Dual-Channel High Speed Data Module

RAD

DESCRIPTION

- Each DHS data module provides the DXC with two high speed data channels.
- DHS is available with a number of options for the user data port, including an IR-10/100 Ethernet bridge with VLAN support, IR-IP router or a choice of sync data interfaces: V.35, RS-422, or X.21.
- The V.35 and RS-422 channel interfaces terminate in a 25-pin D-type female connector. Pin assignment is compatible with RS-530 specifications. Special adapter cables can be ordered to connect these channels to V.35 or V.36/RS-449 equipment. The X.21 channel interface terminates in a 15-pin D-type female connector.
- Each synchronous data channel can support data rates of n x 56 or n x 64 kbps (where n = 1 to 24 for T1 and 1 to 31 for E1 links). Channel data rates as well as all operating parameters are soft-selectable through the DXC management system.
- When equipped with the 10/100 Ethernet interface, DHS enables virtual LAN connection over n x 56 kbps, or n x 64 kbps lines. DHS with the 10/100 bridge filters Ethernet/Fast Ethernet frames, forwarding only frames destined to the WAN. The 10/100 module can also block broadcast and multicast messages.

- The built-in Ethernet router option is a high performance remote IP router. It is ideal as a LAN extender, or segmenter over bit-stream type infrastructures. The router works by taking each Ethernet frame from the LAN and, according to its destination, forwards the packets to the IP net on the Ethernet LAN or to the WAN. The IP router port has 10BaseT (UTP) interface, which operates in full duplex mode.
- Each channel output may be directed to any channel on another DHS module at the remote site. Timeslots used on the T1 or E1 link can be either user-assigned or automatically selected.
- Programmable timing modes permit each 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 or Kilostream) 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.

FEATURES

- Supports two high speed data channels
- Programmable data rates from 56 to 1536 kbps (up to 1984 kbps when working with DE1, DE1B modules)
- Sync interfaces supported are V.35, X.21, or RS-449/422
- Optional high-speed 10/100BaseT Ethernet bridge data port with VLAN support
- Optional Ethernet IP router port
- Fits into any DXC chassis: DXC-8R, DXC-10A, DXC-30, DXC-STM-1; a special 6U-high version fits into DXC-30E chassis

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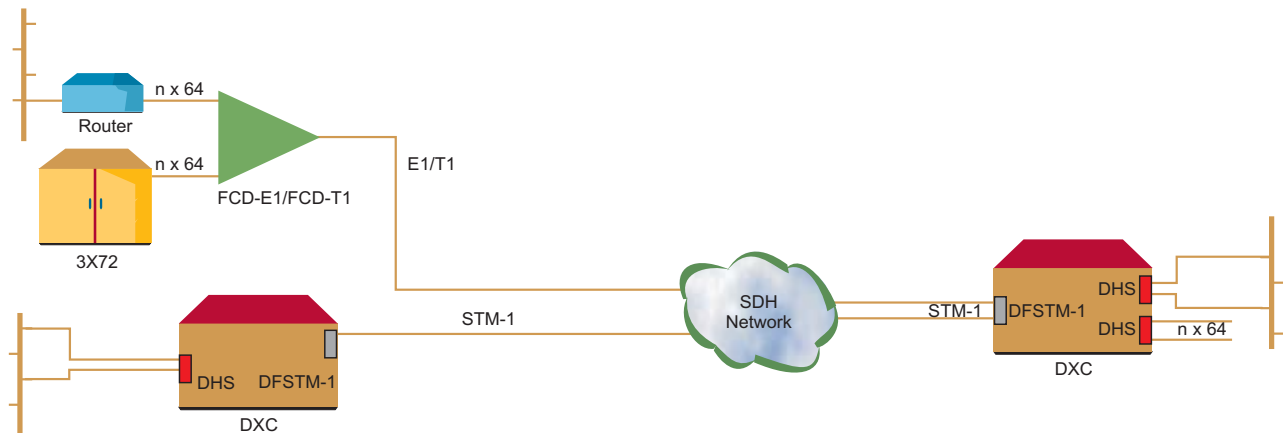### SPECIFICATIONS

SYNC DATA PORT

- **Interface (Electrical)**
  V.35, RS-422/V.11, or X.21

- **Interface (Physical)**
  - RS-530 (V.35 or V.36/RS-449 via adapter cables)
  - X.21

- **Connectors**
  25-pin D-type female for RS-530
  15-pin D-type female for X.21
  (one for each channel)

- **Data Rates**
  Synchronous n x 56 or n x 64 kbps
  For T1:   n = 1 to 24
  For E1:   n = 1 to 31

10/100 FAST ETHERNET PORT

- **LAN Table**
  1,000 addresses, self-learning

- **Filtering and Forwarding**
  150,000 frames per second

- **Buffer**
  170 frames

- **Delay**
  1 frame

- **Line Code**
  - 10BT: Manchester
  - 100BT: MLT3

- **Data Rate**
  - 10BT: 10 Mbps (20 Mbps in full duplex)
  - 100BT: 100 Mbps (200 Mbps in full duplex)

- **Connector**
  RJ-45

- **WAN Protocol**
  PPP

- **Indicators**
  LINK, ACT, 100M

- **Compliance**
  Conforms to IEEE 802.3/Ethernet, IEEE 802.1P

APPLICATION

ETHERNET ROUTER PORT

- **Filtering and Forwarding**
  30/35 kbps
- **Buffer**
  256 frames
- **Delay**
  1 frame
- **Compliance**
  Conforms to IEEE 802.3/
  Ethernet II
- **Interface**
  10BaseT (UTP)
- **Connector**
  Shielded RJ-45
- **Indicators**
  LINK, ACT

GENERAL

- **Channels**
  Two
- **Clock Modes**
  DTE1: Transmit and Receive
  clocks to synchronous DTE
  DTE2: Transmit clock from
  synchronous device and
  Receive clock to
  synchronous device
  DCE: 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
- **Configuration**
  Programmable via DXC's
  management system
- **Diagnostics**
  Local loopback
  Remote loopback
  Interruptive monitor
  Internal BERT
  Auto self-test

- **Power Consumption**
  - RS-530: 2.4W
  - X.21: 2.5W
  - V.35: 2.9W
  - IR-10/100: 6.8W
  - IR-IP: 2.8W
- **Physical**
  Occupies single
  DXC-8R/10A/30/30E or
  DXC-STM-1 module slot

Dual-Channel High Speed Data Module

ORDERING

DXC-M/HS/^
Dual Channel High Speed Data Module, 3U high version

DXC-ME/HS/^
Dual Channel High Speed Data Module, 6U high version

^ Specify user port type:
   V35 for V.35
   530 for RS-422/449
   X21 for X.21
   ETUB for Ethernet bridge port with 10/100BaseT (UTP) interface
   ETUR for UTP Ethernet router (10BaseT)
   DATA for RS-530/RS-422/ V.35/X.21 interface (without Ethernet)

Adapter Cables

The following cables adapt the DHS 25-pin connectors to the specified applications. Cable length is 2m (6 ft).

Note: a separate cable is required for each channel.

CBL-HS2V1/* Cable for connecting one DHS channel operating in DTE1 mode to V.35 DTE.

CBL-HS2V2/* Cable for connecting one DHS channel operating in DTE2 mode to V.35 DTE

CBL-HS2V3/* Cable for connecting one DHS channel operating in DCE mode to V.35 DTE

CBL-HS2R1/* Cable for connecting one DHS channel operating in DTE1 mode to V.36/RS-449 DTE

CBL-HS2R2/* Cable for connecting one DHS channel operating in DTE2 mode to V.36/RS-449 DTE.

CBL-HS2R3/* Cable for connecting one DHS channel operating in DCE mode to V.36/RS-449 DTE

* Specify cable connector type:
   F for female connector
   M for male connector