

**G.SHDSL Bridge Router**  
**GRT-101/GRT-401/GRT-402**

Quick Installation Guide

# Table of Contents

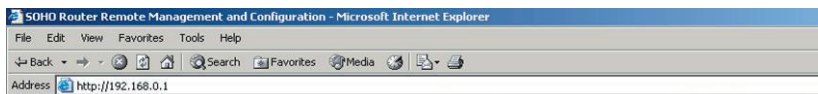
Chapter 1 Before Starting Up.....	3
Chapter 2 Quick Installation .....	4
2.1 Bridge Mode .....	4
2.2 Routing Mode for PPPoA and PPPoE with IP Sharing .....	6
2.3 Routing Mode for IPoA or EoA .....	9
2.4 LAN-to-LAN Connection with Bridge Mode.....	13

## Chapter 1 Before Starting Up

Before proceeding any further, please make sure correct Ethernet cable is used for connecting the LAN port of your computer to GRT-101/401/402. The LAN LNK indicator on the front panel will light up if a correct cable is used.

By default, the GRT-101/401/402 is shipped with its DHCP Server function enabled. This means the client computers on the LAN network including the Administrator PC can set their TCP/IP settings to automatically obtain an IP address from the GRT-101/401/402.

- Start your web browser and type <http://192.168.0.1> in the browser's address box, and wait for the login screen appears. The default user name and password are **"root"**. Click **OK** button and you will login the management of GRT-101/401/402.



Note

The factory default management IP and subnet mask of GRT-101/401/402 is 192.168.0.1 and 255.255.255.0 respectively. And the default user name and password are **"root"**.

This quick installation guide is intended to help to install the G.SHDSL Bridge Router to the network through the management interface. For more detailed settings, please also refer to the user's manual.

## Chapter 2 Quick Installation

This chapter provides quick setup procedures for four major connection modes:

Section 2.1: Bridge Mode

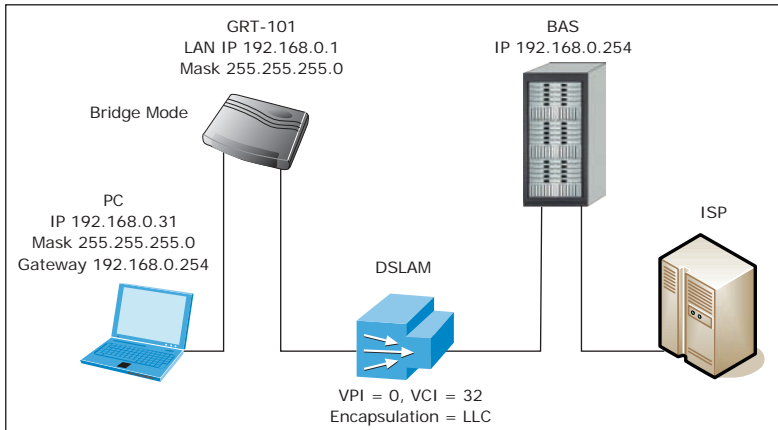
Section 2.2: Routing Mode for PPPoA and PPPoE

Section 2.3: Routing Mode for IPoA or EoA

Section 2.4: LAN to LAN Bridge Mode

Please verify your connection mode and check the corresponding section to quickly install your GRT-101/401/402.

### 2.1 Bridge Mode



### Web UI Configuration

After connection via web browser, click **BRIDGE** and **CPE Side** to set up Bridging mode of GRT-101/401/402 and then click **Next** for the next setting.

The screenshot shows the web UI configuration page for Bridge Mode. The page has a navigation bar with tabs: Home, Basic, Advanced, Status, Admin, and Utility. The main heading is "BASIC - STEP1". Under "Operation Mode:", there are two radio buttons: "ROUTE" and "BRIDGE". The "BRIDGE" radio button is selected. Below this, there is a red warning message: "WAN need to be reset. The protocol of each WAN only can be set to 'Ethernet over ATM'". Under "SHDSL bis Mode:", there are two radio buttons: "CO Side" and "CPE Side". The "CPE Side" radio button is selected. At the bottom of the page, there are three buttons: "Cancel", "Reset", and "Next".

1. Enter WAN1 VPI: **0** and VCI: **32**.
2. Select WAN1 AAL5 Encap: **LLC**
3. Enter LAN IP: **192.168.0.1**
4. Enter LAN Sub-net Mask: **255.255.255.0**
5. Enter Gateway: **192.168.0.254**  
The Gateway is directly pointed to the BAS IP.
6. Enter DNS Server : **168.95.1.1** and **168.95.192.1**
7. Click **Next**

The screenshot shows the 'BASIC - STEP 2' configuration page. At the top, there are navigation tabs: Home, Basic, Advanced, Status, Admin, and Utility. The title 'BASIC - STEP 2' is displayed in orange. Below the title, the 'LAN:' section is highlighted with a red box. It contains the following fields: IP Address (192, 168, 0, 1), Subnet Mask (255, 255, 255, 0), Default Gateway (192, 168, 0, 254), DNS Server 1 (168.95.1.1), DNS Server 2 (168.95.192.1), DNS Server 3, and Host Name (SOHO). Below the LAN section, the 'WAN1:' section is also highlighted with a red box. It contains the following fields: VPI (0), VCI (32), and Encap (VC-mux and LLC, with LLC selected).

8. The screen will prompt the new configured parameters. Check the parameters and click **Restart**. The router will reboot with the new setting or click **Continue** to configure other parameters.

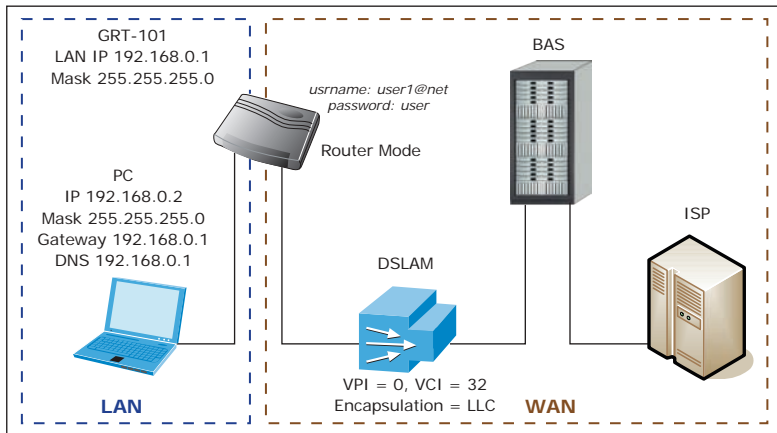
## Console Configuration

Do the following steps:

1. User: **admin** ↵ password: **admin** ↵
2. enable ↵ supervisor password: **root** ↵
3. setup ↵ mode ↵ Bridge ↵
4. wan ↵ Interface number (1~8): **1** ↵  
Protocol ↵: Ethernet ↵  
vpi\_vci: **0** ↵  
**32** ↵  
encap: **LLC** ↵

5. bridge ← gateway ← 192.168.0.254 ←
6. lan ← Interface number: 1 ←
- 7 address ← 192.168.0.1 ←  
255.255.255.0 ←
8. (back to root) write ← y ←  
y ← (reboot)

## 2.2 Routing Mode for PPPoA and PPPoE with IP Sharing



### Web UI Configuration

For Route Mode with Point-to-Point Protocol over ATM and Ethernet, follow the following settings. First select **ROUTE** and **CPE Side**, and then click **Next** for setting other parameters.

Home	Basic	Advanced	Status	Admin	Utility
<b>BASIC - STEP1</b>					
<b>Operation Mode:</b>					
System Mode: <input checked="" type="radio"/> <b>ROUTE</b> <input type="radio"/> BRIDGE					
SHDSL Mode: <input type="radio"/> CO Side <input checked="" type="radio"/> <b>CPE Side</b>					
<input type="button" value="Cancel"/>		<input type="button" value="Reset"/>		<input type="button" value="Next"/>	

1. Enter LAN IP: 192.168.0.1
2. Enter LAN Sub-net Mask: 255.255.255.0
3. Host Name: SOHO
4. DHCP Server: Enable
5. Click **Next**

**BASIC - STEP2**

**LAN:**

IP Type:  Fixed  Dynamic(DHCP Client)

IP Address: 192 . 168 . 0 . 1

Subnet Mask: 255 . 255 . 255 . 0

Host Name: SOHO

Trigger DHCP Service:  Disable  Server  Relay

6. Enter DHCP Client Start IP: 192.168.0.2
7. Enter DHCP Client End IP: 192.168.0.51
8. Enter DNS Server: 192.168.0.1
9. The DNS server is embedded in GRT-101/401/402.
10. Click **Next** to write the new setting.

**BASIC - STEP3**

**DHCP SERVER:**

- General DHCP Parameter:
  - Start IP Address: 192.168.0.2
  - End IP Address: 192.168.0.51
  - DNS Server 1: 192.168.0.1
  - DNS Server 2:
  - DNS Server 3:
  - Lease Time: 72 hours
- Table of Fixed DHCP Host Entries:
 

Hint: The format of the MAC Address is 12:34:56:78:9A:BC

Index	MAC Address	IP Address
1		
2		
3		

11. Enter WAN1 VPI: 0 and VCI: 32.
12. Select WAN1 AAL5 Encap: LLC
13. Select: PPPoE+NAT or PPPoA+NAT
14. Click Next

Home Basic Advanced Status Admin Utility

**BASIC - STEP4**

WAN1:

VPI: 0

VCI: 32

AAL5 Encap:  VC-mux  LLC

Protocol:  (dropdown menu open showing: IPoA, IPoA+NAT, EoA, EoA+NAT, PPPoA+NAT, PPPoE+NAT)

Back Cancel Reset Next

15. Enter User Name provided by ISP: user1@net
16. Enter Password provided by ISP: user1
17. Re-enter Password for confirmation: user1

Home Basic Advanced Status Admin Utility

**BASIC - STEP5**

ISP1:

Username: user1@net

Password: user1

Password Confirm: user1

Idle Time: 10 minutes

IP Type: Dynamic

IP Address: 192.168.1.1

Back Cancel Reset Next

18. The screen will prompt the new configured parameters. Check the parameters and click Restart. The router will reboot with the new setting or click Continue to configure other parameters.

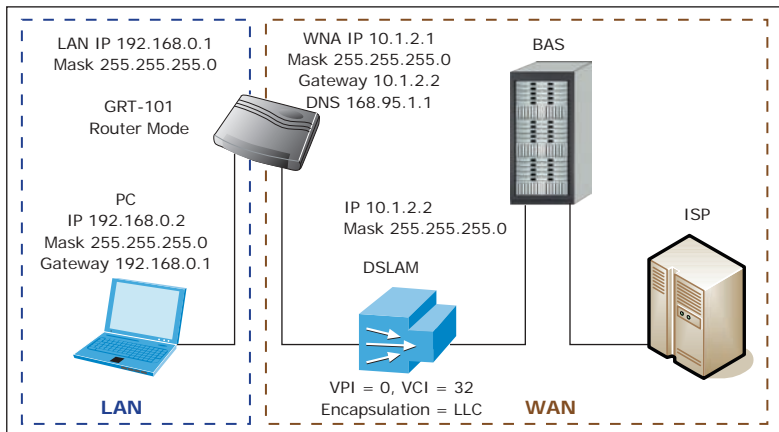


## Console Configuration

Do the following steps:

1. User: `admin` ↵ password: `admin` ↵
2. enable ↵ supervisor password: `root` ↵
3. setup ↵ mode ↵ `Route` ↵
4. wan ↵ Interface number (1~8): `1` ↵  
protocol ↵ `PPPoA or PPPoE` ↵  
vpi\_vci: `0` ↵  
`32` ↵  
encap ↵ `LLC` ↵  
isp ↵ account: `user1@net` ↵  
password: `user1` ↵  
Idle timeout (ENTER for default) <10>: `10`
5. lan ↵ Interface number: `1` ↵
6. address ↵ `192.168.0.1` ↵  
`255.255.255.0` ↵  
attrib ↵ `Virtual` ↵
7. (back to root) write ↵ `y` ↵  
`y` ↵ (reboot)

## 2.3 Routing Mode for IPoA or EoA



## Web UI Configuration

For Route Mode with Classical IP over ATM and Ethernet over ATM, follow the following settings. First select **ROUTE** and **CPE Side**, and then click **Next** for setting other parameters.

The screenshot shows a web interface with a navigation bar at the top containing 'Home', 'Basic', 'Advanced', 'Status', 'Admin', and 'Utility'. The main content area is titled 'BASIC - STEP 1' and contains the following configuration options:

- Operation Mode:**
- System Mode:  ROUTE  BRIDGE
- SHDSL Mode:  CO Side  CPE Side

At the bottom of the form are three buttons: 'Cancel', 'Reset', and 'Next'.

1. Enter LAN IP: 192.168.0.1
2. Enter LAN Sub-net Mask: 255.255.255.0
3. Host Name: SOHO
4. DHCP Server: Enable
5. Click **Next**

The screenshot shows a web interface with a navigation bar at the top containing 'Home', 'Basic', 'Advanced', 'Status', 'Admin', and 'Utility'. The main content area is titled 'BASIC - STEP 2' and contains the following configuration options:

- LAN:**
- IP Type:  Fixed  Dynamic(DHCP Client)
- IP Address: 192, 168, 0, 1
- Subnet Mask: 255, 255, 255, 0
- Host Name: SOHO
- Trigger DHCP Service:  Disable  Server  Relay

At the bottom of the form are four buttons: 'Back', 'Cancel', 'Reset', and 'Next'.

6. Enter DHCP Client Start IP: 192.168.0.2
7. Enter DHCP Client End IP: 192.168.0.51
8. Enter DNS Server: 192.168.0.1
9. The DNS server is embedded in GRT-101/401/402.
10. Click **Next** to write the new setting.

**BASIC - STEP 3**

**DHCP SERVER:**

- **General DHCP Parameter:**
  - Start IP Address: 192.168.0.2
  - End IP Address: 192.168.0.51
  - DNS Server 1: 192.168.0.1
  - DNS Server 2:
  - DNS Server 3:
  - Lease Time: 72 hours
- **Table of Fixed DHCP Host Entries:**

Hint: The format of the MAC Address is 12:34:56:78:9A:BC

Index	MAC Address	IP Address
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>

11. Enter WAN1 VPI: 0 and VCI: 32.
12. Select WAN1 AAL5 Encap: **LLC**
13. Select: **IPoA**, **IPoA+NAT**, **EoA**, or **EoA+NAT**
14. Click **Next**

**BASIC - STEP 4**

**WAN1:**

VPI: 0

VCI: 32

AAL5 Encap:  VC-mux  LLC

Protocol: **IPoA**

15. Enter WAN1 IP: 10.1.2.1
16. Enter WAN1 Subnet Mask: 255.255.255.0
17. Enter Default Route Gateway: 10.1.2.2
18. Enter DNS Server: 168.95.1.1 and 168.95.192.1

The screenshot shows the router's configuration page for WAN1. The 'Basic' tab is active, and the 'BASIC - STEPS' section is highlighted. The 'WAN1:' section contains the following fields:

- IP Address: 10.1.2.1
- Subnet Mask: 255.255.255.0
- Gateway: 10.1.2.2
- DNS Server 1: 168.95.1.1
- DNS Server 2: 168.95.192.1
- DNS Server 3: (empty)

At the bottom of the configuration area, there are four buttons: Back, Cancel, Reset, and Next.

19. The screen will prompt the new configured parameters. Check the parameters and click **Restart**. The router will reboot with the new setting or click **Continue** to configure other parameters.

## Console Configuration

Do the following steps:

1. User: admin ↵ password: admin ↵
2. enable ↵ supervisor password: root ↵
3. setup ↵ mode ↵ Route ↵
4. wan ↵ Interface number (1~8) : 1 ↵  
 protocol ↵ IPoA ↵  
 address ↵ 10.1.2.1 ↵  
 255.255.255.0 ↵  
 vpi\_vci: 0 ↵  
 32 ↵  
 encap ↵ LLC ↵
5. lan ↵ Interface number: 1 ↵
6. address ↵ 192.168.0.1 ↵  
 255.255.255.0 ↵  
 attrib ↵ virtual ↵

7. route ↵ static ↵ add ↵

IP address: 0.0.0.0

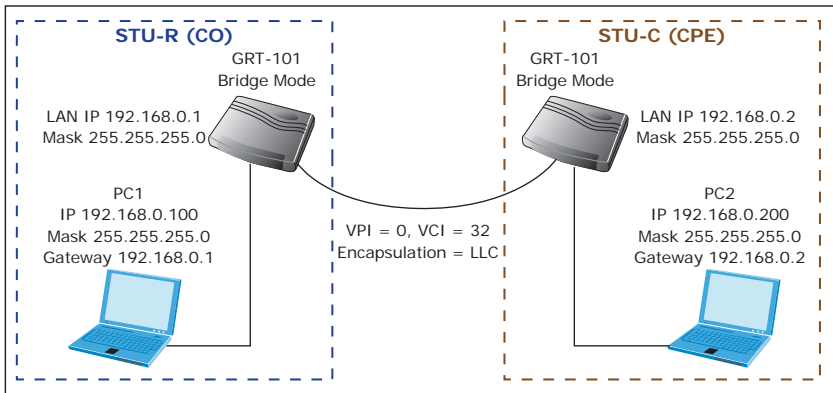
Subnet mask: 0.0.0.0

Gateway: 10.1.2.2

8. (back to root) write ↵ y ↵

y ↵ (reboot)

## 2.4 LAN-to-LAN Connection with Bridge Mode



## Web UI Configuration

### STU-R (CO) side

Click setup to set up the **BRIDGE** as **CO Side**. Follow the instruction.

The screenshot shows the web UI configuration page for STU-R (CO) side. The page is titled "BASIC - STEP 1" and displays the "Operation Mode" section. The "System Mode" is set to "BRIDGE" (indicated by a checked radio button). Below this, there is a red warning message: "WAN need to be reset. The protocol of each WAN only can be set to 'Ethernet over ATM'". The "SHDSL.bis Mode" is set to "CO Side" (indicated by a checked radio button). At the bottom of the page, there are three buttons: "Cancel", "Reset", and "Next".

1. Enter WAN1 VPI: 0 and VCI: 32.
2. Select WAN1 AAL5 Encap: LLC
3. Enter LAN IP: 192.168.0.1
4. Enter LAN Sub-net Mask: 255.255.255.0
5. Enter Gateway: 192.168.0.2
6. Click Next

The screenshot displays a network configuration interface with a blue header bar containing tabs: Home, Basic, Advanced, Status, Admin, and Utility. The main title is "BASIC - STEP2".

**LAN:**

IP Address:	192	168	0	1
Subnet Mask:	255	255	255	0
Default Gateway:	192	168	0	2

DNS Server 1:   
DNS Server 2:   
DNS Server 3:   
Host Name: SOHO

**WAN1:**

VPI:	0
VCI:	32

Encap.:  VC-mux  LLC

At the bottom, there are four buttons: Back, Cancel, Reset, and Next.

7. Set up the CO Router in bridge mode (refer to bridge mode in section 2.1). The gateway of CO Router is pointed to LAN IP, 192.168.0.2, of CPE Router.

The screenshot shows the 'BASIC - STEP 1' configuration page. At the top, there is a navigation bar with tabs: Home, Basic, Advanced, Status, Admin, and Utility. Below the navigation bar, the title 'BASIC - STEP 1' is displayed in orange. Under the heading 'Operation Mode:', there are two radio buttons: 'ROUTE' and 'BRIDGE'. The 'BRIDGE' radio button is selected and highlighted with a red box. Below this, there is a note: 'WAN need to be reset. The protocol of each WAN only can be set to "Ethernet over ATM"'. Underneath, there are two radio buttons for 'SHDSL bis Mode': 'CO Side' and 'CPE Side'. The 'CPE Side' radio button is selected and highlighted with a red box. At the bottom of the page, there are three buttons: 'Cancel', 'Reset', and 'Next'.

The screenshot shows the 'BASIC - STEP 2' configuration page. At the top, there is a navigation bar with tabs: Home, Basic, Advanced, Status, Admin, and Utility. Below the navigation bar, the title 'BASIC - STEP 2' is displayed in orange. Under the heading 'LAN:', there is a table for IP configuration:

IP Address:	192	.	168	.	0	.	2
Subnet Mask:	255	.	255	.	255	.	0
Default Gateway:	192	.	168	.	0	.	1

Below the table, there are four input fields for DNS Server 1, DNS Server 2, DNS Server 3, and Host Name. The Host Name field contains the text 'SOHO'. Under the heading 'WAN1:', there is a table for VPI and VCI configuration:

VPI:	0
VCI:	32

Below the table, there are two radio buttons for 'Encap.': 'VC-mux' and 'LLC'. The 'LLC' radio button is selected and highlighted with a red box. At the bottom of the page, there are four buttons: 'Back', 'Cancel', 'Reset', and 'Next'.

### STU-C (CPE) side

Follow the above instruction. The only difference in this configuration is that users have to choose CPE SIDE instead of CO SIDE.

Set up the CPE Router in bridge mode. The gateway of CPE Router is pointed to LAN IP, 192.168.0.1, of CO Router.

## Console Configuration

Do the following steps in STU-R side:

1. User: `admin` ↵ password: `admin` ↵
2. `enable` ↵ supervisor password: `root` ↵
3. `setup` ↵ mode ↵ `Bridge` ↵  
`shdsl` ↵ `STU-R` ↵
4. `wan` ↵ Interface number (1~8) : `1` ↵  
Protocol ↵ : `Ethernet` ↵  
vpi\_vci: `0` ↵  
`32` ↵  
encap: `LLC` ↵
5. `lan` ↵ Interface number: `1` ↵
6. `address` ↵ `192.168.0.1` ↵  
`255.255.255.0` ↵
7. (back to root) write ↵ `y` ↵  
`y` ↵ (reboot)

Do the following steps in STU-C side:

1. User: `admin` ↵ password: `admin` ↵
2. `enable` ↵ supervisor password: `root` ↵
3. `setup` ↵ mode ↵ `Bridge` ↵  
`shdsl` ↵ `STU-C` ↵
4. `wan` ↵ Interface number (1~8) : `1` ↵  
Protocol ↵ : `Ethernet` ↵  
vpi\_vci: `0` ↵  
`32` ↵  
encap: `LLC` ↵
5. `lan` ↵ Interface number: `1` ↵
6. `address` ↵ `192.168.0.2` ↵  
`255.255.255.0` ↵
7. (back to root) write ↵ `y` ↵  
`y` ↵ (reboot)