

# Telnet Terminal Server (DTC 16TN)

## Technical Data

**Product Number**  
**J2060A**

### Introduction

The DTC 16TN is part of HP's family of LAN-based Communication and Terminal Server family, HP's solution to connect local or remote asynchronous devices (terminals, printers, modems) to single or multiple HP 3000, HP 9000, and other platforms running the standard Telnet-TCP/IP protocols.

The DTC 16TN is targeted at environments requiring distributed connectivity to single or multiple HP 9000 systems or non-HP system running Telnet-TCP/IP.

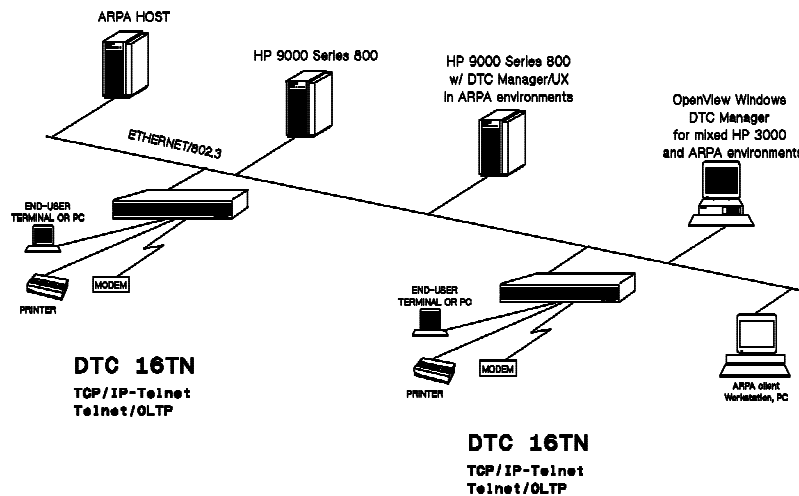
For information on other DTC products, refer to the DTC family datasheet (which presents the complete

DTC family, the target environments, and supported devices) and to the individual product datasheets:

DTC 16TN:	HP J2060A
DTC 72MX:	HP J2070A
DTC 16iX:	HP J2062A
DTC16:	HP 2340A
DTC48:	HP 2345A
DTC Management:	HP D2355A
	HP J2120A
X.25 iX Network Link:	HP J2079A
HP 3000 Telnet Access:	HP J2080A

(also included in the Networking Communications Specification Guide).

### DTC 16TN Telnet Terminal Server



### DTC 16TN key features

- LAN-based terminal server supporting the standard Telnet-TCP/IP protocols for operation in multivendor environments, and Telnet/OLTP, a high performance extension to Telnet for demanding OLTP applications in HP 9000 environments.
- Systems are accessed directly via system LAN links or through system asynchronous ports via the extended switching configuration (back-to-back) for systems

---

which do not implement Telnet-TCP/IP.

- Delivers 16 RS-232 direct or modem ports, or RS-423 ports in the same package as the HP Ethertwist hubs, bridges, routers.
- Compatible API with HP 9000 system asynchronous multiplexers
- Managed under HP OpenView Windows environment, or from an HP 9000/800 system.
- Supports an SNMP agent (delivery Mid 93).
- Designed for ease of use, and simple system and network integration.
- Customer installable.
- Comprehensive support tools for increased supportability and uptime.

## Product highlights

### High Performance

Built upon a powerful architecture, the DTC 16TN delivers a high throughput to the end-users. In addition, it supports both the standard Telnet protocol and Telnet/OLTP. Telnet/OLTP is a standard based High Performance Telnet implementation which significantly reduces the HP 9000 CPU usage and the network traffic thus delivering an unsurpassed performance for HP 9000 transaction oriented applications in networked environment.

*Note:* Requires Telnet/OLTP software to be installed on the HP 9000 system.

### Application interface compatible with HP 9000 system multiplexers.

The DTC products use standard systems calls to access and control the DTC ports. This presents HP-UX applications with a programmatic interface that is almost identical to the interface to asynchronous systems MUX ports, thus allowing an easy migration from MUX to network environment.

This includes:

- DTC port identification
- Host initiated sessions (printing, programmatic access) to DTC ports via standard device files

### Extended Direct Connect plus Full Modem support

The DTC 16TN provides either direct connect or Modem ports. The direct connect ports support RTS/CTS signals for hardware flow-control eliminating the need for Modem ports when printer connectivity is required. The Modem connect ports provides full Modem control for operation over leased lines or the telephone network.

### Compact, flexible package

The DTC 16TN uses a compact standard 19-inch chassis identical to some other HP products such as HP Ethertwist products very easy to install in tabletop, wall-mounted or in rack-mounted configurations. It comes with a compact RJ-45 breakout box for use with simple and low-cost cabling. The RJ-45 pin-out is ATT356

compliant to allow future migration from asynchronous devices to 10-Base-T LAN devices without change of cabling.

### Ease of use

The DTC 16TN has been designed to be a "plug & play" product and is customer installable. This includes a very easy installation process, auto-sensing of LAN attachment, complete self tests at boot time, auto-range power supply, default configurations of the DTC ports, self explanatory DTC user interface.

### DTC 16TN management

The DTC 16TN is configured and managed with the use of a DTC Manager application which can run on two different platforms: an HP 9000/800 system or a PC OpenView Windows workstation.

- With the DTC host-based management, a simple terminal connected locally or remotely to the HP 3000/900 or HP 9000/800 system is used to manage DTCs. It provides a user interface similar to other system administration tools.

The HP 9000/800-based DTC management software provides a means to configure DTCs in HP 9000 standalone or multisystem Telnet-TCP/IP environments.

- The HP OpenView (PC-based) DTC Manager software provides an easy-to-use graphical user interface, to manage DTCs. It is possible to integrate other management applications of network elements (such as HP X.25 Switches & PADs) on the same OpenView Windows workstation.

In both host-based and PC-based environments, the DTC software is downloaded from the management platform, allowing easy distribution and control of the DTC software.

#### DTC SNMP agent

Besides the services provided by the DTC management platforms, the DTC-based SNMP agent (delivery Mid 93) will allow customers to take advantage of SNMP-based management applications such as the HP OpenView Network Node Manager.

The following features are available with Node Manager:

- Automatic discovery of DTCs.
- Status/Colors management. The DTCs are automatically polled on a regular basis and the status color is reflected on the map.
- MIB loader/browser. It provides display of MIB values in text or graphical form and the capability to modify them if permitted by the DTC.
- MIB application builder. It enables users to build applications dealing with DTC MIB objects.

- Historical data reporting for troubleshooting and network planning.

The DTC SNMP agent will be supported on all DTC hardware and configurable from all the DTC management platforms.

#### DTC 16TN Rack installation

The DTC 16TN can be easily installed in industry-standard 19-inch EIA racks.

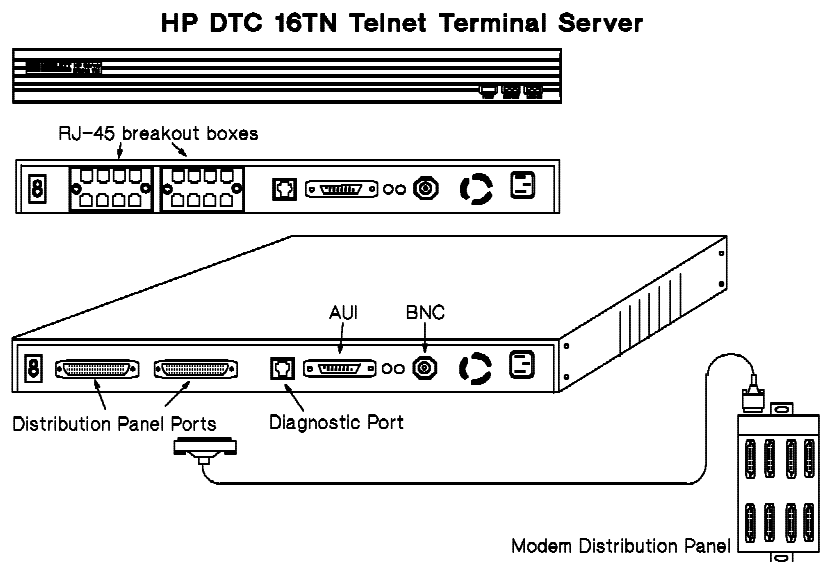
The DTC 16TN chassis (delivered with mounting brackets) is racked at the front of the rack and takes 1 EIA height unit. An optional rail kit (E3664A) can be used.

Racking the asynchronous distribution panels:

- 8-port RJ-45 breakout box (attached to the DTC 16TN chassis): doesn't require any additional rack installation.

- 8-port direct connect DB-25 distribution panels (DDP):
  - standard 19-inch EIA compliant
  - takes 1 EIA height unit
  - no rack-mount kit required
  - attached to the rear or front columns of the rack
  - (use filler panel C2791A = 6 \* 1 EIA unit if front side installation)
- 8-port Modem connect DB-25 distribution panels (MDP):
  - NOT 19-inch EIA compliant
  - requires a rack-mount kit
  - for rear side installation: use the C2792A kit to install up to 5 MDPs takes 5 EIA units of height
  - for front side installation: use the J2084A kit to install up to 5 MDPs (includes the filler panels) takes 7 EIA height units

For more details and configuration examples, refer to the DTC Racking & Cabling Guide available with the DTC 16TN installation guide (P/N 5959-4986).



---

## DTC 16TN Product specifications

---

The DTC 16TN has a compact chassis compliant with the industry-standard EIA 19-inch form factor. It provides a built-on LAN interface and 16 asynchronous ports.

---

### LAN interface

Two standard connectors are provided:

Connector:	LAN supported
BNC	ThinLAN (10Base-2)
802.3 AUI 15-pin	ThickLAN EtherTwist 10Base-T, Fiber Optic Broadband, FDDI connectivity through IEEE 802.3/Ethernet external adapters

The DTC 16TN automatically recognizes the type of LAN connected (ThinLAN or AUI)

---

### LAN services

Protocols supported	TCP/IP Telnet Telnet/OLTP : HP 9000's high performance extension to Telnet protocol
Addressing	Symbolic addressing (DNS and HP-NS) IP addressing

---

### Asynchronous interfaces

The DTC 16TN chassis supports one of the following interfaces :

#### 16-port RS-232-C (Direct or Modem or mixed with a modularity of 8 ports)

- Direct connect with hardware flow-control
  - Signals RX,TX, ground, RTS,CTS
  - Connectors female RJ-45 (or optional female DB-25)
  - Line speed from 300 to 38,400 bps
- Modem connect with FULL-Modem control
  - Signals RX,TX,DCD,DTR,RTS,RI,DSR,CTS,DRS, shield and signal ground
  - Connectors female DB-25
  - Line speed from 300 to 19,200 bps

#### 16-port RS-423 Direct connect with hardware flow-control

- Signals RX,TX, ground, RTS,CTS
- Connectors female RJ-45 (or optional female DB-25)
- Line speed from 300 to 38,400 bps
- Cable length 300m (with a crosstalk of 1 Volt) 1200m (with a crosstalk of 2 Volts)

### Common characteristics

Flow control	Xon/Xoff, HP Enq/Ack, RTS/CTS
Speed sensing	yes
Parity sensing	yes
Sessions/port	up to 5 sessions
Sessions/DTC	up to 80 sessions
Printer sharing	yes

---

### System release requirement

HP-UX 7.0 or later (for Telnet Access)  
HP-UX 8.0 or later (to run DTC Manager/UX or Telnet/OLTP).

---

## Hardware platform

### Physical specifications

**Height:** 43.7 mm (1.7 in) = 1 EIA Units  
**Depth:** 235 mm (9.3 in)  
**Width:** 425 mm (16.8 in) = 19 inch rack compliant  
**Weight:** 2.6 kg (6 lbs)

### Operating environment

**Temperature:** 0° to 55° C  
**Relative humidity:** 5% to 95% at 40° C  
**Altitude:** 4600m  
**Static discharge:** 15kV - no data loss

### Electrical specifications

**Current consumption:**  
Typical 0.4A/0.2A (115V/220V)  
Maximum 0.5A/0.25A (115V/220V)  
**Line frequency:** 50/60Hz  
**Typical AC Input Voltage:** 115V/230V

### Regulatory classifications

- Emissions
  - FTZ 1046/84,
  - FCC part 15 class A
  - EN55022 Class A
  - VCCI Class 1
  - SABS
- Safety
  - UL,CSA, EN60950, SASO, BS6301

## Standards supported

### TCP/IP standards supported

Ethernet/IEEE802.3, ping	
Subnet Addressing	RFC-950
ARP	RFC-826
ICMP	RFC-792
IP and options	RFC-791, MIL-STD 1777
TCP and options	RFC-793, MIL-STD 1778
UDP	RFC-768
Domain Name Services	RFC-1034-1035
SNMP agent	RFC-1157
Standard MIB services	RFC-1156
Structure of Mgmt Information	RFC-1155
Telnet and options	RFC-854, MIL-STD 1782

## Ordering Information

### Ordering the DTC 16TN products

**J2060A** Main product - DTC 16TN includes :

- The DTC 16TN with racking hardware
- LAN access with BNC connector and standard 15-pin AUI
- 16 RS-232-C direct connect ports and RJ-45 connectors
- Installation manuals

### Interface options

**UG5** Replace 8 DIRECT ports with 8 MODEM ports (can order one or two)

**UG4** Replace 16 RS-232-C ports with 16 RS-423 ports (can order one)

### Ordering the DTC related software for HP 9000 systems:

**J2123A** ARPA Extensions - Telnet/OLTP:

- 001** DTC Device File Access utility upgrade. Provides printer support and nailed ports (required for upgrade to systems running HP-UX 9.0)
- 002** High Performance Telnet/OLTP for HP 9000 server Tier 1
- 003** High Performance Telnet/OLTP for HP 9000 server Tier 2
- 004** High Performance Telnet/OLTP for HP 9000 server Tier 3
- AA1** software on 1/2" MAGTAPE 1600 BPI
- AAH** software on DAT cartridge tape
- AA4** software on QIC cartridge tape
- AAU** software on CD-ROM

**J2085A** ordering the Connection accessory products:

The DTC 72MX comes standard with RJ-45 distribution panels (for direct connect) but connection accessories are available for upgrades or to accommodate existing cabling.

- 101** 8-port MODEM distribution panel: DB-25 - used to upgrade RS-232 direct connect ports to Modem ports. Includes one panel (MDP) with DB-25 connectors and a link cable for DTC connection.
- 102** 8-port Direct connect distribution panel: DB-25 - used for DB-25 cabling, compatible with DTC16 (HP 2340A) connectors. Includes one 19" (1EIA - rack-mountable) panel with DB-25 connectors and a link cable for DTC connection.

### Ordering the DTC manager application:

**DTC manager running on an HP 3000/900:**

Nothing to order. Integrated with the MPE/iX operating system (FOS)

---

**DTC manager running on an  
HP 9000/800:**

**J2120A HP DTC Manager/UX**

- AA0** Software on 1/4"  
cartridge
- AA1** Software on 1/2"  
MAGTAPE 1600 BPI
- AAH** Software on DAT  
cartridge tape
- AA4** Software on QIC  
cartridge tape
- AAU** Software on CD-ROM
- 0CC** Update to latest version

**DTC manager running on  
the HP OpenView Windows  
platform:**

**HP 32054D opt. 201**  
HP OpenView Windows  
Workstation (PC) preconfigured  
with the DTC Manager  
application software

**ABA --> ABZ** Localization  
options (must order one)

Network connection options  
(must order one)

- 101** ThinLAN connection
- 102** ThickLAN connection
- 103** Ethertwist connection

- The HP OpenView Windows workstation (HP 32054D) is an especially configured HP Vectra, with PC software already installed. It includes 2Mb of additional memory, HP thinkjet printer, and MS-DOS, MS-Windows, HP ARPA & Network Services /DOS, HP OpenView Windows, HP AdvanceLink for Windows.