HEWLETT PACKARD

DTC 16MX
Communications Server

## Technical Data

Introduction

The DTC 16MX is part of HP's family of LAN-based Datacommunication and Terminal Servers, HP's solution for connecting asynchronous devices (terminals, printers, modems) to single or multiple HP3000/900 or HP9000 and platforms running the standard Telnet-TCP/IP protocols.

The DTC 16MX is targeted at environments requiring distributed connectivity to single or multiple HP9000, HP3000/900 or non-HP system running the standard Telnet-TCP/IP protocol.

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:
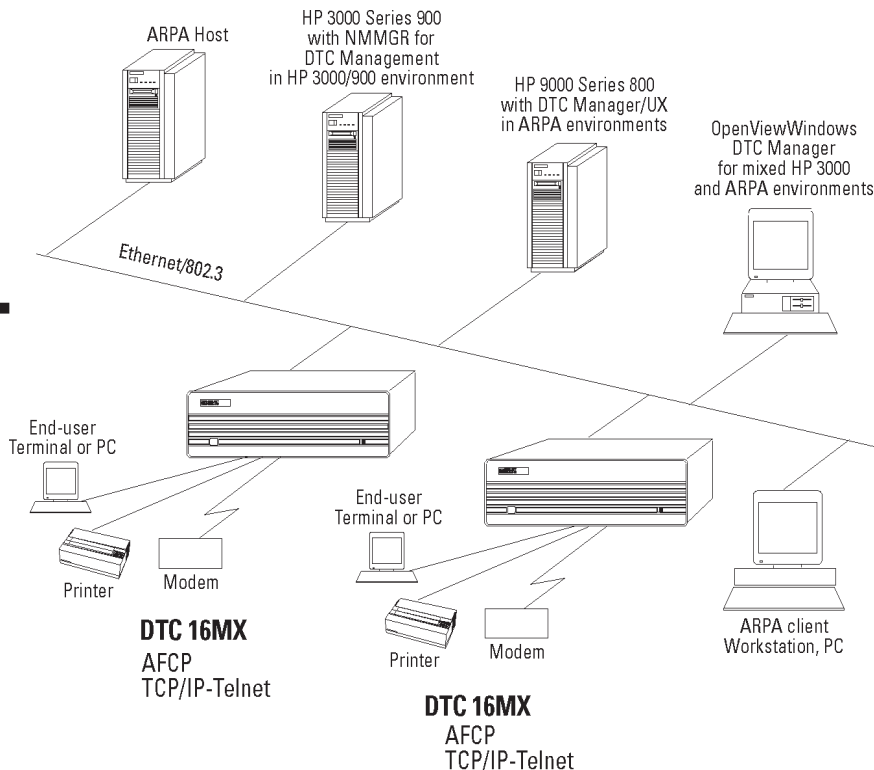
DTC 16TN:	HP J2060A
DTC 16iX:	HP J2062A
DTC72MX:	HP J2070A
DTC Management:	HP D2355A
	HP J2120A
X.25 iX Network Link:	HP J2079A
HP3000 Telnet Access:	HP J2080A

(also included in the Networking Communications Specification Guide 5091-9389E).

DTC 16MX Communications Server

DTC 16MX key features

- LAN-based communication server supporting the standard Telnet-TCP/IP protocols plus HP optimized high performance protocols for demanding OLTP applications in HP3000/900 and HP9000 environments.
- Systems are accessed directly through system LAN links or through system asynchronous ports (via the extended switching configuration or back-to-back) for systems which do not implement Telnet-TCP/IP or the HP3000/900 protocol.
- Provides up to 16 RS-232 direct or modem ports, or RS-423 direct ports.
- Provides compatible API with HP9000 system asynchronous multiplexers.
  Provides printer sharing and multisessions per port.
- Managed under HP OpenView Windows environment, or from an HP system (HP3000/900 or HP9000/800).
- Supports an SNMP agent.
- Provides comprehensive support tools for increased supportability and uptime.

Product highlights

High Performance
Built upon a powerful architecture, the DTC 16MX delivers a high throughput to the end-users. In addition, the DTCs support high performance protocols for demanding commercial applications:

- AFCP, an optimized protocol for OLTP applications running under the HP3000/900.

Extended Direct Connect plus Full Modem support
The DTC 16MX provides either direct connect or modem ports. The direct connect modem ports support RTS/CTS signals for hardware flow-control eliminating the need for modem ports when printer connectivity is required.

The modem connect ports provide full modem control for operation over leased lines or the telephone network.

Application interface compatible with HP9000 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, 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

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.

Compact, flexible package
The DTC 16MX uses a standard 19-inch chassis. It can be located on a tabletop or in rack-mounted configurations such as HP systems cabinets. The RJ-45 pin-out is ATT356 compliant to allow future migration from asynchronous devices to 10-Base-T LAN devices without cabling change.

DTC 16MX management

The DTC 16MX is configured and managed with the use of a DTC Manager application that can run on three different platforms: HP3000/900, HP9000/800, or PC OpenView Windows.

- With the DTC host-based management, a simple terminal connected locally or remotely to the HP3000/900 or HP9000/800 system is used to manage the DTCs. It provides a user interface similar to other system administration tools.
  - The HP3000/900-based DTC management software provides a means of configuring DTCs for use in HP3000/900 standalone environments.
  - The HP9000/800-based DTC management software provides a means of configuring DTCs in HP9000 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 manage other HP elements (such as HP X.25 Switches & PADs) on the same OpenView Windows workstation.

HP OpenView DTC Manager provides a means of configuring DTCs for use to connect to HP 3000/900 or HP 9000/800 systems and to other systems in Multivendor environments. It provides powerful network management features for complex network topologies.

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 allows customers to take advantage of SNMP-based management applications such as the HP OpenView Network Node Manager (UX based).

The following features are available with Node Manager:
- Automatic discovery of DTCs.
- Status/Colors management which automatically polls DTCs on a regular basis and indicates their status by their color on the network map.
- A MIB loader/browser which provides display of MIB values in text or graphical form and the ability to modify them if permitted by the DTC.
- A MIB application builder which enables users to build applications dealing with DTC MIB objects.
- Historical data reporting for troubleshooting and network planning.

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

DTC 16MX Product specifications

The DTC 16MX has a compact chassis compliant with the indus-try-standard EIA 19-inch size.

It provides a built-in LAN interface and 16 asynchronous ports.

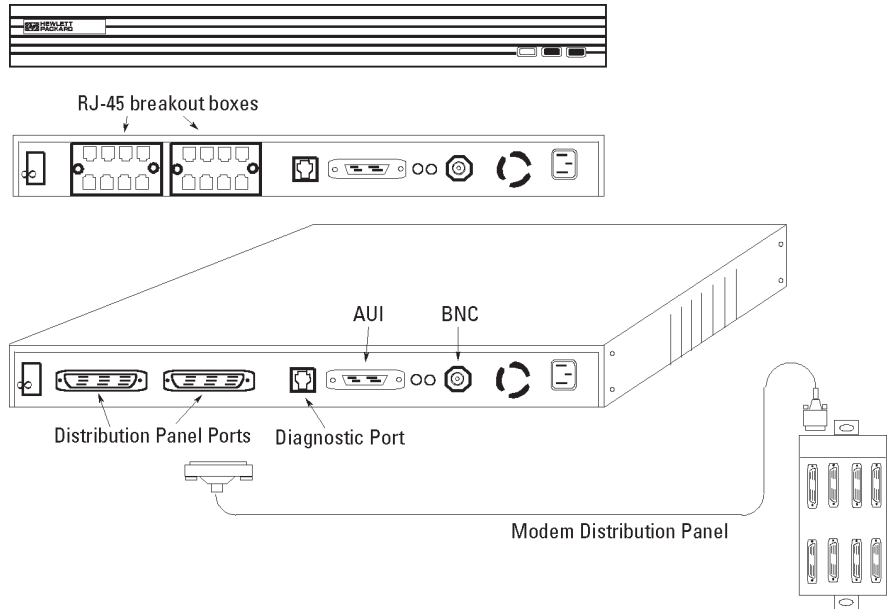### LAN interface
Two standard connectors are provided:
• BNC
• 802.3 AUI 15-pin

LAN supported
• ThinLAN (10Base-2)
• ThickLAN
• EtherTwist
• 10Base-T
• Fiber Optic
• Broadband, FDDI connectivity through
• IEEE 802.3/Ethernet external adapters

The DTC 16MX automatically recognizes the type of LAN it is connected to (ThinLAN or AUI)

HP DTC 16MX Terminal Server

RJ-45 breakout boxes

AUI   BNC

Distribution Panel Ports   Diagnostic Port

Modem Distribution Panel

Asynchronous interfaces
The DTC 16MX 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	RD,,TD, 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	RD, TD, 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	RXa, RXb, TXa, TXb
Connectors	female RJ-45 (or optional female DB-25)
Line speed	from 300 to 38,400 bps
Cable length	200 m

Common characteristics
Flow control	Xon/Xoff, HP Enq/Ack, RTS/CTS
Speed sensing	yes
Parity sensing	yes
Sessions/port	1
Printer sharing	yes

Specific capabilities
• Powerfail recovery
• Typeahead facility
• Field-mode support
• Device type managed by the system

System release requirement
• MPE/iX release 4.0 + Software Update B.40.06 or 5.0.

DTC 16MX Rack installation

The DTC 16MX can be easily installed in industry-standard 19-inch EIA racks. The DTC 16MX chassis (delivered with mounting brackets) is racked at the front of the EIA 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 16MX 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
  – (uses 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 6 EIA units of height
    For front side installation:
    – use the J2084A kit to install up to 5 MDPs (including the filler panels) + J2087A for 10 MDPs
    – takes 7 EIA height units

For more details and configuration examples, refer to the DTC Racking & Cabling Guide (P/N 5961-6140).

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 Degrees C
Relative humidity	5 to 95% at 40 Degrees 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

Ordering instructions

Main product
DTC 16MX   **J2063A**
Includes :
- The DTC 16MX 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
- A software tape for HP3000/900 systems

Interface options
- Replaces 8 DIRECT ports   #UG5
  with 8 MODEM ports
  (can order one or two)
- Replaces 16 RS-232-C ports   #UG4
   with 16 RS-423 ports
  (can order one)
- Rack kit   #1AC

Connection accessory products   J2085A
The DTC 16MX comes standard with RJ-45 distribution panels (for direct connect) but connection accessories are available for upgrades or to accommodate existing cablings.

- 8-port MODEM distribution   #101
  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.
- 8-port Direct connect distribution   #102
  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.
- 8-port multiport cable   #104
  (3-pin connectors)
  - used for compatibility with existing DTC48
    (HP 2345A) and ATPs connectors.
- 16-port Direct connect distribution   #105
  panel: RJ-45
  - used for rack installation
  - this accessory is the default distribution panel of a 16-port asynchronous processor board
  - includes one 19" (1 EIA-rack-mountable) panel with RJ-45 connectors and 2 link cables for DTC connection

Ordering the DTC manager application:

DTC manager running   Nothing to
on an HP3000/900   order
- Integrated with the MPE/iX
  operating system (FOS)

DTC Manager running on the HP OpenView Windows platform :

HP OpenView Windows   HP32054E
Workstation (PC)   #201
- preconfigured with the
  DTC Manager application
  software, including integrated
  Ethertwist connectivity

Localization options   #ABA -
(must order one)   #ABZ

Network connection options
(must order one)
ThinLAN connection   #101
ThickLAN connection   #102

DTC Manager application   D2355A
software for an HP OpenView
Windows (PC) workstation

Update of an existing   D1842E
HP OpenView Windows   #201
Workstation with the latest
revision of software and
DTC Manager application

The HP OpenView Windows workstation (HP 32054E) is an especially configured HP Vectra, with PC software already installed. It includes 4Mb of memory, HP portable DeskJet printer, and MS-DOS, MS-Windows, HP ARPA & Network Services/DOS, HP OpenView Windows, HP AdvanceLink for Windows.