



"focus differently"

USER MANUAL

Version V.0.7

SR2XX Series
2W/4W/8W G.SHDSL (BIS) EFM ROUTER

Models :
SR210 / SR220 / SR240

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1 Descriptions

SR2xx Series 2/4/8-Wire SHDSL.bis EFM Bridges/Routers comply with the latest G.SHDSL.bis technology standards and supports symmetric data rate up to 15.3Mbps/Pair under TC-PAM 128. Up to four pairs can be bonded together for aggregated bandwidth over 61 Mbps. It provides a secure and symmetrical high-speed connectivity over existing copper-line infrastructure that is ideal for service providers as well as SOHO and SME users.

SR2xx supports back to back connectivity for long reach Ethernet extension. Users can make a direct connection between two SHDSL.bis routers by using a standard telephone cable, and configure one as CO and the other as CPE. The connection offers a cost effective solution for service providers and SME users who need high-speed dedicated network applications.

The SHDSL.bis EFM routers are integrated with high-end Bridging/Routing capabilities that support flexible traffic management policies and Quality of Service, enabling business-class Ethernet services with flexibility of mapping user traffic into Ethernet flows. The unit can be managed by different ports and applications including comprehensive command-line interface (CLI), Telnet, user-friendly GUI-based Web Browser Interface and SNMP.

The SHDSL.bis routers help customers to meet their growing data communication needs by the latest broadband technologies. Through the power of SHDSL.bis products, you can access superior manageability and reliability.

1.1 Features

- ✓ Symmetrical high-speed Ethernet service with SHDSL.bis, backward compatible with SHDSL
- ✓ EFM bonding up to 61 Mbps (8-Wires, TC-PAM 128)
- ✓ Support both EFM mode and ATM mode (1 PVC)
- ✓ Support point to point connectivity
- ✓ Support dying gasp

1.2 Specifications

WAN Interface

- SHDSL.bis: ITU-T G.991.2 (2004) Annex A/B/F/G supported
- Support EFM Bonding and SHDSL M-Pair mode
- Encoding scheme: TC-PAM 16/32/64/128
- Data Rate:
 - N x 64 Kbps (N=3~89) using TC-PAM 16/32
 - Max. 5.696Mbps (1-Pair)

Max. 11.392Mbps (2-Pair)
Max. 22.784Mbps (4-Pair)
N x 64 Kbps (N=3~239) using TC-PAM 64/128
Max. 15.296 Mbps (1-Pair)
Max. 30.592 Mbps (2-Pair)
Max. 61.184 Mbps (4-Pair)
Impedance: 135 ohms.
Compliant with IEEE 802.3ah

LAN Interface

- 4-Ports 10/100M Switch, Auto-negotiation for 10/100Base-TX and Half/Full Duplex, Auto-MDIX Supported.

Bridging

- Up to 1024 MAC address learning bridge
- IEEE 802.1D transparent learning bridge
- IEEE 802.1Q/1P VLAN Port-based/Tagging
- QoS Class-based (Prioritization/Traffic/DSCP Mark), Rate Limiting, Up to 8 priority queues

Routing

- Support IP/TCP/UDP/ARP/ICMP/IGMP protocols
- IP routing with static routing and RIPv1/RIPv2 (RFC1058/2453)
- IP multicast and IGMP proxy (RFC1112/2236)
- Network address translation (NAT/PAT) (RFC1631)
- DHCP server, client and relay (RFC2131/2132)
- DNS relay/proxy and caching (RFC1034/1035)
- Dynamic DNS
- IP precedence (RFC 791)

ATM

- Multiple Protocols over AAL5
- Ethernet over ATM (RFC 2684/1483)
- 1 PVC

EFM

- EFM mode compliant to IEEE 802.3,
- PPP over Ethernet (RFC2516)
- Support of OAMPDU information and functionality (ITU-T Y.1731)
- OAMPDU Event Notification, Variable Request, Variable Response, Loopback Control
- VLAN base QOS (802.1P/Q), Priority Queue

Network Protocol

- VoIP(SIP) pass-through
- IPv4 (ARP/RARP, TCP/UDCP, ICMP)

- SNTP (Time Zone/ Daylight Savings)

Security

- Natural NAT/PAT firewall
- DMZ host
- Virtual server mapping (RFC1631)
- Advanced stateful packet inspection (SPI) firewall Denial of Service (DoS)
- Application level gateway for URL and keyword blocking (Content Filter)
- Access Control List (ACL)
- Support PAP/CHAP/MS-CHAP client

Management

- Web-based GUI for quick setup, configuration and management
- Command-line interface (CLI) for local console and Telnet/SSH access
- Password protected management and access control list for administration
- Remote management via WWW/SSH/Telnet local/remote
- Real-time system log logging
- SNMP SNMPv1/SNMPv2 (RFC 1157/1901/1905) and MIB-II (RFC 1213/1493)
- Software upgrade via Web-browser/CLI, supported TFTP/FTP
- Dying Gasp

Diagnostics/Monitoring

- Routing Table
- Packet Statistics

Hardware Interface

- WAN: RJ-45 x 1
- LAN: RJ-45 x 4
- Console Port: RS232 female
- Reset Button: Load factory default
- Power Jack

Indicators

- System: PWR, ALM
- WAN 1~4: LNK/ACT
- LAN 1~4: LINK/ACT

Physical / Electrical

- Dimensions: 18.7 x 3.3 x 14.5cm (WxHxD)
- Power: 100~240VAC (via power adapter)
- Power Consumption: 9 watts Max
- Operating Temperature: 0~45°C
- Storage Temperature: -20°C~70°C

- Humidity: 0%~95%RH (non-condensing)

Memory

- 128MB Flash Memory, 64MB DDR2 DRAM

Regulatory

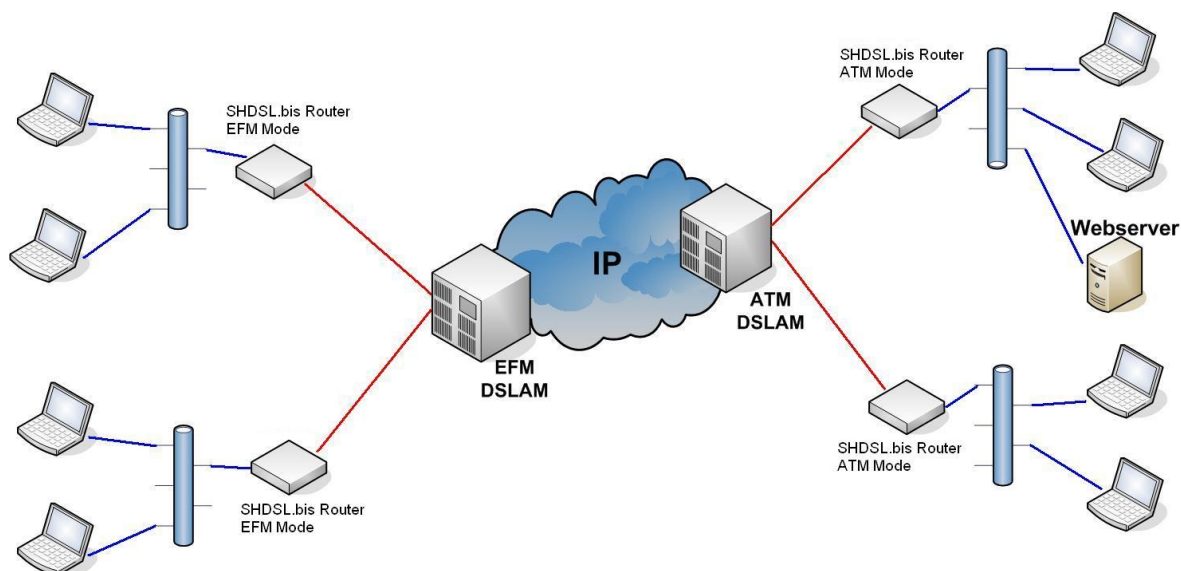
- CE
- FCC Part 15 Class A
- VCCI
- EN60950

* All specifications are subject to change without prior notice.

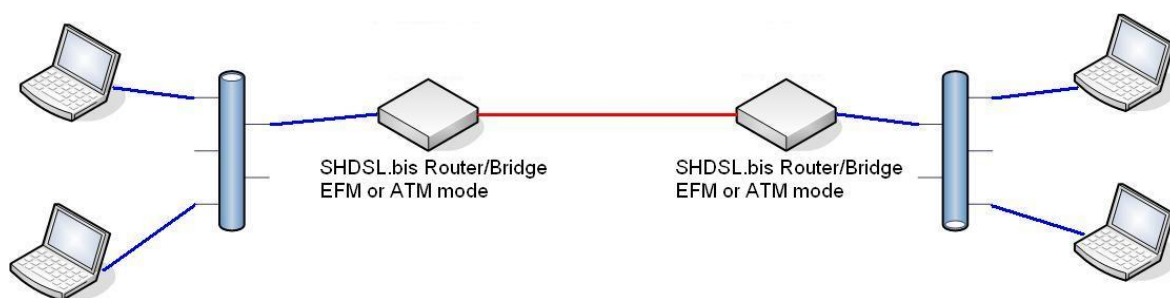
Ordering Information

| | |
|--------------|--|
| SR210 | 2-Wire G.Shdsl.bis EFM Router with 4 LAN Port |
| SR220 | 4-Wire G.Shdsl.bis EFM Router with 4 LAN Ports |
| SR240 | 8-Wire G.Shdsl.bis EFM Router with 4 LAN Ports |

1.3 Applications



Combination with EFM or ATM DSLAM



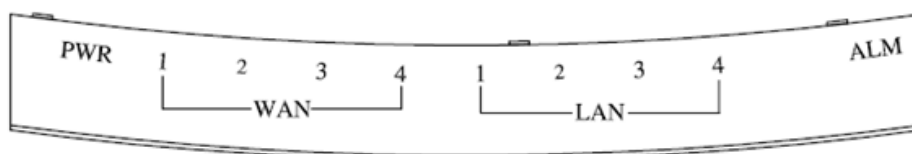
Point-to-point connection

2 Getting to know about the router

This chapter introduces the main features of the router.

2.1 Front Panel

The front panel contains LEDs which show status of the router.

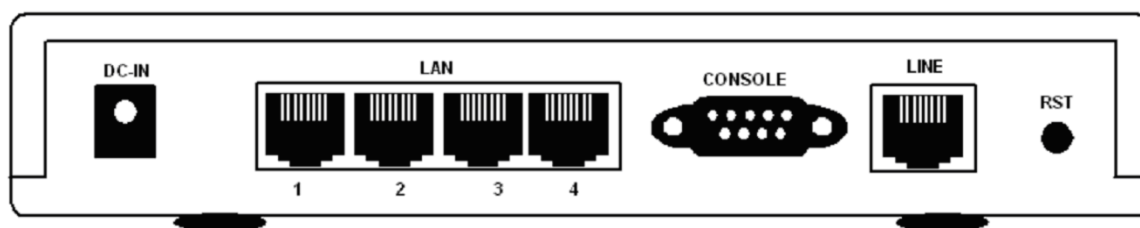


| LED status of SHDSL.bis Router | | | |
|--------------------------------|-----------|------------|---|
| LEDs | | Status | Description |
| PWR | | On | The power adaptor is connected to this device |
| | | Off | The power adaptor isn't connected to this device |
| DSL | LINK 1 | On | SHDSL.bis line 1 connection is established |
| | | Fast Blink | Transmit or received data over SHDSL.bis link 1 |
| | | Slow Blink | SHDSL.bis line 1 handshake/Training State (500ms on, 500ms off) |
| | | Off | SHDSL.bis line 1 connection isn't established |
| | LINK 2 | On | SHDSL.bis line 2 connection is established |
| | | Fast Blink | Transmit or received data over SHDSL.bis link 2 |
| | | Slow Blink | SHDSL.bis line 2 handshake/Training State (500ms on, 500ms off) |
| | | Off | SHDSL.bis line 2 connection isn't established |
| | LINK 3 | On | SHDSL.bis line 3 connection is established |
| | | Fast Blink | Transmit or received data over SHDSL.bis link 3 |
| | | Slow Blink | SHDSL.bis line 3 handshake/Training State (500ms on, 500ms off) |
| | | Off | SHDSL.bis line 3 connection isn't established |
| | LINK 4 | On | SHDSL.bis line 4 connection is established |
| | | Fast Blink | Transmit or received data over SHDSL.bis link 4 |
| | | Slow Blink | SHDSL.bis line 4 handshake/Training State (500ms on, 500ms off) |
| | | Off | SHDSL.bis line 4 connection isn't established |
| LAN | LINK/ACT1 | On | Ethernet cable is connected to LAN 1 |

| | | | |
|--|-----------|-------|---|
| | | Blink | Transmit or received data over LAN 1 |
| | | Off | Ethernet cable isn't connected to LAN 1 |
| | LINK/ACT2 | On | Ethernet cable is connected to LAN 2 |
| | | Blink | Transmit or received data over LAN 2 |
| | | Off | Ethernet cable isn't connected to LAN 2 |
| | LINK/ACT3 | On | Ethernet cable is connected to LAN 3 |
| | | Blink | Transmit or received data over LAN 3 |
| | | Off | Ethernet cable isn't connected to LAN 3 |
| | LINK/ACT4 | On | Ethernet cable is connected to LAN 4 |
| | | Blink | Transmit or received data over LAN 4 |
| | | Off | Ethernet cable isn't connected to LAN 4 |
| | ALM | On | All active DSL pairs are connected |
| | | Blink | Partial active DSL pairs aren't connected (250ms on, 250ms off) |
| | | Off | No Alarm |

2.2 Rear Panel

The rear panel of SHDSL.bis router is where all of the connections are made.



Connectors Description of SHDSL.bis Router

| | |
|---------------|---|
| DC-IN | Power adaptor inlet: Input voltage 12VDC |
| LAN (1,2,3,4) | Four Ethernet10/100BaseT auto-sensing and auto-MDI/MDIX for LAN ports (RJ-45) |
| CONSOLE | RS- 232C (DB9) for system configuration and maintenance |
| LINE | SHDSL.bis interface for WAN port (RJ-45) |
| RST | Reset button for reboot or load factory default |

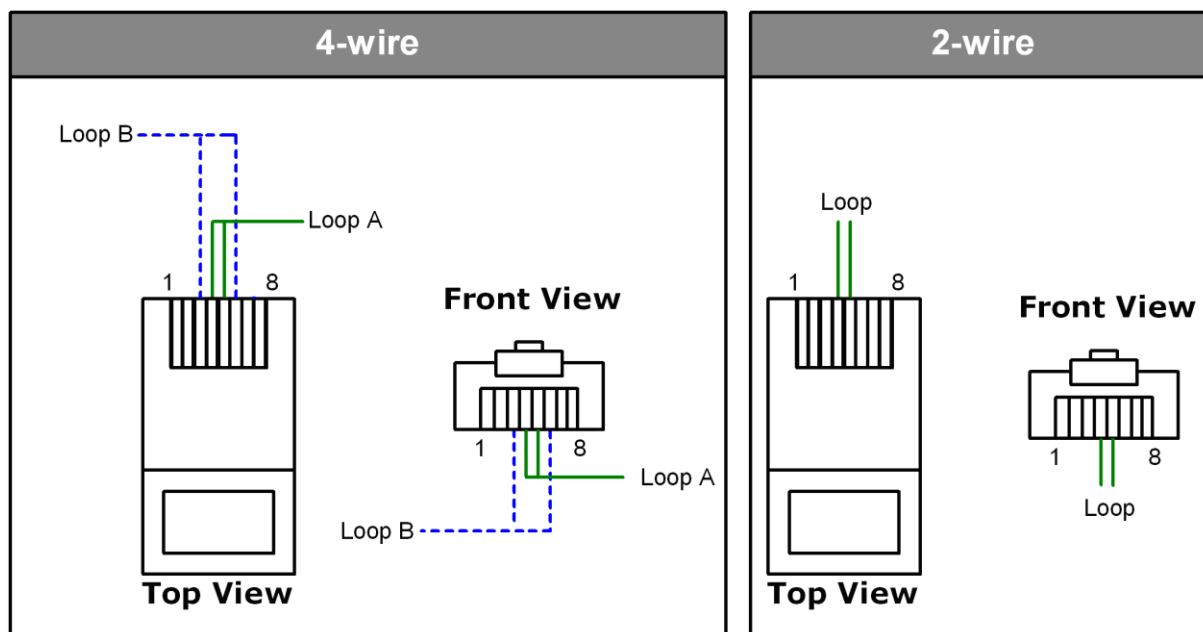


The reset button can be used only in one of two ways.

- (1) Press the Reset Button for 1 second to make the system reboot.
- (2) Pressing the Reset Button for 4 seconds will make the system load the factory default settings and lose your existing configuration. When you want to change its configuration but forget the user name or password, or if the product is having problems connecting to the Internet and you want to configure it again by clearing all configurations, press the Reset Button for 4 seconds with a paper clip or sharp pencil.

2.3 SHDSL.bis Line Connector

Below figure show the SHDSL.bis line cord plugs pin assignment:



2.4 Console Cable

Below figure show the cosole cable pins assignment:

| Pin Number | Description | Figure |
|------------|---------------|--------|
| 1 | No connection | |
| 2 | RxD (O) | |
| 3 | TxD (I) | |
| 4 | No connection | |
| 5 | GND | |
| 6 | No connection | |
| 7 | CTS (O) | |
| 8 | RTS (I) | |
| 9 | No connection | |

3 Install the Router

This chapter will guide you to install the SHDSL.bis Router via Web Configuration and Serial Console. Please follow the instructions carefully.

Note: There are three methods to configure the router: Serial console, Telnet or Web Browser. Only one configuration method is used to setup the Router at any given time. Users have to choose one method to configure it.

For Web configuration, you can skip item 3.

For Serial Console Configuration, you can skip item 1 and 2.

3.1 Check List

(1) Check the Ethernet Adapter in PC or NB

Make sure that Ethernet Adapter had been installed in PC or NB used for configuration of the router. TCP/IP protocol is necessary for web configuration, so please check the TCP/IP protocol whether it has been installed.

(2) Check the supported Web Browser in PC or NB

In order to set up the router by Web Configuration, your PC or notebook computer needs to install the supported web browser

(3) Check the Terminal Access Program

For Serial Console and Telnet Configuration, users need to setup the terminal access program with VT100 terminal emulation.

(4) Determine Connection Setting

Users need to know the Internet Protocol supplied by your Service Provider and determine the mode of setting.

Protocol Selection

| | |
|---------|---------------------------------------|
| RFC1483 | Ethernet over ATM |
| RFC1577 | Classical Internet Protocol over ATM |
| RFC2364 | Point-to-Point Protocol over ATM |
| RFC2516 | Point-to-Point Protocol over Ethernet |

The difference Protocols need to setup difference WAN parameters. After knowing the Protocol provided by ISP, you have to ask the necessary WAN parameters to setup it.

Bridge EoA

VPI: _
VCI: __
Encapsulation:
Gateway:
Host Name: (if applicable)

Route EoA

VPI: _
VCI: __
Encapsulation:
IP Address:
Subnet Mask: _
Gateway: _

PPPoE

VPI: _
VCI: __
Encapsulation:
User Name:
Password:
DNS Server: _
Host Name: (if applicable)

3.2 Install the SHDSL.bis Router

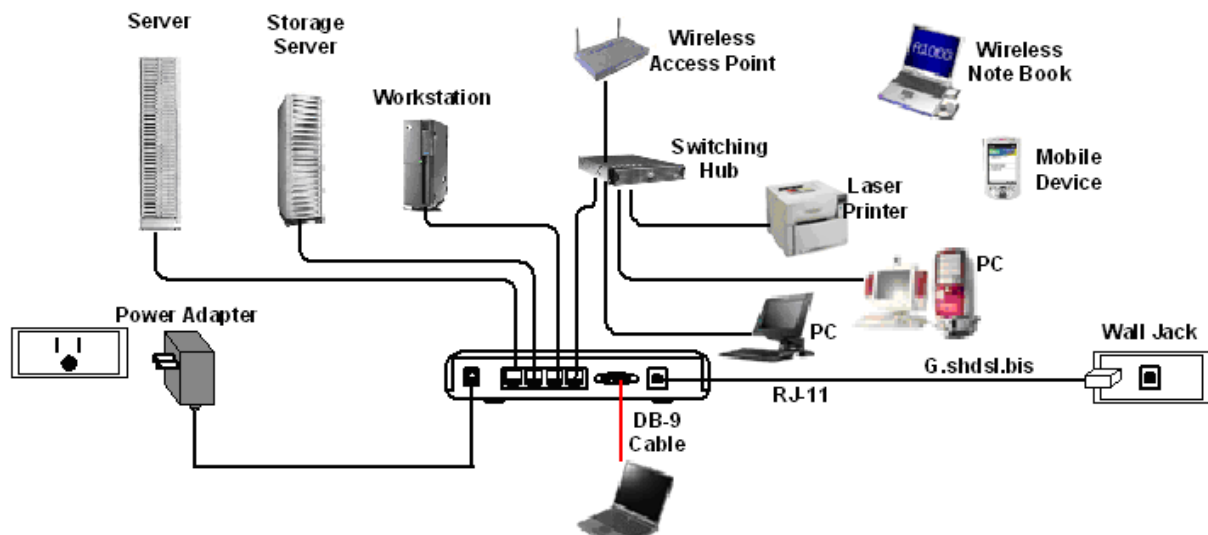


To avoid possible damage to this Router, do not turn on the router before Hardware Installation.

- Connect the power adapter to the port labeled DC-IN on the rear panel of the product.
- Connect the Ethernet cable.

Note: The router supports auto-MDI/MDIX switching so both straight through and cross-over Ethernet cable can be used.

- Connect the phone cable to the router and the other side of phone cable to wall jack.
- Connect the power adapter to power source inlet.
- Turn on the PC or NB, which is used for configuration the Router.



SHDSL.bis 4-ports router with complex network topology

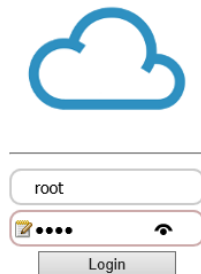
4 Configuration via Web Browser

OVERVIEW

The web configuration is an HTML-based management interface for quick and easy set up of the SHDSL.bis Routers by using an Internet browser.

After properly connecting the hardware of SHDSL.bis router as previously explained. Launch your web browser and enter <http://192.168.0.1> as URL

The default IP address and sub net-mask of the Router is 192.168.0.1 and 255.255.255.0. Because the router acts as DHCP server in your network, the router will automatically assign IP address for PC or NB in the network.



Type User Name **root** and Password **root** and then click **OK**.

The default user name and password both is *root*. For the system security, suggest changing them after configuration.

Note: After changing the User Name and Password, strongly recommend you to save them because another time when you login, the User Name and Password have to be used the new one you changed.

Function Listing

Below is the full function list of G.Shdsl.bis router

- **BASIC**
- **STATUS**
 - Information
 - G.SHDSL
 - Networking
 - Packet Statistics
 - Route
 - Switch
- **ADVANCED**
 - SHDSL.bis
 - WAN
 - LAN
 - DNS
 - DHCP
 - VLAN
 - QoS
 - Static Route
 - RIP
 - NAT/DMZ
 - Virtual Server
 - DDNS
 - Firewall
 - URL Filter
 - IGMP
 - SNTP
 - Switch
- **ADMIN**
 - SYSTEM
 - USER
 - MGMT
- **UTILITY**
 - SYSTEM LOG
 - SYSTEM TOOL
 - UPGRADE
 - RESTART
- **LOGOUT**

4.1 Basic Setup

OVERVIEW

Basic setup includes Bridge and Routing operation modes. User can use it to setup the Shdsl.bis router quickly. After completing it successfully, you can access Internet or use a pair of Shdsl.bis Routers as LAN extenders. This is the easiest and quickest way to setup the router.

G.Shdsl.bis

Info

Ready

△ BASIC

▲ STATUS

○ ADVANCED

▲ ADMIN

✖ UTILITY

🔒 LOGOUT

INFORMATION

Device Information

| | |
|--------------------------|--------------------------|
| Model Name | SR210 |
| HW MCSV | 145C-0000-00127243 |
| SW MCSV | 147A-0000-01227360 |
| Software Version | 012 |
| Ethernet MAC Address | 00:E0:92:31:23:24 |
| Serial Number | |
| DSL Chip Name | PEF22628V1.2 |
| DSL Hardware Pair Number | 2 |
| DSL Firmware Version | 1.1-1.9.0_001_eLP |
| System Current Time | 2015/01/01 08:12:02 |
| System Update Time | 0 day 0 hr 12 min 21 sec |

Click **BASIC** for basic installation.

G.Shdsl.bis

Info

Ready

△ BASIC

▲ STATUS

○ ADVANCED

▲ ADMIN

✖ UTILITY

SYSTEM LOG

SYSTEM TOOL

UPGRADE

RESTART

🔒 LOGOUT

BASIC

G.SHDSL

| | |
|---------------|--------|
| Transfer Mode | ATM |
| Pair Mode | PAIR-1 |
| STU Mode | STU-R |
| Multiplexing | LLC |
| VPI | 0 |
| VCI | 32 |

WAN

| | |
|---------------|----------|
| Mode | Routing |
| Encapsulation | RFC 1483 |

WAN-IP

| | |
|-----------------|---------|
| IP Address Type | Dynamic |
|-----------------|---------|

LAN

| | |
|-------------|---------------|
| IP Address | 192.168.1.1 |
| Subnet Mask | 255.255.255.0 |

Default Gateway

| | |
|------------|---------------|
| IP Address | 192.168.0.254 |
|------------|---------------|

* Note: Either the G.Shdsl mode or the WAN mode is changed, that The system will need to reboot !!

Apply

Cancel

G.SHDSL

| Item | Description |
|----------------------|---|
| Transfer Mode | <p>Click on the drop-down list and select Transfer Mode as ATM (Asynchronous Transfer Mode) or PTM (Packet Transfer Mode).</p> <p>ATM uses asynchronous time-division multiplexing, and encodes data into small, fixed-sized packets called cells.</p> <p>SHDSL interfaces support Packet Transfer Mode (PTM). In PTM, packets (IP, PPP, Ethernet, MPLS, and so on) are transported over DSL links as an alternative to using Asynchronous Transfer Mode (ATM). PTM is based on the Ethernet in the First Mile (EFM) IEEE 802.3ah standard.</p> <p><i>*Note: This mode is changed, the system will need to reboot.</i></p> |
| Pair Mode | <p>Click on the drop-down list and select Pair Mode as Pair-1, Pair-2 or Pair-4.</p> <p>Pair-1 for 2-Wire Shdsl.bis Router Pair-2 for 4-Wire Shdsl.bis Router Pair-4 for 4-Wire Shdsl.bis Router</p> |
| STU Mode | <p>Click on the drop-down list and select STU Mode as STU-C or STU-R</p> <p>STU-C means the terminal of central office and STU-R means customer premise equipment. For point to point application, STU-C is the server/master unit while STU-R is the client/slave unit.</p> |
| Multiplexing | <p>Click on the drop-down list and select Multiplexing used by your ISP as VC or LLC.</p> <p>VC-mux (VC-based Multiplexing): Each protocol is assigned to a specific virtual circuit. VC-based multiplexing may be dominant in environments where dynamic creation of large numbers of ATM VCs is fast and economical.</p> <p>LLC (LLC-based Multiplexing): One VC carries multiple protocols with protocol identifying information being contained in each packet header. Despite the extra bandwidth and processing overhead, this method may be advantageous if it is not practical to have a separate VC for each carried protocol.</p> <p><i>*This is available only when you select ATM as Transfer Mode.</i></p> |
| VPI | <p>Enter the VPI (Virtual Path Identifier) range from 0 to 255.</p> <p><i>*This is available only when you select ATM as Transfer Mode.</i></p> |
| VCI | <p>Enter the VCI (Virtual Channel Identifier) range from 32 to 65535.</p> <p><i>*This is available only when you select ATM as Transfer Mode.</i></p> |

WAN

| Item | Description |
|----------------------|--|
| Mode | <p>Click on the drop-down list and select Mode as Routing or Bridge</p> <p>Choose Routing if your ISP provides you with only one IP address and you need several computers to use the same Internet account. Choose Bridge when your ISP provides you with more than one IP address and you need several computers to get individual IP address from your ISP's DHCP server. When Bridge is selected, NAT, DHCP server and Firewall become unavailable.</p> <p><i>*Note: This mode is changed, the system will need to reboot.</i></p> |
| Encapsulation | <p>Click on the drop-down list and select Encapsulation used by your ISP as PPPoE or RFC1483</p> |

WAN-IP

| Item | Description |
|------------------------|--|
| IP Address Type | <p>Click on the drop-down list and select IP Address Type as Static or Dynamic</p> |

| | |
|---------------------------|--|
| | A static IP address is a fixed IP provided by your ISP. A dynamic IP address is different every time when you connect to the Internet. |
| IP Address | Enter IP address for WAN when select Static IP address Type. |
| Submask | Enter a subnet mask in dotted decimal notation when select Static IP address Type. |
| Gateway IP Address | Enter a gateway IP address provided by your ISP when select Static IP address Type. |

LAN

| Item | Description |
|--------------------|--|
| IP Address | Enter IP address for LAN |
| Subnet Mask | Enter a subnet mask in dotted decimal notation when select Static IP address Type. |

When select PPPoE as Encapsulation, you are required to enter the User Name and Password provided by your ISP.

PPPoE

| Item | Description |
|------------------|---|
| User Name | Enter User Name provided by the ISP for PPPoE |
| Password | Enter Password provided by the ISP for PPPoE |

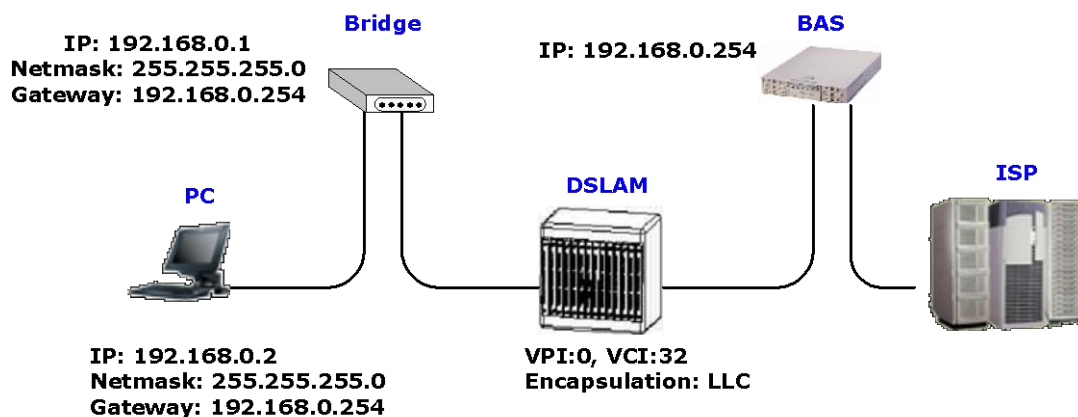
The screenshot displays the router's configuration page in the 'BASIC' tab. The sidebar on the left lists navigation options: BASIC, STATUS, ADVANCED, ADMIN, UTILITY, and LOGOUT. The main configuration area is titled 'BASIC' and contains several sections: 'G.SHDSL' with fields for Transfer Mode (PTM), Pair Mode (PAIR-1), and STU Mode (STU-R); 'WAN' with Mode (Bridge) and Encapsulation (PPPoE); 'WAN-IP' with IP Address Type (Dynamic), IP Address (0.0.0.0), Subnet Mask (0.0.0.0), and Gateway IP Address (0.0.0.0); 'LAN' with IP Address (192.168.5.20) and Subnet Mask (255.255.255.0); and 'PPPoE' with User Name and Password fields, both masked with asterisks. At the bottom right, there are 'Apply' and 'Cancel' buttons.

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

Reference diagram

Bridge mode

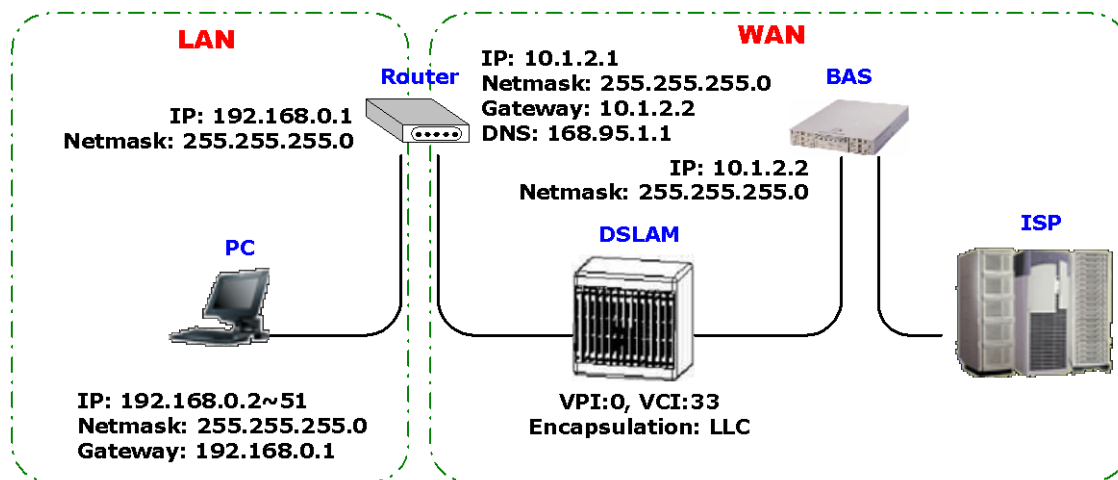
When configured in Bridge Mode, the router will act as a pass-through device and allow the workstations on your LAN to have public addresses directly on the internet.



EoA

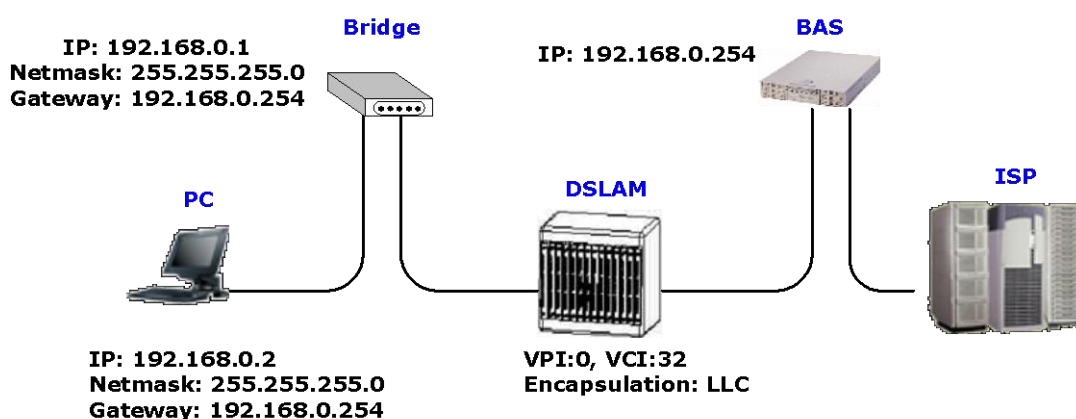
EoA (Ethernet-over-ATM) protocol is commonly used to carry data between local area networks that use the Ethernet protocol and wide-area networks that use the ATM protocol. Many telecommunications industry networks use the ATM protocol. ISPs who provide DSL services often use the EoA protocol for data transfer with their customers' DSL modems.

EoA can be implemented to provide a bridged connection between a DSL modem and the ISP. In a bridged connection, data is shared between the ISP's network and their customer's as if the networks were on the same physical LAN. Bridged connections do not use the IP protocol. EoA can also be configured to provide a routed connection with the ISP, which uses the IP protocol to exchange data.



PPPoE

PPPoE (point-to-point protocol over Ethernet) are authentication and connection protocols used by many service providers for broadband Internet access. These are specifications for connecting multiple computer users on an Ethernet local area network to a remote site through common customer premises equipment, which is the telephone company's term for a modem and similar devices. PPPoE can be used to office or building. Users share a common Digital Subscriber Line (DSL), cable modem, or wireless connection to the Internet. PPPoE combine the Point-to-Point Protocol (PPP), commonly used in dialup connections, with the Ethernet protocol or ATM protocol, which supports multiple users in a local area network. The PPP protocol information is encapsulated within an Ethernet frame or ATM frame.



4.2 STATUS

OVERVIEW

STATUS allows you to monitor the current status of the SHDSL.bis Router including basic software and hardware information, networking status, detailed packet statistics and G.SHDSL(WAN) status.



| | |
|--------------------------|---|
| Information | Basic Device Information including Host Name, HW MCSV, SW MCSV, Software Version, MAC Address, Serial Number, DSL Chip information, System Time and System Update Time. |
| G.SHDSL | Mode, Line rate and Performance information including SNR margin, attenuation and CRC error count. |
| Networking | Current status of Network, DSL and Route Table. |
| Packet Statistics | System Status and Packet statistics for WAN port and LAN port. |
| Route | Default route and static route. |
| Switch | LAN Ethernet port status. |

Information

STATUS > Information

G.Shdsl.bis

- BASIC**
- STATUS**
- ADVANCED
- ADMIN
- UTILITY
- LOGOUT

Info
Ready

INFORMATION

Device Information

| | |
|--------------------------|--------------------------|
| Model Name | SR210 |
| HW MCSV | 145C-0000-00127243 |
| SW MCSV | 147A-0000-01227360 |
| Software Version | 012 |
| Ethernet MAC Address | 00:E0:92:31:23:24 |
| Serial Number | |
| DSL Chip Name | PEF22628V1.2 |
| DSL Hardware Pair Number | 2 |
| DSL Firmware Version | 1.1-1.9.0__001_eLP |
| System Current Time | 2015/01/01 08:12:02 |
| System Update Time | 0 day 0 hr 12 min 21 sec |

INFORMATION page displays basic device information including Host Name, HW MCSV, SW MCSV, Software Version, Ethernet MAC Address, Serial Number, DSL Chip Name, DSL Hardware Pair Number, DSL Firmware Version, System Current Time and System Update Time.

G.SHDSL

STATUS > G.SHDSL

- BASIC**
- STATUS**
- Information
- G.Shdsl
- Network
- Statistics
- Route
- Switch
- ADVANCED
- ADMIN
- UTILITY
- LOGOUT

Info
Ready

STATUS - G.SHDSL

Refresh Interval: None
Clear CRC

| Channel | Channel 1 | |
|--------------|-----------|-----------|
| Local/Remote | Local | Remote |
| TC Layer | ATM | ATM |
| State | CONNECTED | CONNECTED |
| Annex | ANNEX-B/G | ANNEX-B/G |
| Line Rate | 5696 kbps | 5696 kbps |
| Loop Attn | 0 dB | 0 dB |
| Tx Power | 8.5 dBm | 8.5 dBm |
| SNR | 18 dB | 19 dB |
| CRC | 0 | 0 |

Note: The Refresh Interval is runtime configurable!

G.SHDSL STATUS page displays current status of DSL line including Channel Name, State, Annex, TCLayer, Line Rate, SNR, Loop Attenuation, TxPower and CRC.

NETWORKING

STATUS > Network

BASIC

STATUS

Information

G.Shdsl

Network

Statistics

Route

Switch

ADVANCED

ADMIN

UTILITY

LOGOUT

Info

Ready

STATUS - NETWORK

Refresh Interval:

Wan

| | |
|------------|---------------|
| Mode | router |
| IP Address | 192.168.0.119 |
| IP Netmask | 255.255.255.0 |

Lan

| | |
|------------|---------------|
| IP Address | 192.168.1.1 |
| IP Netmask | 255.255.255.0 |

DNS

| | |
|---------------|---------------|
| Primary DNS | 192.168.0.130 |
| Secondary DNS | 192.168.0.129 |

Gateway

| | |
|-----------------|---------------|
| Default Gateway | 192.168.0.250 |
|-----------------|---------------|

NETWORKING STATUS page displays Network Status, DSL Status and Route Table information

PACKET STATISTICS

STATUS > Packet Statistics

BASIC

STATUS

Information

G.Shdsl

Network

Statistics

Route

Switch

ADVANCED

ADMIN

UTILITY

LOGOUT

Info

Ready

STATUS - STATISTICS

Refresh Interval: Clear All

| Interface | Status | Rx Octets | Tx Octets | Rx Packets | Tx Packets | Rx Drops | Tx Drops | Clear |
|-----------|--------|-----------|-----------|------------|------------|----------|----------|----------------------------------|
| Port 1 | Up | 82926 | 1100836 | 776 | 1056 | 0 | 0 | <input type="button" value="x"/> |
| Port 2 | Down | 0 | 0 | 0 | 0 | 0 | 0 | <input type="button" value="x"/> |
| Port 3 | Down | 0 | 0 | 0 | 0 | 0 | 0 | <input type="button" value="x"/> |
| Port 4 | Down | 0 | 0 | 0 | 0 | 0 | 0 | <input type="button" value="x"/> |
| Wan | Up | 2086454 | 7550 | 17089 | 90 | 0 | 0 | <input type="button" value="x"/> |

Note: The Refresh Interval is runtime configurable!

PACKET STATUS page displays System Status and packet statistics for WAN port and LAN port.

ROUTE

STATUS > Route

BASIC

STATUS

Information

G.Shdsl

Network

Statistics

Route

Switch

ADVANCED

ADMIN

UTILITY

LOGOUT

Info

Ready

STATUS - ROUTE

Route

| Index | Destination | Netmask | Gateway | Flags | Metric | Reference | Interface |
|-------|-------------|---------------|---------------|-------|--------|-----------|-----------|
| 1 | 192.168.1.0 | 255.255.255.0 | 0.0.0.0 | U | 0 | 0 | lan |
| 2 | 192.168.0.0 | 255.255.255.0 | 0.0.0.0 | U | 0 | 0 | ptm0 |
| 3 | 0.0.0.0 | 0.0.0.0 | 192.168.0.250 | UG | 0 | 0 | default |

Default route and static route

SWITCH

STATUS > Switch

BASIC

STATUS

Information

G.Shdsl

Network

Statistics

Route

Switch

ADVANCED

ADMIN

UTILITY

LOGOUT

Info

Ready

STATUS - SWITCH

Switch

| Port | Ethernet Media Status |
|------|-----------------------|
| 1 | 100M Full |
| 2 | Off |
| 3 | Off |
| 4 | Off |

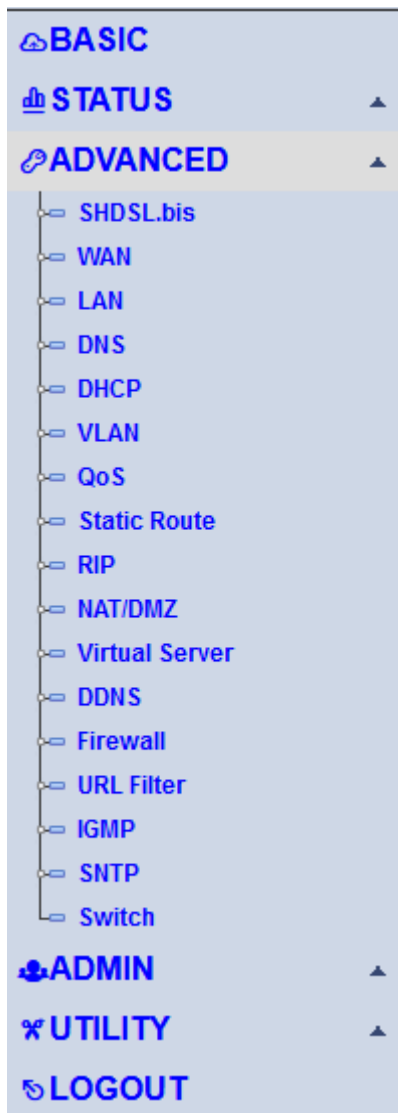
LAN Ethernet port status

4.3 Advanced Setup

OVERVIEW

Advanced setup includes SHDSL.bis, WAN, LAN, DNS, DHCP, VLAN, QoS, RIP, NAT/DMZ, Virtual Server, DDNS, Firewall, Content Filter, IGMP and SNTP.

Note: The advanced functions are only for advanced users to setup advanced functions. The incorrect setting of advanced functions will affect the performance or result system error, even disconnection.



ADVANCED>SHDSL.bis

PAIR Type

Pair Mode: PAIR-1

Channel Config

| | Channel |
|-------------------|--------------|
| Mode Type | STU-R |
| Line Probe | CC Enable |
| Transfer Max Rate | 5696 (Kbps) |
| Transfer Min Rate | 192 (Kbps) |
| Standard Mode | ANNEX_B/G |
| Modulation | AUTO |
| SNR | 5 db(-10~21) |

Note: TCPAM 64/128 is not support in ATM Mode!

Apply Cancel

Service Type

| Item | Description |
|------------------|---|
| Pair Mode | Click on the drop-down list and select Pair Mode as Pair-1, Pair-2 or Pair-4. Pair-1 for 2-Wire Shdsl.bis Router Pair-2 for 4-Wire Shdsl.bis Router Pair-4 for 4-Wire Shdsl.bis Router |

Pair Config

| Item | Description |
|--------------------------|--|
| Mode Type | Click on the drop-down list and select STU Mode as STU-C or STU-R STU-C means the terminal of central office and STU-R means customer premise equipment. For point to point application, STU-C is the server/master unit while STU-R is the client/slave unit. |
| Line Probe | Click on the drop-down list and select Enable to enable Line Probe or Disable to disable Line Probe. For adaptive mode, you have to Enable Line Probe function. The router will adapt the data rate automatically according to the line status. Note: The TCPAM-64/128 did not support Line Probe Disable. |
| Transfer Max Rate | Select the maximum rate for sending and receiving data. |
| Transfer Min Rate | Select the minimum rate for sending and receiving data. |
| Standard Mode | There are four Annex types: Annex A (ANSI), Annex B (ETSI), Annex AF and Annex BG. Select the Standard Mode supported by your ISP. For point to point applications, you may choose one of the four types according to which line rate you need. |
| Modulation | Select the modulation supported by your ISP. |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

WAN

ADVANCED>WAN

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Switch

ADMIN

UTILITY

LOGOUT

InfoReady

ADVANCED - WAN

General

| | |
|----------------|---------|
| Transfer Mode | ATM |
| Operation Mode | Routing |
| Encapsulation | PPPoE |
| User Name | |
| Password | |
| Multiplexing | LLC |
| VPI | 0 |
| VCI | 32 |

IP Address

| | |
|------|---------------------------------------|
| Mode | <input checked="" type="radio"/> DHCP |
|------|---------------------------------------|

Advanced

| | | |
|-----|------|-------------|
| MTU | 1500 | (68 ~ 1500) |
|-----|------|-------------|

• Either the Transfer mode or the Operation mode is changed, that The system will need to reboot !

ApplyCancel

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Switch

ADMIN

UTILITY

LOGOUT

InfoReady

ADVANCED - WAN

General

| | |
|----------------|---------|
| Transfer Mode | ATM |
| Operation Mode | Routing |
| Encapsulation | PPPoE |
| User Name | |
| Password | |
| Multiplexing | LLC |
| VPI | 0 |
| VCI | 32 |

IP Address

| | |
|------|---------------------------------------|
| Mode | <input checked="" type="radio"/> DHCP |
|------|---------------------------------------|

Advanced

| | | |
|-----|------|-------------|
| MTU | 1500 | (68 ~ 1500) |
|-----|------|-------------|

• Either the Transfer mode or the Operation mode is changed, that The system will need to reboot !

ApplyCancel

General

| Item | Description |
|-----------------------|--|
| Transfer Mode | <p>Click on the drop-down list and select Transfer Mode as ATM (Asynchronous Transfer Mode) or PTM (Packet Transfer Mode).</p> <p>ATM uses asynchronous time-division multiplexing, and encodes data into small, fixed-sized packets called cells.</p> <p>SHDSL interfaces support Packet Transfer Mode (PTM). In PTM, packets (IP, PPP, Ethernet, MPLS, and so on) are transported over DSL links as an alternative to using Asynchronous Transfer Mode (ATM). PTM is based on the Ethernet in the First Mile (EFM) IEEE 802.3ah standard.</p> <p>Note: This mode is changed, the system will need to reboot.</p> |
| Operation Mode | <p>Click on the drop-down list and select Operation Mode as Routing or Bridge</p> <p>Choose Routing if your ISP provides you with only one IP address and you need several computers to use the same Internet account. Choose Bridge when your ISP provides you with more than one IP address and you need several computers to get individual IP address from your ISP's DHCP server. When Bridge is selected, NAT, DHCP server and Firewall become unavailable.</p> <p>Note: This mode is changed, the system will need to reboot.</p> |
| Encapsulation | <p>Click on the drop-down list and select Encapsulation used by your ISP as PPPoE or RFC1483</p> <p>When select PPPoE as Encapsulation, you are required to enter the User Name and Password provided by your ISP.</p> |
| User Name | Enter User Name provided by the ISP for PPPoE |
| Password | Enter Password provided by the ISP for PPPoE |

IP Address

| Item | Description |
|---------------------------|--|
| IP Address Type | <p>Click on the drop-down list and select WAN IP Address Type as Static or Dynamic</p> <p>A static IP address is a fixed IP provided by your ISP. A dynamic IP address is different every time when you connect to the Internet.</p> |
| IP Address | Enter IP address for WAN when select Static IP address Type. |
| Submask | Enter a subnet mask in dotted decimal notation when select Static IP address Type. |
| Gateway IP Address | Enter a gateway IP address provided by your ISP when select Static IP address Type. |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

ADVANCED>LAN

BASIC

STATUS

ADVANCED

ADMIN

UTILITY

LOGOUT

Info

Ready

ADVANCED - LAN

IP Setting

LAN IP

192.168.1.1

Subnet Mask

255.255.255.0

Default Gateway

IP Address

192.168.0.254

Apply

Cancel

IP Setting

| Item | Description |
|-------------|--|
| LAN IP | Enter IP address for LAN |
| Subnet Mask | Enter a subnet mask in dotted decimal notation when select Static IP address Type. |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

ADVANCED>DNS

G.Shdsl.bis

Info Ready

ADVANCED - DNS

DNS Server

| | | |
|-------------------|-------------------|--|
| DNS Source | Obtained From ISP | |
| First DNS Server | 0.0.0.0 | |
| Second DNS Server | 0.0.0.0 | |
| Third DNS Server | 0.0.0.0 | |

Apply Cancel

G.Shdsl.bis

Info Ready

ADVANCED - DNS

DNS Server

| | | |
|-------------------|-------------------|--|
| DNS Source | Obtained From ISP | |
| First DNS Server | Obtained From ISP | |
| Second DNS Server | User Defined | |
| Third DNS Server | DNS Relay | |

Apply Cancel

DNS Server

| Item | Description |
|--------------------------|---|
| First DNS Server | Click on the drop-down list and select below options for DNS Servers; |
| Second DNS Server | |
| Third DNS Server | |
| | <p>Obtained From ISP: Select this option when your ISP dynamically assigns the DNS server information.</p> <p>User Defined: Select this option when you have the IP address of a DNS server.</p> <p>DNS Relay: Select this option when your ISP uses IPCP DNS server extensions and the SHDSL.bis Router acts as DNS proxy.</p> <p>None: Select this option when you don't want to configure DNS servers.</p> |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

DHCP

ADVANCED>DHCP

G.Shdsl.bis

Info
Ready

ADVANCED - DHCP

DHCP

IP Pool Starting Address

Pool Size

Lease Time

Server
▼

192.168.5.33

32

300 Sec(s)

Client List

| Host Name | State | IP | MAC | Expired Time |
|-----------|-------|----|-----|--------------|
| | | | | |

Static DHCP

IP Address

MAC Address

IP List ▼

Add

Static List

| IP | MAC |
|----|-----|
| | |

Apply

Cancel

DHCP

| Item | Description |
|---------------------------------|---|
| DHCP | Click on the drop-down list and select below options for DHCP; None: Select this option to disable DHCP server. Server: Select this option when the router can assign IP addresses. Then enter the fields for IP Pool Starting Address, Pool Size and Lease Time. Relay: Select this option the router will relay DHCP requests and responses between the remote server and the clients. Then enter the field for Remote DHCP Server. |
| IP Pool Starting Address | Enter the 1 st address in the IP address pool. *This field is required only when you enable DHCP server. |
| Pool Size | Enter the size of IP address pool. *This field is required only when you enable DHCP server. |
| Lease Time | Enter the lease time for IP addresses. *This field is required only when you enable DHCP server. |

Client List

The table displays the list and status of clients with their Host Name, State, IP address, MAC and Expired Time.

Static DHCP

| Item | Description |
|--------------------|--|
| IP Address | Enter IP address to change the static DHCP setting |
| MAC Address | Enter the MAC address of the Ethernet device. |

Static List

The table displays IP addresses and MAC added to the Static DHCP list.

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

LAN

VLAN (Virtual Local Area Network) allows a physical network to be partitioned into multiple logical networks. Devices on a logical network belong to one group. A device can belong to more than one group. With VLAN, a device cannot directly talk to or hear from devices that are not in the same group.

With MTU (Multi-Tenant Unit) applications, VLAN is vital in providing isolation and security among the subscribers. When properly configured, VLAN prevents one subscriber from accessing the network resources of another on the same LAN.

VLAN also increases network performance by limiting broadcasts to a smaller and more manageable logical broadcast domain. In traditional switched environments, all broadcast packets go to each every individual port. With VLAN, all broadcasts are confined to a specific broadcast domain.

The IEEE 802.1Q defines the operation of VLAN bridges that permit the definition, operation, and administration of VLAN topologies within a bridged LAN infrastructure.

The router supports two types of VLAN: **802.1Q Tag-Based VLAN** and **Port-Based VLAN**.

VID: (Virtual LAN ID) It is an definite number of ID range from 1 to 4094.

PVID: (Port VID) It is an untagged member from 1 to 4094 of default VLAN.

ADVANCED>VLAN

△BASIC

△STATUS

△ADVANCED

△BHD SL bis

△WAN

△LAN

△DNS

△DHCP

△VLAN

△QoS

△RIP

△NAT/DMZ

△Virtual Server

△DDNS

△Firewall

△Content Filter

△DDP

△SNMP

△ADMIN

×UTILITY

🔌LOGOUT

Info

Ready

G.Shdsl.bis

ADVANCED - VLAN

VLAN Mode

Mode ☒ OFF ☐ On

Group Config

| Entry No | VID | MGMT | LAN | | | | VLAN |
|----------|-----|----------------------------------|-------|-------|-------|-------|-------|
| | | | 1 | 2 | 3 | 4 | 1 |
| 1 | 1 | <input checked="" type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 2 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 3 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 4 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 5 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 6 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 7 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 8 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 9 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 10 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 11 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| 12 | 0 | <input type="radio"/> | Untag | Untag | Untag | Untag | Untag |
| PVID | | | 1 | 1 | 1 | 1 | 1 |

Note: VID/PID : 1~4094.

Note: The LAN / VLAN's PVID need to belong to valid entry's VID.

Apply

Cancel

VLAN Mode

| Item | Description |
|--------------------|---|
| Active Mode | Active 802.1Q VLAN function On: Enable VLAN Configure Off: Disable VLAN Configure |

Group Config (Summary Table)

| Item | Description |
|--------------------|--|
| Name | This field displays the name of the VLAN group |
| VID | This field displays the ID number for a VLAN group. |
| MGMT | Specify the selected VLAN group as manageable. |
| Port Number | The columns display the VLAN settings on each port. "Tag" for a tagged port. "UnTag" for an untagged port. "Not Group" for ports without VLAN settings. |
| PVID | This field displays the ID number of the VLAN group Note: The LAN/WAN's PVID need to belong to valid entry's VID. |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

QoS

QoS is the function to decide the priorities of setting IPs to transfer packets under the situation of overloading bandwidth. Use QoS to set up for traffic management of the SHDSL.bis router.

General

ADVANCED>QoS>General

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Switch

ADMIN

UTILITY

LOGOUT

Info

Ready

ADVANCED - Qos

GENERAL

PCP

DSCP

PORT

REMARK

TRAFFIC CLASSIFY

Qos/Mode

Mode

☒ Off
 ☐ On

Qos/Class Scheduling and Shaper

| Class | Scheduling Type | Weight | Rate Mode | Rate(kbps) | CBS(bytes) |
|--------|-----------------|--------|--------------------------|------------|------------|
| 0-low | WFQ | 50 | <input type="checkbox"/> | 100000 | 2048 |
| 1 | WFQ | 50 | <input type="checkbox"/> | 100000 | 2048 |
| 2 | WFQ | 50 | <input type="checkbox"/> | 100000 | 2048 |
| 3 | WFQ | 50 | <input type="checkbox"/> | 100000 | 2048 |
| 4 | WFQ | 50 | <input type="checkbox"/> | 100000 | 2048 |
| 5 | WFQ | 50 | <input type="checkbox"/> | 100000 | 2048 |
| 6 | WFQ | 50 | <input type="checkbox"/> | 100000 | 2048 |
| 7-high | WFQ | 50 | <input type="checkbox"/> | 100000 | 2048 |

Apply

Cancel

General

| Item | Description |
|------------------------|--|
| QoS Mode | Active QoS for traffic management |
| Class | Priority for traffic. Higher class get higher priority, fixed value is 0 to 7. |
| Scheduling Type | WFQ: schedule traffic by weight field Strict: schedule traffic by CBS(bytes)/Rate(kbps) field Strict priority is higher than WFQ. If setup Strict bandwidth larger than WAN bandwidth, WFQ may get 0 traffic. |
| Weight | Setup weight for WFQ, if scheduling type is strict, this field is no effect. |
| Rate Mode | Enable Rate mode for Rate(kbps), Disable Rate for CBS(bytes) |
| Rate(kbps) | Assign Constant Bit Rate |
| CBS(bytes) | Assign Committed Burst Size |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

PCP

ADVANCED>QoS>PCP

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Switch

ADMIN

UTILITY

LOGOUT

Info

Ready

ADVANCED - Qos

GENERAL

PCP

DSCP

PORT

REMARK

TRAFFIC CLASSIFY

Qos/PCP

| PCP | Class |
|--------|--------|
| 0-low | 1 |
| 1 | 0-low |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7-high | 7-high |

Apply

Cancel

PCP

| Item | Description |
|-------|--------------------------------|
| Class | Setup which class by PCP value |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

DSCP

ADVANCED>QoS>DSCP

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Switch

ADMIN

UTILITY

LOGOUT

Info

Ready

ADVANCED - Qos

GENERAL

PCP

DSCP

PORT

REMARK

TRAFFIC CLASSIFY

Qos/DSCP

| DSCP | Class | DSCP | Class | DSCP | Class | DSCP | Class | DSCP | Class | DSCP | Class | DSCP | Class | DSCP | Class | DSCP | Class |
|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|-------|
| 0 | 1 | 1 | 0-low | 2 | 0-low | 3 | 0-low | 4 | 0-low | 5 | 0-low | 6 | 0-low | 7 | 0-low | | |
| 8 | 1 | 9 | 1 | 10 | 1 | 11 | 1 | 12 | 1 | 13 | 1 | 14 | 1 | 15 | 1 | | |
| 16 | 2 | 17 | 2 | 18 | 2 | 19 | 2 | 20 | 2 | 21 | 2 | 22 | 2 | 23 | 2 | | |
| 24 | 3 | 25 | 3 | 26 | 3 | 27 | 3 | 28 | 3 | 29 | 3 | 30 | 3 | 31 | 3 | | |
| 32 | 4 | 33 | 4 | 34 | 4 | 35 | 4 | 36 | 4 | 37 | 4 | 38 | 4 | 39 | 4 | | |
| 40 | 5 | 41 | 5 | 42 | 5 | 43 | 5 | 44 | 5 | 45 | 5 | 46 | 5 | 47 | 5 | | |
| 48 | 6 | 49 | 6 | 50 | 6 | 51 | 6 | 52 | 6 | 53 | 6 | 54 | 6 | 55 | 6 | | |
| 56 | 7-high | 57 | 7-high | 58 | 7-high | 59 | 7-high | 60 | 7-high | 61 | 7-high | 62 | 7-high | 63 | 7-high | | |

Apply

Cancel

DSCP

| Item | Description |
|-------|---------------------------------|
| Class | Setup which class by DSCP value |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

Port

ADVANCED>QoS>Port

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Info

Ready

ADVANCED - Qos

GENERAL

PCP

DSCP

PORT

REMARK

TRAFFIC CLASSIFY

Qos/Port

| Port | Classify By | Default Class |
|------|-------------|---------------|
| CPU | DSCP | 0-low |
| P1 | DSCP | 0-low |
| P2 | DSCP | 0-low |
| P3 | DSCP | 0-low |
| P4 | DSCP | 0-low |

Apply

Cancel

Port

| Item | Description |
|---------------|---|
| Classify by | Setup which method to classify None: whatever it is , queue packets by following class PCP: queue by PCP value DSCP: queue by DSCP value PCP+DSCP: queue by PCP value first, then queue by DSCP value DSCP+PCP: queue by DSCP value first, then queue by PCP value |
| Default Class | Define class, when packets match the above rule |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

| Remark | |
|--------|--|
|--------|--|

ADVANCED>QoS>Remark

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Switch

ADMIN

UTILITY

LOGOUT

Info

Ready

ADVANCED - QoS

GENERAL

PCP

DSCP

PORT

REMARK

TRAFFIC CLASSIFY

Qos/Remark Mode

Dscp Remark Mode

☒ Off
 ☐ On

Qos/Remark Mapping

| Class | DSCP |
|--------|------|
| 0-low | 0 |
| 1 | 8 |
| 2 | 16 |
| 3 | 24 |
| 4 | 32 |
| 5 | 40 |
| 6 | 48 |
| 7-high | 56 |

Apply

Cancel

Remark

| Item | Description |
|-------------------------|--|
| DSCP Remark Mode | Enable/disable DSCP remark |
| DSCP | Setup which DSCP value is remarked to. |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

Traffic Classify

ADVANCED>QoS>Traffic Classify

BASIC

STATUS

ADVANCED

- SHDSL.bis
- WAN
- LAN
- DNS
- DHCP
- VLAN
- QoS
- Static Route
- RIP
- NAT/DMZ
- Virtual Server
- DDNS
- Firewall
- URL Filter
- IGMP
- SNTP
- Switch

ADMIN

UTILITY

LOGOUT

Info
Ready

ADVANCED - Qos

GENERAL
PCP
DSCP
PORT
REMARK
TRAFFIC CLASSIFY

Qos/Traffic Classify

| Entry | Enable | Action |
|-------|--------------------------|---|
| 1 | <input type="checkbox"/> | Modify Delete |
| 2 | <input type="checkbox"/> | Modify Delete |
| 3 | <input type="checkbox"/> | Modify Delete |
| 4 | <input type="checkbox"/> | Modify Delete |
| 5 | <input type="checkbox"/> | Modify Delete |
| 6 | <input type="checkbox"/> | Modify Delete |
| 7 | <input type="checkbox"/> | Modify Delete |
| 8 | <input type="checkbox"/> | Modify Delete |
| 9 | <input type="checkbox"/> | Modify Delete |
| 10 | <input type="checkbox"/> | Modify Delete |
| 11 | <input type="checkbox"/> | Modify Delete |
| 12 | <input type="checkbox"/> | Modify Delete |
| 13 | <input type="checkbox"/> | Modify Delete |
| 14 | <input type="checkbox"/> | Modify Delete |
| 15 | <input type="checkbox"/> | Modify Delete |
| 16 | <input type="checkbox"/> | Modify Delete |

Apply
Cancel

Traffic Classify

| Item | Description |
|--------|--------------------------|
| Enable | Enable/disable this rule |
| Modify | Modify rule |
| Delete | Delete rule |

Click on Apply to save the parameters or Cancel to start configuring this page from beginning.

Traffic classify rule

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Switch

ADMIN

UTILITY

LOGOUT

Info

Ready

ADVANCED - Qos

GENERAL

PCP

DSCP

PORT

REMARK

TRAFFIC CLASSIFY

Qos/Traffic Entry

| | | | | | |
|----------------------------|--------------------------|---------------------|-----------------|---------------|---------|
| Entry | 1 | | | | |
| Enable | <input type="checkbox"/> | | | | |
| Assign Class | 0-Low | | | | |
| Ingress Protocol | NONE | | | | |
| Ingress Port Mode | <input type="checkbox"/> | Ingress Port | | 1 | |
| Ingress VID Mode | <input type="checkbox"/> | Ingress VID | | 1 | |
| Ingress Ethernet Type Mode | <input type="checkbox"/> | Ethernet Type Value | 0800 | Ethernet Mask | Not Set |
| Dst Mac Mode | <input type="checkbox"/> | Dst Mac | xxxxxxxxxxxx | Dst Mac Mask | Not Set |
| Src Mac Mode | <input type="checkbox"/> | Src Mac | xxxxxxxxxxxx | Src Mac Mask | Not Set |
| Dst IP Mode | <input type="checkbox"/> | Dst IP | ddd.ddd.ddd.ddd | Dst IP Mask | Not Set |
| Src IP Mode | <input type="checkbox"/> | Src IP | ddd.ddd.ddd.ddd | Src IP Mask | Not Set |
| Dst Port Mode | <input type="checkbox"/> | Dst Port Min | 1 | Dst Port Max | 65535 |
| Src Port Mode | <input type="checkbox"/> | Src Port Min | 1 | Src Port Max | 65535 |

Apply

Back

Traffic classify rule

| Item | Description |
|-----------------------------------|--|
| Enable | Enable/disable this QoS rule |
| Assign class | Assign class, from 0 to 7 |
| Ingress Protocol | None, ICMP, IGMP, TCP, UDP |
| Ingress Port Mode | Queue by port |
| Ingress Port | 1/2/3/4 |
| Ingress VID Mode | Queue by VID |
| Ingress VID | 1~4094 |
| Ingress Ethernet Type Mode | Queue by Ethernet type |
| Ethernet Type Value | IPv4: 0x0800, IPv6: 0x86DD, ARP: 0x0806, Flow Control: 0x8808 You can find more protocol on wiki https://en.wikipedia.org/wiki/EtherType |
| Ethernet Mask | Final filter value is Ethernet type value AND Ethernet MASK |
| DST MAC Mode | Queue by DST MAC |
| DST MAC | |
| DST MAC Mask | |
| SRC MAC Mode | Queue by SRC MAC |
| SRC MAC | |
| SRC MAC Mask | |
| DST IP Mode | Queue by DST IP |
| DST IP | |
| DST IP Mask | |
| SRC IP Mode | Queue by SRC IP |
| SRC IP | |
| SRC IP Mask | |
| DST Port Mode | Queue by DST port |
| DST Port Min | From 1 to 65535 |
| DST Port Max | From 1 to 65535, this value should bigger than Port Min |
| SRC Port Mode | Queue by SRC port |
| SRC Port Min | From 1 to 65535 |
| SRC Port Max | From 1 to 65535, this value should bigger than Port Min |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

Static Route

Static routing is a form of routing that occurs when a router uses a manually-configured routing entry.

ADVANCED > Static Route

Static Route Table

| Index | Active | Name | Destination | Netmask | Gateway | Interface |
|-------|--------------------------|------|-------------|---------|---------|--|
| 1 | <input type="checkbox"/> | | | | | <input data-bbox="1284 571 1316 604" type="button" value="+"/> |

Click to edit each entry information

RIP>Entry Config

Static Route Table

| Index | Active | Name | Destination | Netmask | Gateway | Interface |
|-------|--------------------------|--------|-----------------|---------------|-----------------|--|
| 1 | <input type="checkbox"/> | string | 100.100.100.100 | 255.255.255.0 | 100.100.100.100 | <div data-bbox="1157 1299 1220 1400"> wan any lan wan </div> |

Entry Config

| Item | Description |
|--------------------|--|
| Active | Activate / Deactivate this static route |
| Name | Name for static route |
| Destination | Route destination network, compute with Mask |
| Mask | Route destination mask, compute with Destination |
| Gateway | Route gateway |
| Interface | Any: DUT will find the match interface, if no match interface, it will send to WAN interface. If user wants gateway active, route interface must be Any WAN: route to WAN interface LAN: route to LAN interface |

Click to save the parameters changed or to return to previous page.

RIP

RIP (Routing Information Protocol) allows one router to exchange routing information with another.

ADVANCED>RIP

| # | Direction | Version | Passive | Auth Type | Auth Code | Split Horizon | Modify |
|---|-----------|---------|---------|-----------|-----------|---------------|--------|
| 1 | Off | V2 | Off | None | - | On | |
| 2 | Off | V2 | Off | None | - | On | |

Click **Modify** to edit each entry information

RIP>Entry Config

| | |
|---------------|------|
| No. | 1 |
| Direction | Off |
| Version | V2 |
| Auth Type | None |
| Auth Code | |
| Split Horizon | On |

Back Apply

Entry Config

| Item | Description |
|----------------------|--|
| Direction | Select Directions from: Off: No RIP packets will be sent, and incoming RIP packets will be ignored Both: Routing table will be broadcasted periodically and incorporated received information from both direction In Only: Only RIP information received will be incorporated Out Only: Only broadcast device's routing table periodically |
| Version | Select from: RIP-V1: Only sends RIP v1 messages only RIP-V2: Sends RIP v2 messages in multicast and broadcast format |
| Auth Type | Select from (1)Simple (2)MD5 |
| Auth Code | Enter the Corresponded Authentication Code for the Type picked above |
| Split Horizon | Enable or Disable Split Horizon feature |

Click **Apply** to save the parameters changed or **Back** to return to previous page.

NAT (Network Address Translation) is the translation of an Internet Protocol address (IP address) used within one network to a different IP address known within another network. One network is designated the inside network and the other is the outside. Typically, a company maps its local inside network addresses to one or more global outside IP addresses and reverse the global IP addresses of incoming packets back into local IP addresses. This ensure security since each outgoing or incoming request must go through a translation process, that also offers the opportunity to qualify or authenticate the request or match it to a previous request. NAT also conserves on the number of global IP addresses that a company needs and lets the company to use a single IP address of its communication in the Internet world.

DMZ (Demilitarized zone) is a computer host or small network inserted as a “neutral zone” between a company private network and the outside public network. It prevents outside users from getting direct access to a server that has company private data.

In a typical DMZ configuration for an enterprise, a separate computer or host receives requests from users within the private network to access via Web sites or other companies accessible on the public network. The DMZ host then initiates sessions for these requests to the public network. However, the DMZ host is not able to initiate a session back into the private network. It can only forward packets that have already been requested.

Users of the public network outside the company can access only the DMZ host. The DMZ may typically also have the company’s Web pages so these could serve the outside world. However, the DMZ provides access to no other company data. In the event that an outside user penetrated the DMZ host’s security, the Web pages might be corrupted, but no other company information would be exposed.

ADVANCED>NAT/DMZ

NAT vs. DMZ Setup

| Item | Description |
|---------------------|---|
| NAT/DMZ Mode | Select to Enable or Disable NAT/DMZ mode |
| DMZ Host | Assign IP address for the DMZ Host, if this field is empty, it means NO DMZ |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

| |
|----------------|
| Virtual Server |
|----------------|

ADVANCED>Virtual Server

[illegible]

Virtual Server

| Item | Description |
|-------------------|--|
| Service Name | Select the desired Service name from the drop down list with predefined parameters or manually define the Service with corresponded IP address and Port range. |
| Label | User defined rule name, accept character: [a-z],[A-Z],[0-9], " _" |
| Port Range | Define port range, from 1~65535 |
| Server IP Address | Specify the IP address of the Service's Hosting Server |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

DDNS

ADVANCED>DDNS

ADVANCED - DDNS

DDNS

| | |
|----------------------|---|
| Enable | <input checked="" type="radio"/> On <input type="radio"/> Off |
| Providers | www.DynDNS.org |
| Service Type | Dynamic DNS |
| Host Name | |
| User Name | |
| Password | |
| Enable Wildcard | <input type="checkbox"/> |
| IP Policy | Specified IP Address |
| Specified IP Address | 0.0.0.0 |

Apply Cancel

DDNS

| Item | Description |
|-----------------------------|---|
| Enable | Select On to enable or Off to disable DDNS function |
| Providers | Drop down menu to select desired DNS service provider |
| Service Type | Select the type of service you have registered with your DDNS service provider. It can be one of the following: Dynamic DNS: Static DNS: Custom DNS: |
| Host Name | Domain name assigned to the device by the DDNS provider |
| User Name | Username for the registered DDNS service provider |
| Password | Password for the registered DDNS service provider |
| Enable Wildcard | Check the box to enable Wildcard feature |
| IP Policy | Use WAN IP Address: Update the IP address of the Host Name with the WAN IP address Server Auto Detect: This allows DDNS server to automatically detect and use the IP address of the NAT router that has a public IP address. Note: therefore, select this option only when there is at least one NAT router available in-between device and DDNS server Specified IP Address: Specify a static IP address for the Host Name. |
| Specified IP Address | Input the static IP address for the Host Name if IP Policy is selected with Specified IP Address option. |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

Firewall

ADVANCED>FIREWALL

Firewall Setup

| Item | Description |
|--------------------------|--|
| Firewall Settings | Select OFF to disable Firewall, or ON to enable Firewall |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

ADVANCED>FIREWALL>Firewall rule

Firewall Rule

| Item | Description |
|--------------------------|---|
| Packet Direction | LAN to WAN, WAN to LAN, WAN to WAN |
| Insert after rule | Insert this rule after which rule, default is 0 |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

BASIC

STATUS

ADVANCED

SHDSL.bis

WAN

LAN

DNS

DHCP

VLAN

QoS

Static Route

RIP

NAT/DMZ

Virtual Server

DDNS

Firewall

URL Filter

IGMP

SNTP

Switch

ADMIN

UTILITY

LOGOUT

Info

Ready

New Rule

| | | | |
|---------------|------|--------|-------------------------------------|
| Rule No. | 0 | Active | <input checked="" type="checkbox"/> |
| Packet Action | Drop | Log | <input type="checkbox"/> |

Source Address

| | | | |
|------------------|-------------|--------|---------------------|
| Address Type | Any Address | | Source Address List |
| Start IP Address | | Add >> | Any |
| End IP Address | | Delete | |
| Subnet Mask | | | |

Destination Address

| | | | |
|------------------|-------------|--------|--------------------------|
| Address Type | Any Address | | Destination Address List |
| Start IP Address | | Add >> | Any |
| End IP Address | | Delete | |
| Subnet Mask | | | |

Application

| | | |
|---|---------------------|-----------------------|
| Available Applications | | Selected Applications |
| Any(All) Any(ICMP) AIM/NEW-ICQ(TCP:5190) AUTH(TCP:113) BGP(TCP:179) | Add >> << Remove | Any(UDP) Any(TCP) |

Apply
Cancel

Edit Firewall Rule

| Item | Description |
|---|---|
| Active | Enable/Disable firewall rule |
| Packet Action | If match rule, which behavior will perform. Permit/Drop/Reject |
| Source Address/Address Type | Any address: don't care source address Single address: only an address, assigned in Start IP Range address: a range of addresses in Start IP and End IP Subnet address: assign a subnet with netmask |
| Destination Address/Address Type | The same as Source Address/Address Type |
| Application/Available applications | Choice Protocol and port for firewall rule |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

URL Filter

Content Filter allows you to limit access to specific websites based on keywords in the URL

ADVANCED>URL Filter

G.Shdsl.bis

Info Ready

ADVANCED - CONTENT FILTER

Url Filter

Mode ☒ Off ☐ On

Filter Config

| # | Mode | Keyword |
|----|---|-------------------|
| 1 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 2 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 3 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 4 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 5 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 6 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 7 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 8 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 9 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 10 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 11 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 12 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 13 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 14 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 15 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |
| 16 | <input checked="" type="radio"/> Off <input type="radio"/> On | max 64 characters |

* The Content keywords is major point out in the address of the URL !

Apply Cancel

URL Filter

| Item | Description |
|------|--|
| Mode | Select OFF to disable Content Filter, or ON to enable Content Filter feature |

Filter Config

| Item | Description |
|---------|--|
| Mode | Turning Off or On of the selected Filter condition |
| Keyword | Specify the desired keywords to be filtered with |

IGMP

IGMP (Internet Group Multicast Protocol) is a network layer protocol which is used to establish membership in a Multicast group.

ADVANCED>IGMP

IGMP

| Item | Description |
|-------------|--|
| Mode | Select from the drop down menu for desired IGMP modes: None: Don't support any of the IGMP IGMP-v1: Support only version1 IGMP-v2: Support only version2 IGMP-v3: Support only version3 IGMP-all: Support all the available versions |

ADVANCED>SNTP

G.Shdsl.bis

△ BASIC

▲ STATUS

⌕ ADVANCED

⬇ ADMIN

⚙ UTILITY

🔒 LOGOUT

Info Ready

ADVANCED - SNTP

Time Setup

| | | | |
|-----------------------------|--|----------|--|
| Current Time | | | |
| Current Time (hh:mm:ss) | 16:11:10 | | |
| Current Date (yyyy-mm-dd) | 2016-05-09 | | |
| Time and Date Setup | | | |
| | <input type="radio"/> Manual | | |
| New Time (hh:mm:ss) | 16 | : | 11 : 00 |
| New Date (yyyy/mm/dd) | 2016 | / | 05 / 09 |
| | <input checked="" type="radio"/> Get from Time Server | | |
| Time Protocol | NTP (RFC-1305) ▼ | | |
| Time Server Address | time.nist.gov | | |
| Time and Date Setup | | | |
| Time Zone | (GMT+00:00) Greenwich Mean Time : Dublin Edinburgh, Lisbon, London ▼ | | |
| Daylight Savings : | <input type="checkbox"/> | | |
| Start Date | First ▼ | Sunday ▼ | of January ▼ (2017-01-01) at 0 o'clock |
| End Date | First ▼ | Sunday ▼ | of January ▼ (2017-01-01) at 0 o'clock |

Apply

Cancel

Time Setup

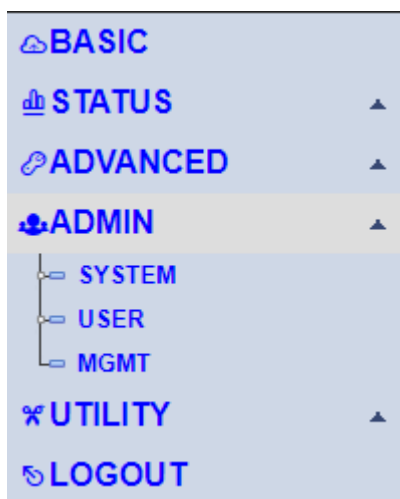
| Item | Description |
|----------------------------------|--|
| Current Time (hh:mm:ss) | Display current system time |
| Current Date (yyyy-mm-dd) | Display current system date |
| | *Manual |
| New Time (hh:mm:ss) | Manually define the new time |
| New Date (yyyy/mm/dd) | Manually define the new date |
| | *Get from Time Server |
| Time Protocol | Time protocol used to communicate with Time server |
| Time Server Address | Specify the IP address or URL of the Time server |
| Time Zone | Specify the Time zone |
| Daylight Savings | Check box to enable Daylight Savings function |
| Start Date | Specify the date when daylight saving starts |
| End Date | Specify the date when daylight saving ends |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

4.4 ADMIN

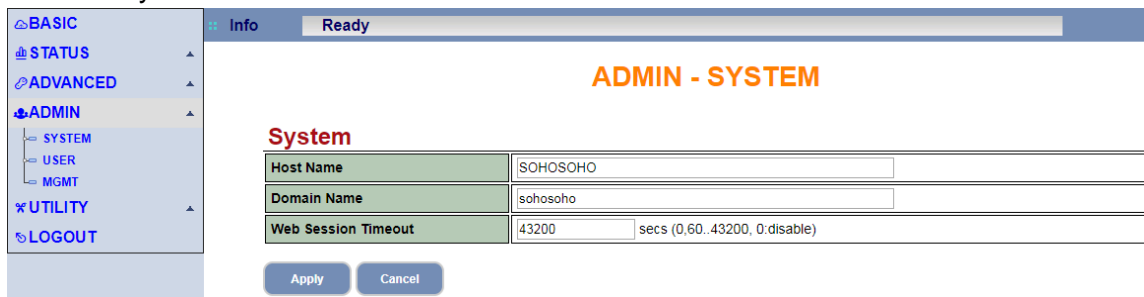
Overview

Administration session introduces security and management features (SNMP, WWW, TELNET, SSH) of the SHDSL.bis router.



System

ADMIN>System



System Setup

| Item | Description |
|-------------------------------|--|
| System Name | Enter desirable System/Host Name |
| Domain Name | Enter desirable Domain Name |
| Authentication Timeout | Enter desirable Authentication Timeout period in minutes |

Note: The character support [A-Z], [a-z], [0-9], [_ (underline), -(dash), .(dot)]

User

ADMIN - USER

Users

| Index | User Name | Password | Level |
|-------|-----------|----------|---------------|
| 1 | root | **** | Administrator |
| 2 | | | Guest |
| 3 | | | Normal |
| 4 | | | Administrator |
| 5 | | | Guest |

Apply Cancel

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

System Password

| Item | Description |
|------------------|--|
| User name | Enter user name |
| Password | Enter Password |
| Level | Administrator: user can setup and read anything Normal: user can setup and read anything, but Admin session Guest: user only can read status |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

Management

ADMIN>MGMT

ADMIN - MANAGEMENT

SNMP WWW TELNET SSH

SNMP (v1/v2c)

Port: 161

Access Status: ALL

SNMP Configuration

Get Community: public

Set Community: private

Trap Community: public, private

Trap Destination IP:

Apply Cancel

SNMP

Simple Network Management Protocol (SNMP) defines the exchange of messages between a network management client and a network management agent for remote management of network nodes. These messages contain requests to get and set variables that exist in network nodes in order to obtain statistics, set configuration parameters, and monitor network events. SNMP communications can occur over LAN or WAN connection.

The router can generate SNMP traps to indicate alarm conditions, and it relies on SNMP community strings to implement SNMP security. The SHDSL.bis routers support SNMPv1/SNMPv2 (RFC 1157/1901/1905) and MIB-II (RFC 1213/1493)

Click **SNMP** to configure the parameters for remote management via SNMP.

SNMP

| Item | Description |
|----------------------|---|
| Port | Enter port number for the SNMP service |
| Access Status | Click on the drop-down list and select ALL to allow the service or Disable WAN to disable the remote management service |

SNMP Configuration

| Item | Description |
|-------------------------|---|
| Get Community | Enter the password for the incoming Get and Get Next requests from the management station. The default is public which allows all requests. |
| Set Community | Enter the password for the incoming Set requests from the management station. The default is public which allows all requests. |
| Trap Community | Enter the password sent with each trap to the SNMP manager. The default is public which allows all requests. |
| Trap Destination | Enter the IP address of the station to send SNMP traps |

Click on **Apply** to save the parameters or **Cancel** to start configuring this page from beginning.

WWW

Click **WWW** to configure the parameters for remote management via WWW.

The screenshot shows the G.Shdsl.bis router configuration interface. On the left is a navigation menu with options: BASIC, STATUS, ADVANCED, ADMIN, UTILITY, and LOGOUT. The main area is titled 'ADMIN - MANAGEMENT' and contains buttons for SNMP, WWW, TELNET, and SSH. The 'WWW' button is selected, and the configuration fields for WWW are displayed. The 'Port' field is set to 80, and the 'Access Status' dropdown is set to 'ALL'. At the bottom of the configuration area are 'Apply' and 'Cancel' buttons.

WWW

| Item | Description |
|------|-------------|
|------|-------------|

| | |
|----------------------|---|
| Port | Enter port number for remote management via WWW |
| Access Status | Click on the drop-down list and select ALL to allow the service or Disable WAN to disable the remote management service |

TELNET

Click **TELNET** to configure the parameters for remote management via TELNET.

TELNET

| Item | Description |
|----------------------|---|
| Port | Enter port number for remote management via TELNET |
| Access Status | Click on the drop-down list and select ALL to allow the service or Disable WAN to disable the remote management service |

*Default: The TELNET allow accessible from LAN side only.

SSH

Click **SSH** to configure the parameters for remote management via SSH.

SSH

| Item | Description |
|----------------------|---|
| Port | Enter port number for remote management via SSH |
| Access Status | Click on the drop-down list and select ALL to allow the service or Disable WAN to disable the remote management service |

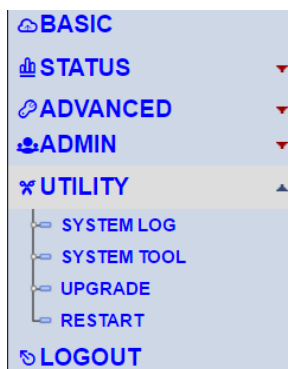
*Default: The SSH allow accessible from LAN side only.

4.5 Utility

Overview

This section describes the utility of the SHDSL.bis router including:

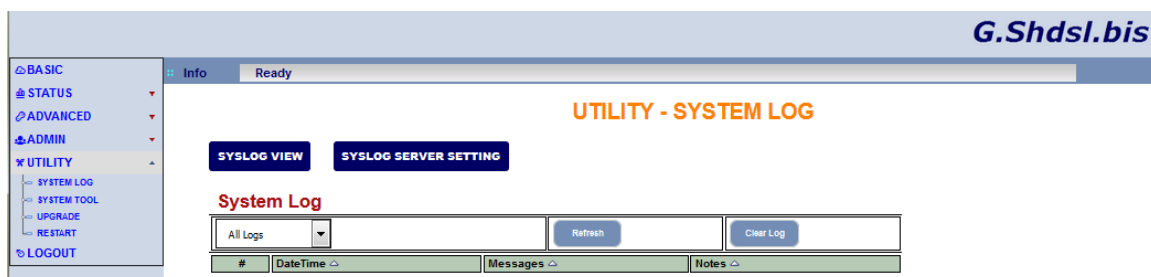
| | |
|--------------------|--|
| SYSTEM LOG | Capturing log information |
| SYSTEM TOOL | Backup and restore configuration, and load the factory default configuration |
| UPGRADE | Upgrade the firmware |
| RESTART | Restart the router. |



SYSTEM LOG

SYSTEM LOG

UTILITY>SYSTEM LOG



SHDSL.bis routers support detailed logging information via System Log function. The system log protocol allows devices to send event notification messages across an IP network to syslog servers that collect the event message. The router can generate a syslog message and send it to a syslog server.

You may click **Refresh** to renew the Sytem Log page or **Clear Log** to delete all log information.

SYSTEM LOG Server Setting

SYSLOG Server Setting

| Item | Description |
|--------------------------|--|
| Active | Activate the syslog server |
| Syslog IP Address | Enter IP address for syslog server |
| Log Facility | The log facility allows you to log the messages to different files in the syslog server. Refer to the documentation of your syslog program for more details. |
| Priority | Assign priority to the traffic of the classifier |
| Order | Ordering number of the classifier |

System Tool

UTILITY>SYSTEM TOOL

System Tool provides three main functions: Backup Configuration, Restore Configuration and Load Factory Default settings.

Click **Backup** to save config.cfg in your computer.

To restore a previously saved config file from your computer. Click **Browse** to select the file and then click **Upload**.

Click **Reset** to load factory default settings to the router. A warning message will appear. Confirm by clicking on OK.

Upgrade

UTILITY>UPGRADE

G.Shdsl.bis

Info Ready

UTILITY - UPGRADE

Firmware Upgrade

| | |
|------------------|--|
| Firmware Version | 5242-0000-01220160422 |
| File Path | <input type="text"/> <input type="button" value="Upload"/> |
| Progress | 0% |

⚠ Pick a SHDSL's firmware image and click "Upload" to upgrade. After the F/W upgrade completed, the SHDSL router will turn to Login page.

You can upgrade the SHDSL.bis router using the upgrade function.

Click **Browse** to select the firmware file and then click **Upload**. The system will reboot automatically after finishing the firmware upgrade operation.

Restart

UTILITY>RESTART

G.Shdsl.bis

Info Ready

UTILITY - RESTART

System Reboot

Click **Restart** to reboot device, waiting a minute and will redirect to Login page.

Use RESTART to reboot the SHDSL.bis router.

Click on **Restart** to reboot the system.

4.6 LOG OUT

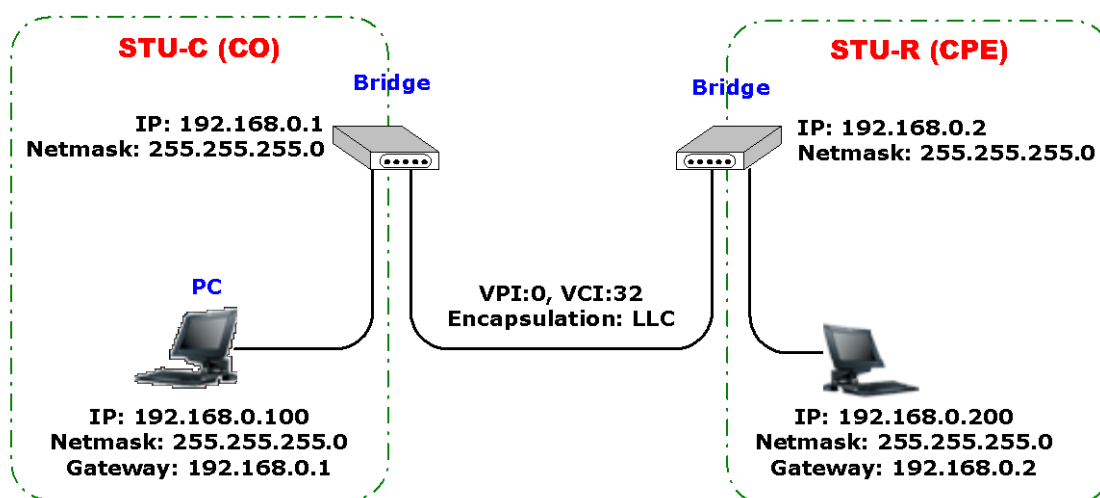
Overview

To logout the router, click on **LOGOUT**. A warning message will appear. Confirm by clicking on OK.

- △ BASIC
- ▮ STATUS
- ⚙ ADVANCED
- 🔧 ADMIN
- ⚙ UTILITY
- 🔒 LOGOUT

5 Example

5.1 LAN-to-LAN connection with bridge mode



CO side

- △ BASIC
- ▮ STATUS
- ⚙ ADVANCED
- 🔧 ADMIN
- ⚙ UTILITY
- SYSTEM LOG
- SYSTEM TOOL
- UPGRADE
- RESTART
- 🔒 LOGOUT

Info Ready

BASIC

G.SHDSL

| | |
|---------------|--------|
| Transfer Mode | ATM |
| Pair Mode | PAIR-1 |
| STU Mode | STU-C |
| Multiplexing | LLC |
| VPI | 0 |
| VCI | 32 |

WAN

| | |
|------|--------|
| Mode | Bridge |
|------|--------|

LAN

| | |
|-------------|---------------|
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |

Default Gateway

| | |
|------------|---------------|
| IP Address | 192.168.0.254 |
|------------|---------------|

* Note: Either the G.Shdsl mode or the WAN mode is changed, that The system will need to reboot !!

Apply
Cancel

Setup as following

STU mode: STU-C

WAN mode: Bridge

LAN IP: 192.168.0.1

Setup Transfer mode, pair mode, Multiplexing, VPI/VCI as you want

Click **Apply**.

CPE Side

BASIC

STATUS

ADVANCED

ADMIN

UTILITY

SYSTEM LOG

SYSTEM TOOL

UPGRADE

RESTART

LOGOUT

Info

Ready

BASIC

G.SHDSL

| | | |
|---------------|--------|--|
| Transfer Mode | ATM | |
| Pair Mode | PAIR-1 | |
| STU Mode | STU-R | |
| Multiplexing | LLC | |
| VPI | 0 | |
| VCI | 32 | |

WAN

| | | |
|------|--------|--|
| Mode | Bridge | |
|------|--------|--|

LAN

| | | |
|-------------|---------------|--|
| IP Address | 192.168.0.2 | |
| Subnet Mask | 255.255.255.0 | |

Default Gateway

| | | |
|------------|---------------|--|
| IP Address | 192.168.0.254 | |
|------------|---------------|--|

Note: Either the G.Shdsl mode or the WAN mode is changed, that The system will need to reboot !!

Apply

Cancel

Setup as following

STU mode: STU-C

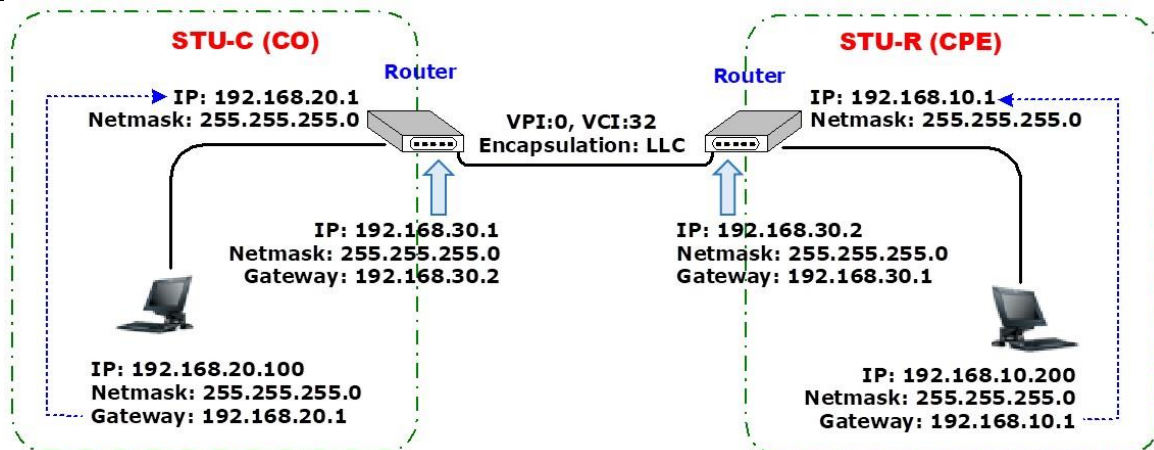
WAN mode: Bridge

LAN IP: 192.168.0.2

Be sure Transfer mode, pair mode, Multiplexing, VPI/VCI follow CO

Click **Apply**.

5.2 LAN-to-LAN connection with routing mode



CO Side

CO Side

Info Ready

BASIC

G.SHDSL

| | |
|---------------|--------|
| Transfer Mode | ATM |
| Pair Mode | PAIR-1 |
| STU Mode | STU-C |
| Multiplexing | LLC |
| VPI | 0 |
| VCI | 32 |

WAN

| | |
|---------------|----------|
| Mode | Routing |
| Encapsulation | RFC 1483 |

WAN-IP

| | |
|--------------------|---------------|
| IP Address Type | Static |
| IP Address | 192.168.30.1 |
| Subnet Mask | 255.255.255.0 |
| Gateway IP Address | 192.168.30.2 |

LAN

| | |
|-------------|---------------|
| IP Address | 192.168.20.1 |
| Subnet Mask | 255.255.255.0 |

Default Gateway

| | |
|------------|---------------|
| IP Address | 192.168.0.254 |
|------------|---------------|

Note: Either the G.Shdsl mode or the WAN mode is changed, that The system will need to reboot !!

Apply Cancel

Setup as following

STU mode: STU-C

WAN mode: Routing

IP address type: Static

WAN IP: 192.168.30.1

Netmask: 255.255.255.0

Gateway: 192.168.30.2

LAN IP: 192.168.20.1

Setup Transfer mode, pair mode, Multiplexing, VPI/VCI as you want
Click **Apply**.

CPE side

BASIC

STATUS

ADVANCED

ADMIN

UTILITY

- SYSTEM LOG
- SYSTEM TOOL
- UPGRADE
- RESTART

LOGOUT

Info Ready

BASIC

G.SHDSL

| | |
|---------------|--------|
| Transfer Mode | ATM |
| Pair Mode | PAIR-1 |
| STU Mode | STU-R |
| Multiplexing | LLC |
| VPI | 0 |
| VCI | 32 |

WAN

| | |
|---------------|----------|
| Mode | Routing |
| Encapsulation | RFC 1483 |

WAN-IP

| | |
|--------------------|---------------|
| IP Address Type | Static |
| IP Address | 192.168.30.2 |
| Subnet Mask | 255.255.255.0 |
| Gateway IP Address | 192.168.30.1 |

LAN

| | |
|-------------|---------------|
| IP Address | 192.168.10.1 |
| Subnet Mask | 255.255.255.0 |

Default Gateway

| | |
|------------|---------------|
| IP Address | 192.168.0.254 |
|------------|---------------|

Note: Either the G.Shdsl mode or the WAN mode is changed, that The system will need to reboot !!

Apply

Cancel

Setup as following
STU mode: STU-R
WAN mode: Routing
IP address type: Static
WAN IP: 192.168.30.2
Netmask: 255.255.255.0
Gateway: 192.168.30.1
LAN IP: 192.168.10.1
Setup Transfer mode, pair mode, Multiplexing, VPI/VCI follow CO
Click **Apply**.

SR2XX SERIES 2W/4W/8W G.SHDSL (BIS) EFM ROUTER UM V.0.7 – WWW.XENTINO.COM

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6 Configuration via Serial Console or Telnet

In this section, the basic of console line configuration will be described on below.

6.1 Introduction

Serial Console

Check the connectivity of the RS-232 cable. Connect the male 9-pin end of console port of the router and connect the female end to a serial port of your computer.

Start your terminal access program by VT100 terminal emulation with the following parameters:

| Parameter | Value |
|--------------|------------|
| Baudrate | 115200 bps |
| Data Bits | 8 |
| Parity Check | No |
| Stop Bits | 1 |
| Flow-control | No |

Press the **SPACE** key until the login screen appears. When you see the login screen, you can logon to Router.

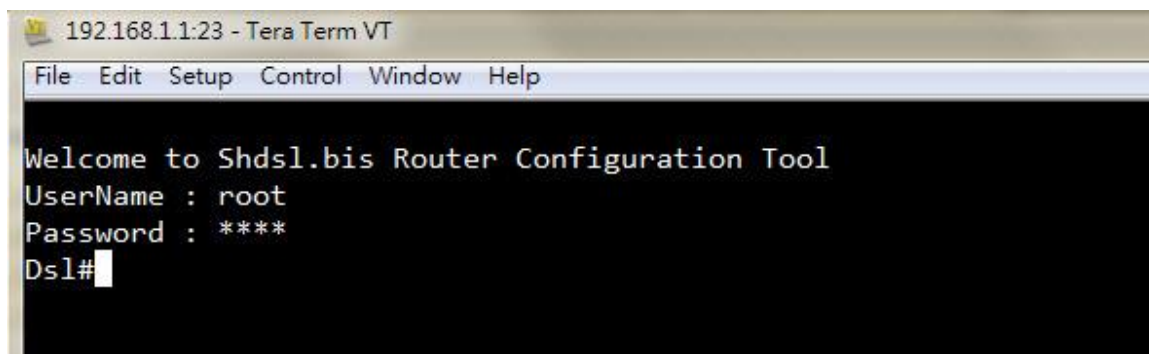
```
5242-0000-1220160511
Beta SR200
Wed May 11 05:34:57 UTC 2016
=====
Welcome to Shdsl.bis Router Configuration Tool
UserName : root
Password : ****
```

Note: Only **SPACE** key invoke the login prompt. Pressing other keys does not work.

Note: The factory default **User** and **Password** are “root” for both.

Telnet

Make sure the correct Ethernet cable connected the LAN port of your computer to this Router. The LAN LNK LED indicator on the front panel shall light if a correct cable is used. Starting your Telnet client with VT100 terminal emulation and connecting to the management IP of Router, wait for the login prompt appears. Input User and Password after login screen pop up,



User: root
Password: ****

Note: The default IP address is 192.168.0.1.

6.2 Main menu

When enter to prompt screen, you can input command ? to view the available top level menus of each command set:

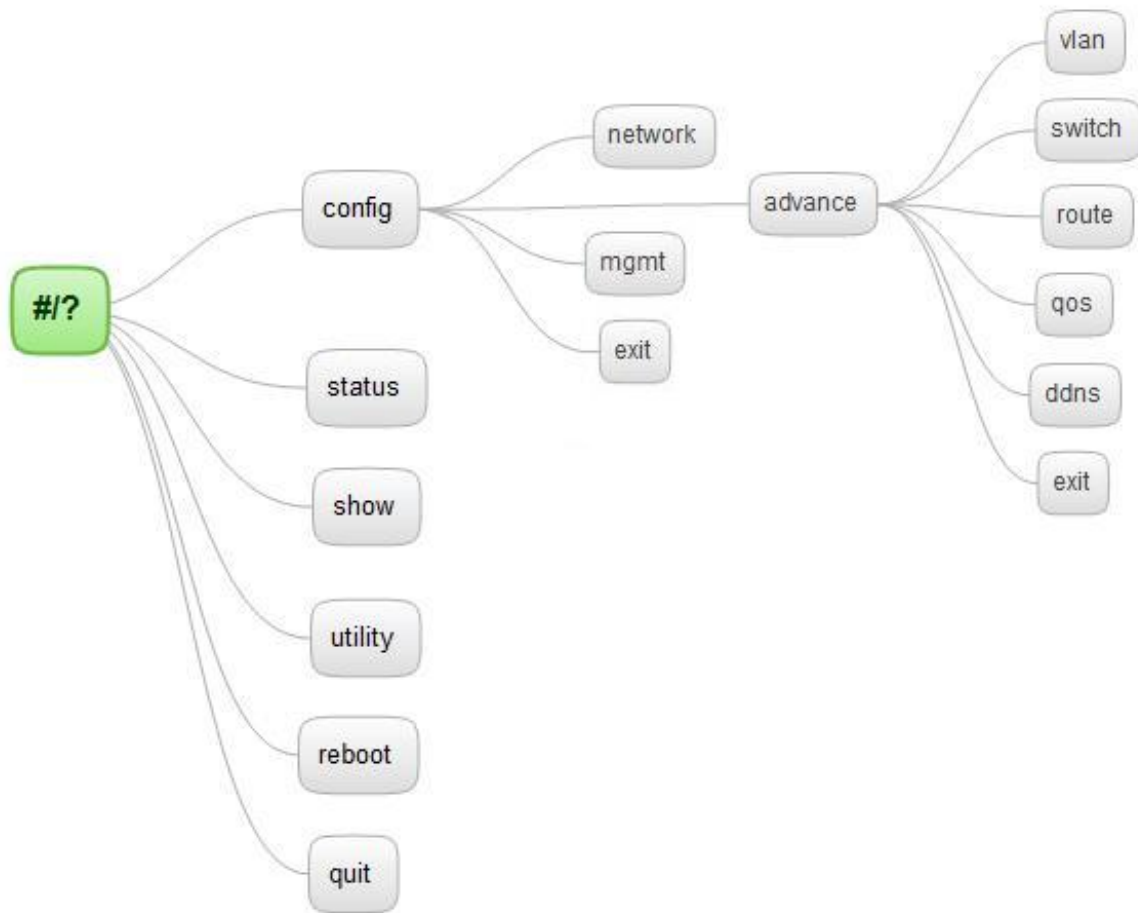
For example: type ? after the #, will display the current level of available command sets as below:

| | |
|---------|---------------------------|
| Dsl#? | |
| config | enter submenu system |
| status | enter submenu status |
| show | enter submenu information |
| utility | enter submenu utility |
| reboot | reboot system |
| quit | logout |
| Dsl# | |

Top level Command set Description:

| Command | Description |
|---------|--|
| config | Config parameters of router by entering submenu: network advance mgmt exit |
| status | View the status of router. |
| show | Show the system and configuration of router. |
| utility | Upgrade software and backup and restore configuration. |
| reboot | Reset and boot system. After you have completed all necessary setting, make sure to apply the new configuration to NVRAM and reboot the system, otherwise, all of your changes will not take effect. |
| quit | Quit system. |

6.3 Key CLI Command tree overview





"focus differently"