>	



# TNCS Computer Hardware

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PART NUMBER	DESCRIPTIONS	DETAILS	ILLUSTRATION
717611	TNCS Client Desktop Computer	<p>Includes: Desktop CPU, 21" Monitor, keyboard, mouse, Ethernet Card, internal 56K modem, speakers and Windows NT Workstation.</p> <p>Application: A desktop computer running TNCS software that does not have network devices directly connected to it. The computer loaded with TNCS Client software can be used to dial-in or network to a TNCS server computer. (A client only receives device status data from one or more servers that are connected to it.)</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Base Unit: Dell 800 GX110/Medium Desktop 133MHz FSB, 4MB Int Vid, Int 10/100 NIC w/RWU, Sound 256K Cache</li> <li>• Floppy Disk Drive: 3.5, 1.44MB Floppy Drive, GX100/110 Mid-Desktop, Mini-Tower</li> <li>• O/S: Windows NT Workstation SP5, NTFS, Compact Disk, English, Optiplex</li> <li>• Mouse: Microsoft Intellimouse (PS/2) for Windows 9x or NT, GX100/110</li> <li>• Modem: Aztech PC99 Data/Fax 56K v.90 PCI Modem, GX100/100</li> <li>• CD-ROM: 20/48X CD-ROM</li> <li>• Sound Card: Integrated Sound Blaster, Compatible with AC97 Audio</li> <li>• Memory: 128MB, NONECC, 100MHz SDRAM, 1DIMM, GX100/110</li> <li>• Misc: Symantec Norton Antivirus 2000, CD &amp; Documentation, English</li> <li>• Keyboard: Quietkey Space saver 104-key Keyboard, GX100/110</li> <li>• Hard Drive: 10GB, EIDE, 7200 RPM, Hard Drive, GX100/110, M/T Chassis</li> <li>• Monitor: 21" monitor</li> </ul>	



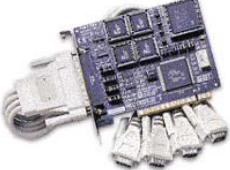
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PART NUMBER	DESCRIPTIONS	DETAILS	ILLUSTRATION
717604	TNCS Client Laptop	<p>Includes: Laptop computer, Windows NT Workstation, 2<sup>nd</sup> Intelligent Lithium Battery, &amp; Carrying Case.</p> <p>Application: A laptop loaded with TNCS Client software can be used to dial-in or network to a TNCS server computer. (A client only receives device status data from one or more servers that are connected to it)</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Dell Inspiron 7000 Pentium II w/2<sup>nd</sup> Intelligent Lithium Battery</li> <li>• Pentium II – 400MHz, 15" XGA Active Matrix TFT Color</li> <li>• 192M, SDRAM, 3DIMMs</li> <li>• 8MB ATI Rage Pro 3D Video with 2X AGP</li> <li>• 6.4GB Ultra ATA Hard Drive</li> <li>• Microsoft Windows NT with Internet Explorer 4.01 (CD-ROM)</li> <li>• 3COM 10/100 Fast Ethernet PC Card</li> <li>• Internal 56K v.90 Data/Fax Modem, with NT</li> <li>• Removable Combo 24X Max CD-ROM &amp; 3.5" Floppy Drive</li> <li>• Inspiron 7000 Setup Video</li> <li>• MS Office 2000 Small Business Edition and Virus Scan</li> <li>• Leather Carrying Case, Dual Compartment</li> </ul>	
537175	UPS Power Supply	<p>Includes: Uninterruptible Power Supply</p> <p>Application: Smart-UPS protects your data by supplying network-grade battery backup when power fails. With PowerChute® plus software the uninterruptible power supply (UPS) will safely store data and shut down your network operating system before the battery is fully discharged, whether you're there or not.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Size - 8.5" x 6.7" x 17.3"</li> <li>• Weight – 46 lb</li> <li>• Power - 120VAC, single phase 50 or 60 Hz (auto-selectable)</li> <li>• 1000 Volt-Amps</li> <li>• 670 Watts</li> </ul> <p>Batteries:</p> <ul style="list-style-type: none"> <li>• Maintenance-free lead acid</li> <li>• Two 12V, 11AH</li> <li>• Recharge Time – 1-2 Hours</li> <li>• Ambient Operation: 32-104F</li> </ul>	

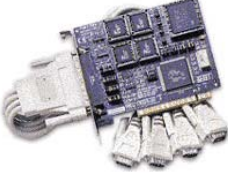
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PART NUMBER	DESCRIPTIONS	DETAILS	ILLUSTRATION
738690	Color Printer	<p>Includes: High Resolution Color Printer and Interface Cable</p> <p>Application: The printer will provide the ability to print TNCS events such as the Device Detail Screen, Alarm Log, Asset Inventory report, Channel Line Up report, Inventory Software Revision report, and Active Device report.</p>	
716186	Computer Shelf	<p>Includes: Computer Shelf – Qty 1</p> <p>Application: The computer shelf can be installed in a 19" equipment rack for mounting a desktop computer and monitor.</p>	
738670	Four Port PCI RS-422/485 Interface Card	<p>Includes: Four Port PCI RS-422/485 Interface Card</p> <p>Application: The RS-422/485 Interface Card provides four (4) RS-485/422 COM ports for communicating to RS-485/422 devices. Most TNCS server computers will have extra PCI slots to house additional interface cards if required. Typically, a maximum 400 Headend devices can be connected to one (1) interface card.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Four port RS-422/485 interface</li> <li>• On board RS-485 auto enable circuit</li> <li>• Each port designed to maximize Windows 98/NT communications</li> <li>• 16550 buffered UART standard</li> <li>• Full array of enhanced UART options</li> <li>• Supports standard PC data rates and "quad" data rates up to 460.8 Kbps</li> <li>• Supports all PCI interrupts</li> <li>• On board interrupt status port provides efficient interrupt sharing</li> <li>• Includes Windows Advanced COM: drivers, utilities, INF files, and help files to simplify installation</li> </ul>	

# TNCS Computer Hardware

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PART NUMBER	DESCRIPTIONS	DETAILS	ILLUSTRATION
738671	Four Port PCI RS-232 Interface Card	<p>Includes: Four Port PCI RS-232 Interface Card</p> <p>Application: The RS-232 Interface Card provides four (4) RS-232 COM ports for communicating to RS-232 devices. Most TNCS server computers will have extra PCI slots to house additional interface cards if required. Typically, one RS-232 device can be connected to each COM port.</p> <p>Specifications:</p> <ul style="list-style-type: none"> <li>• Four port RS-232 interface</li> <li>• 16554 buffered UART standard</li> <li>• Full array of enhanced UART options</li> <li>• Each port designed to maximize Windows 98/NT communications</li> <li>• Full array of enhanced UART options</li> <li>• Supports standard PC data rates and quad data rates up to 460.8 Kbps</li> <li>• Supports all PCI interrupts</li> <li>• On board interrupt status port provides efficient interrupt sharing</li> </ul>	

**Related Equipment** – TNCS Bundled Computer/Software Packages (see Bundled Packages data sheet for more information)

Description	Part Number
TNCS Headend Bundle A: Includes Host Site License, TNCS Server Software, Rack mount Computer, Rack mount Flip-up Monitor & Keyboard, RS-232 & RS-485 Interface Cards, and RS-485 Cable Kit	735733
TNCS Headend Bundle B: Includes Host Site License, TNCS Server Software, Rack mount Computer, 17" Monitor, Rack mount Monitor Cabinet, Rack mount Keyboard & Mouse, RS-232 & RS-485 Interface Cards, and RS-485 Cable Kit	735734
TNCS Headend Bundle C: Includes Host Site License, TNCS Server Software, Desktop Computer, 17" Monitor, RS-232 & RS-485 Interface Cards, RS-485 Cable Kit, and 2 Rack mount Shelves	592289
TNCS Hub Bundle A: Includes Hub Site License, TNCS Server Software, Rack mount Computer, Rack mount Flip-up Monitor & Keyboard, RS-232 & RS-485 Interface Cards, and RS-485 Cable Kit	735737
TNCS Hub Bundle B: Includes Hub Site License, TNCS Server Software, Rack mount Computer, 17" Monitor, Rack mount Monitor Cabinet, Rack mount Keyboard & Mouse, RS-232 & RS-485 Interface Cards, and RS-485 Cable Kit	735738
TNCS Hub Bundle C: Includes Hub Site License, TNCS Server Software, Desktop Computer, 17" Monitor, RS-232 & RS-485 Interface Cards, RS-485 Cable Kit, and 2 Rack mount Shelves	592290
TNCS Single Client Laptop Bundle: Includes TNCS Client Software, Laptop Computer, and Installation Phone Support	717608
TNCS Single Client Desktop Bundle: Includes TNCS Client Software, Desktop Computer, and Installation Phone Support	717610



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**Related Equipment** – TNCS Cable Kits (See TNCS Cable Kit data sheet for more information)

Description	Part Number
Series 2000 Cable Kit (10 units)	714430
Javelin Cable Kit (5 chassis)	717603
Prisma® DT Cable Kit - Includes: 8 Port Rack mount 10/100baseT Ethernet Hub, (7) 10 ft Ethernet Cables, (2) 50 ft Ethernet Cables (6 CCU connections)	717613
Prisma I Cable Kit (10 chassis)	735751
Prisma II Cable Kit (One kit per ICIM)	738686
Model 9660 Cable Kit (20 units)	735752
Continuum® Cable Kit (10 chassis)	735753
Model 6270 Cable Kit (10 units)	735754
Model 8860 Antenna Controller or ADH-3COM Dehydrator Cable Kit (2 units)	738665
RS-485 Cable Kit	735748
Cable, RS-232, DB-9F to DB-9M, 50 ft	717966
PowerVu® Cable Kit	744249



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