



# eToAccess - SHDSL.bis NTU Model : GH5000B

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### SHDSL.bis NTU Descriptions

The eTo GH5000B series SHDSL.bis NTU is a telecommunication product for carriers or SME users. In one device, it offers three DTE interfaces(E1,V.35, and Ethernet), which can work simultaneously to share the DSL bandwidth. This user-configurable interface during the installation provides a flexible design for various connections. The SHDSL.bis NTU supports two different connectors on G.703 E1 application, which provide the connection to TDM services(either balanced 120Ω RJ45 jack or unbalanced 75Ω dual BNCs) by the bit rate from 64kbps to 2.048Mbps. As a V.35 interface application, it links to high-speed TDM services by a DB25 interface, which can work as V.35/RS-530 or V.36/X.21(factory setting) connection. The data rate of DB25 interface is up to 5.696Mbps within one pair copper wires and 8.192Mbps within two pairs copper wires. The SHDSL.bis NTU provides the 10/100 Mbps autodetected Fast Ethernet by a RJ45 connector, which offers customer premise from LAN to high-speed TDM services. The SHDSL.bis NTU can be configured and managed via EOC,or menu-driven VT100 compatible Asynchronous Terminal Interface, either locally or remotely. The SHDSL.bis NTU provides the capability that identifies the maximum line rate supported by the copper loop. This powerful automatic configuration capability makes installation and service provisioning simple and painless.Furthermore it provides flexible manually setting of the maximum NTU speed at different levels for different customer-tailored service offerings.



SHDSL.bis NTU

### SHDSL.bis NTU Features

- Standard ITU G.991.2(2004) supports improvement on reach,speed and interoperability contrast to conventional G.shdsl devices
- Fast and cost-effective services as voices or TDM leased line services or LAN
- Efficient usage of single wire pair on existing copper loop infrastructures
- Support all DTE interfaces working simultaneously on back to back connection
- Auto rate installation maximizes data rate based on loop conditions
- Wetting current sink to protect SHDSL.bis line(optional)
- Local management interface with LCD display
- Remote line loopback
- SHDSL.bis Line performance monitoring (data rate and SNR)
- Raw and per time interval statistics
- Bandwidth guaranteed transmission equipment

### SHDSL.bis NTU Specification

#### Network interface

- Line Rate : SHDSL.bis per ITU G.991.2(2004)
- Coding : TC-PAM16, TC-PAM32
- Support : Annex A, B, F, G
- Payload rates :  
up to 5.696Mbps(N x 64kbps N=3 to 89)within one pair  
up to 11.392Mbps(N x 64kbps N= 6 to 178)within two pairs
- Connection : RJ-45 Jack
- Protection : ITU-T K.20/K.21

#### G.703 Interface(as E1)

- Line Rate : 2048KHZ+/-50ppm
- Line Code : HDB3/AMI
- Framing : PCM30/30C/31/31C and Unframed
- Date Rate : 64 Kbps to 2.048 Mbps(Nx64Kbps,N=1 to 32)
- Operation : Full E1 or Fractional E1
- Impedance : RJ-45 for balanced 120Ω  
BNC for unbalanced 75Ω

### MODEL INFORMATION

#### One-pair SHDSL.bis models :

ModelNo	GH5000B	GH5010B	GH5020B	GH5030B	GH5030B-EV	GH5030B-EL	GH5030B-LV
PA	90.T0252.004	90.T0252.005	90.T0252.006	90.T0252.007	90.T0252.008	90.T0252.009	90.T0252.010
E1 Interface	✓			✓	✓	✓	
V.35 Interface		✓		✓	✓		✓
LAN Interface			✓	✓		✓	✓

#### Two-pair SHDSL.bis models :

ModelNo	GH5001B	GH5011B	GH5021B	GH5031B	GH5031B-EV	GH5031B-EL	GH5031B-LV
PA	90.T0252.011	90.T0252.012	90.T0252.013	90.T0252.014	90.T0252.015	90.T0252.016	90.T0252.017
E1 Interface	✓			✓	✓	✓	
V.35 Interface		✓		✓	✓		✓
LAN Interface			✓	✓		✓	✓

### SHDSL.bis NTU Specification

#### DTE Interface(as V.35)

- Payload rates :  
up to 5.696Mbps(N x 64kbps N=3 to 89)/one pair  
up to 8.192Mbps(N x 64kbps N=3 to 128)/two pairs
- Support : V.35/RS-530 or V.36/X.21(need factory setting)

#### LAN Interface(as Ethernet)

- Single Ethernet Interface(IEEE 802.3/802.3u 10/100-T)
- 10/100 Mbps half/full duplex,Auto-Sensing, Auto-Crossover
- Up tp 1024 MAC address learning, filtering bridge
- IEEE 802.1D STP BPDU forwarding
- IEEE 802.1P QoS and 802.1Q VLAN transparency

#### Jitter and Wander

- Meets G.823 and G.824 jitter and wander requirements

#### DSL Timing

- Network
- Internal
- From E1 Recovery(as E1)
- From DTE(as V.35)

#### Wetting Current(Optional)

- Maximum 20 mA for DSL loops

#### Performance Monitoring

- ES,SES,UAS,Alarms,Errors for SHDSL.bis or E1 (as E1 application)

#### Loop back Tests

- Local Loop back
- Digital Loop back(as E1 and V.35 only)
- Remote Loop back
- Far-end Loop back(as E1 and V.35 only)
- V.54 Loop back(as V.35 only)
- Build-in 2" -1 bit tester(as E1 and V.35 only)

#### Management

- Configuration with keypad and LCD display
- Console port(RJ45.RS232)
- Support firmware upgradeable

#### Physical /Electrical

- Dimensions : 19.5 x 4.8 x 16.8cm

#### Environmental Conditions

- Input : 90 ~240 VAC with 50 ~60Hz or - 48 VDC
- Power Consumption : 10W Max
- Operation temperature :0 to +50 Degree C
- Humidity : 5% to 95%(non-condensing)
- External Screw for frame grounding
- Surge immunity : L1 : L2 1KV  
L1/L2 : PE 2KV
- Lighting : 4KV