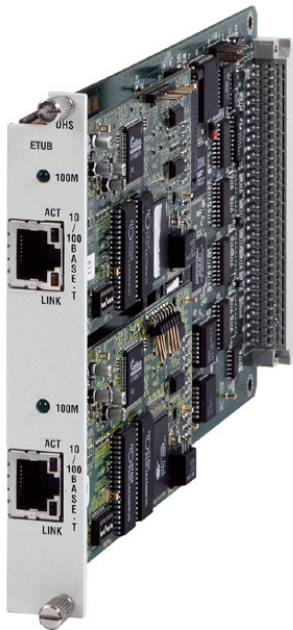


DXC Module

DHS

Dual-Channel High-Speed Data Module



2-channel, high-speed
data transmission
for the DXC family
of modular
cross-connects

- Two high-speed data channels
- V.35, X.21, V.24, RS-530, or V.36/RS-449 synchronous interfaces
- Optional high-speed 10/100BaseT Ethernet bridge ports with transparent VLAN forwarding
- Programmable data rates from 56 to 1536 kbps

Each DHS module provides DXC with two high-speed data channels. DHS is available with a number of options for the user data ports, including a 10/100BaseT Ethernet bridge with transparent VLAN forwarding, or a choice of sync data interfaces: V.35, X.21, V.24, RS-530, or V.36/RS-449.

V.35 and V.11/RS-422 channel interfaces terminate in 25-pin D-type female connectors. Pin assignment is compatible with RS-530 specifications. Special adapter cables can be ordered to connect these channels to standalone V.35 or V.36/RS-449 equipment. X.21 and V.24 channel interfaces terminate in 15-pin D-type female connectors.

Each synchronous data channel operates data rates of $n \times 56$ or $n \times 64$ kbps (where $n = 1$ to 31 for E1 and 1 to 24 for T1 links). Channel data rates, as well as all operating parameters, are soft-selectable.

Instead of synchronous data channels, DHS can be equipped with 10/100BaseT Ethernet interfaces for virtual LAN connections over $n \times 56$ kbps, or $n \times 64$ kbps lines (ETUB option). The bridge filters Ethernet/Fast Ethernet frames, forwarding only frames destined to the WAN. The 10/100BaseT module can also block broadcast and multicast messages. The 10/100BaseT Ethernet bridge also features automatic MDIX support, fault propagation of WAN error conditions to the Ethernet port, and two queues for handling priorities.



DHS

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Timeslots used on the E1 or T1 link can be either user-assigned or automatically selected.

Selectable timing modes permit each synchronous data channel to be configured as either DCE or DTE, and provide buffered retiming of the received data. Connection to nationally supplied digital lines (such as DDS) is supported. An external clock can be selected as the source for system timing.

Self-diagnostics upon power-up, as well as powerful testing capabilities, reduce downtime to a minimum.

Local support of four control signals for each channel is provided.

The DHS module occupies one I/O slot in DXC-8R, DXC-10A or DXC-30 chassis.

Specifications

SYNC DATA PORTS

Number of Ports

2

Interface (Electrical)

V.11/RS-422, V.24, V.35, X.21

Interface (Physical)

RS-530 (V.35 or V.36/RS-449 via adapter cables)

V.24

X.21

Connectors (per Channel)

25-pin D-type female for RS-530 and V.24

15-pin D-type female for X.21

Data Rates

Synchronous $n \times 56$ or $n \times 64$ kbps

For T1: $n = 1$ to 24

For E1: $n = 1$ to 31

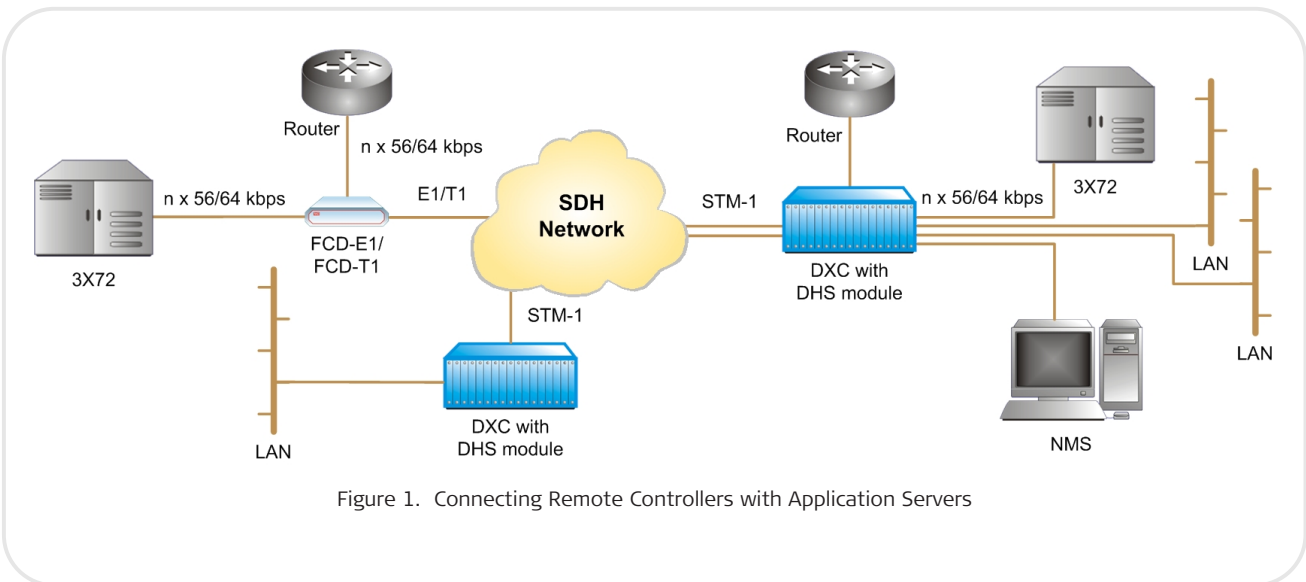


Figure 1. Connecting Remote Controllers with Application Servers

Clock Modes

DCE – transmit and receive clocks to synchronous DTE

DTE1 – transmit clock from synchronous device and receive clock to synchronous device

DTE2 – transmit and receive clocks from synchronous DCE

Control Signals

CTS – follows RTS or is constantly on, soft-selectable

DSR – constantly on, unless in test mode

DCD – constantly on, unless in RED ALARM

10/100 FAST ETHERNET BRIDGE PORTS**Number of Ports**

2

LAN Table

2048 MAC addresses with 5-minute automatic aging

Filtering and Forwarding

150,000 frames per second

Throughput

Maximum $n \times 64$ kbps

($n=1$ to 32); up to 2.048 Mbps data rate at the WAN side

19700 pps with 64-byte frame length and increment byte data (00, 01, 02, ...)

802 pps with 1536-byte frame length and increment byte data (00, 01, 02, ...)

Latency

LAN rate 100 Mbps, WAN rate 2 Mbps:

66 μ s for 64-byte frame length

1400 μ s for 1536-byte frame length

Frame Size

1536 bytes maximum

Buffer

120 frames (average)

Data Rate

10BaseT: 10 Mbps

100BaseT: 100 Mbps

Line Code

10BaseT: Manchester

100BaseT: MLT3

Connector (per Channel)

RJ-45

WAN Protocol

HDLC

Indicators

LINK (green) –

On when LAN link is on

ACT (yellow) –

On or blinking when LAN is transmitting or receiving data

100M (green) –

On when LAN is operating at 100 Mbps, Off when LAN is operating at 10 Mbps

Compliance

IEEE 802.3/Ethernet, IEEE 802.1p

GENERAL**Configuration**

Programmable via DXC's management system

Diagnostics

Local loopback

Remote loopback

Interruptive monitor

Internal BERT

Auto self-test

Power Consumption

RS-530: 2.5W

X.21: 2.2W

V.24: 2.1W

V.35: 3.1W

ETUB: 5.5W

ETUR: 3.2W

Physical

Occupies a single slot in a DXC-8R, DXC-10A or DXC-30 chassis

For comparison of DXC chassis, see *Table 2*. For the list of DXC I/O modules, refer to the DXC-8R/10A/30 folder.

DHS

Dual-Channel High-Speed Data Module

Ordering

DXC-M-HS/^

Legend

^ User port:

V35 V.35**530** V.11/RS-422 interface with RS-530 connector (adaptable to V.36/RS-449 via cable)**X21** X.21**V24** V.24**ETUB** Ethernet bridge port with 10/100BaseT (UTP) interface

OPTIONAL ACCESSORIES

The following cables adapt the DHS 25-pin connector to the specified applications.

Cable length is 2m (6 ft). A separate cable is required for each channel.

CBL-HS2/V/1/@

Adaptor cable for connecting a V.35 DTE in DCE clock mode

CBL-HS2/V/2/M

Adaptor cable for connecting a V.35 DCE in DTE1 clock mode, male connector

CBL-HS2/V/3/M

Adaptor cable for connecting a V.35 DCE in DTE2 clock mode, male connector

CBL-HS2/R/1/@

Adaptor cable for connecting a V.36/RS-449 DTE in DCE clock mode

CBL-HS2/R/2 /@

Adaptor cable for connecting a V.36/RS-449 DCE in DTE1 clock mode

CBL-HS2/R/3/@

Adaptor cable for connecting a V.36/RS-449 DCE in DTE2 clock mode

Legend

@ Cable connector on user side:

F female**M** male

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