

## TC505GL G.SHDSL Bridge/Router



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## Overview Of The Wireless Modem

**Name : Taicom TC-505 GL**

**Supplier : Riger Corporation (M) Sdn Bhd**

**Default Mode: Router Mode**

**LAN Port: 4 LAN**

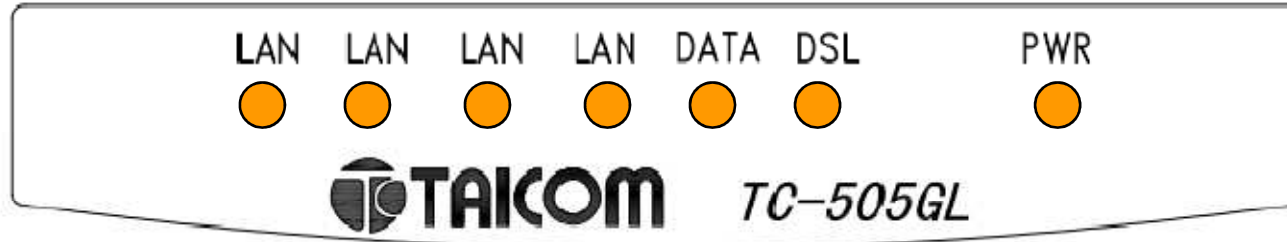
**Support : Bridge, PPPoA, PPPoE**

**Access Level :**

- 1. Default Modem IP Address 192.168.0.1**
- 2. Username: admin / Password: admin**



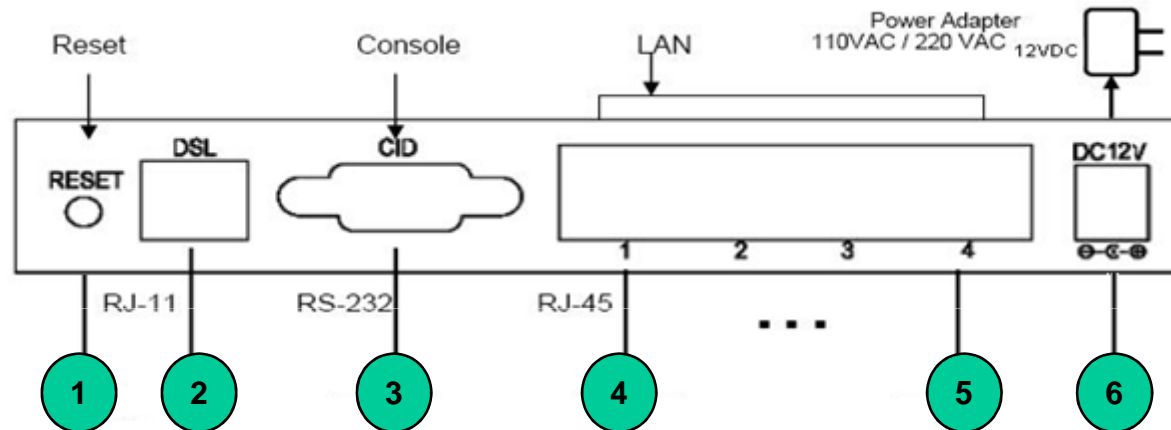
# Front LEDs



The functions of LED indicators are described in the following table:

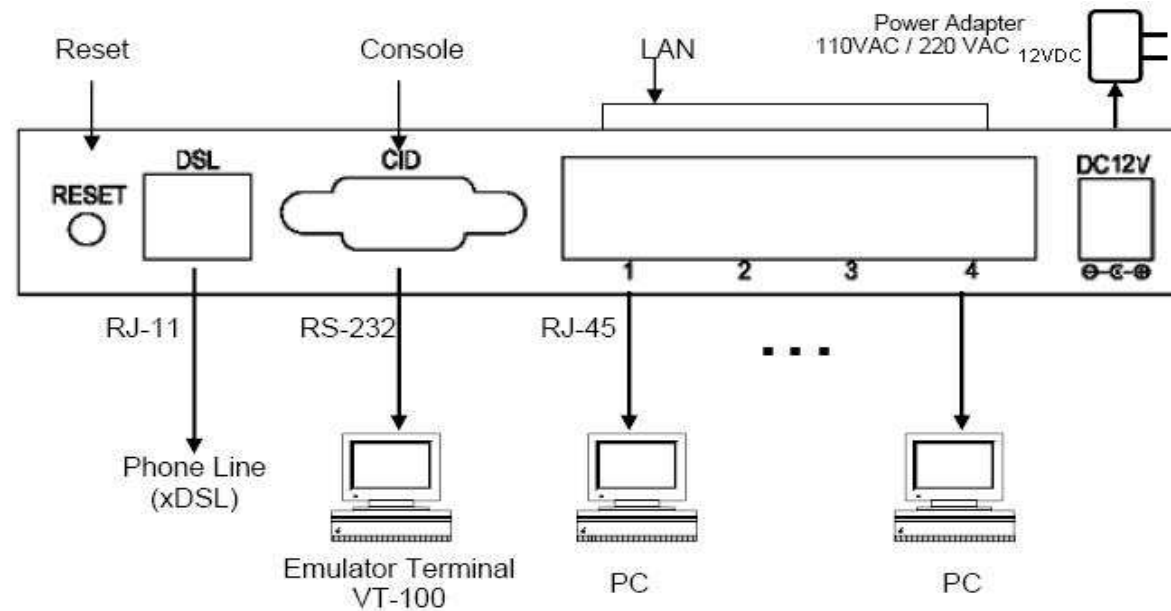
LED	Color	Status	Meaning
PWR	Orange	Steady Off	The device is on. The device is off.
DSL	Orange	Steady Blinking Off	The device is Sync Status. The link is synchronizing - this may take several minutes. The device is unplugged or disconnected.
DATA	Orange	Blinking Off	The device is sending or receiving data There's no data sending or receiving.
LAN	Orange	Steady	The LAN connection is successfully established.
LAN	Orange	Steady	The LAN connection is successfully established.
LAN	Orange	Steady	The LAN connection is successfully established.
LAN	Orange	Steady	The LAN connection is successfully established.

## Rear Ports



No	Port	Details
1	Reset	Reset to default setting.To restore default keep the device on and push a paper clip into the hole.Please down the button over 5-10 sec and then release
2	DSL	Line RJ-11 port
3	RS-232	Serial port DB9 female
4/5	LAN	Ethernet RJ-45
6	Power	Power on/off. Power connector. DC 12V/1.5A. A female pole is positive

## Hardware Connection



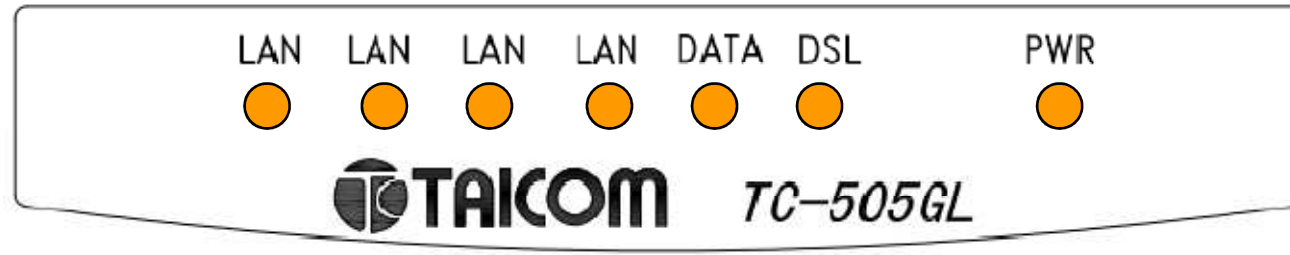
**Included in the G.SHDSL Modem box:**

- 1. G.SHDSL TC-505GL modem**
- 2. Network RJ45 cable**
- 3. Line Telephone RJ11**
- 4. Serial Cable RS-232**
- 5. Power Adapter DC12V/1.5A**

## Factory Default Settings

- **Login Username/Password:**
  - a) IP Address: 192.168.0.1*
  - b) Username/Password : admin*
- **System**
  - Router Mode*
  - Service Type: RT*
  - Standard Mode: ANSI (Annexe A)*
- **LAN**
  - IP Address: 192.168.0.1*
  - Subnet Mask: 255.255.255.0*
- **WAN**
  - PCI/VCI: 0/35*
  - Encapsulation: PPPoA*
  - Dynamic IP: Disable*
  - IP Un-numbered : Disable*
  - Local IP : None*
  - Subnet Mask: 255.255.255.0*
  - Remote IP: None*
  - Username: None*
  - Password: None*
  - NAT: Disable*
  - PPP Status: None*

## Connecting TC-505GL



Step 1. - Use RJ-11 cable to connect the device to xDSL line.

Step 2. - Use RS-232 cable to connect the console port of the device to serial port of the PC with terminal emulator software installed.

Step 3. - Use RJ-45 cable to connect the device and the PC which has the Network Interface Card (NIC) installed. If you want to connect to an external hub, you have to use the RJ-45 cross-over cable.

Step 4. - Plug in the Power adaptor to the DC Power socket of the device, then connect the Power adaptor to the AC outlet.



## Bridge Mode Dialup Configuration

1. For new or factory default modem, modem is in Router mode

1. Below are the steps for customer to connect to the internet thru Bridge dialer:

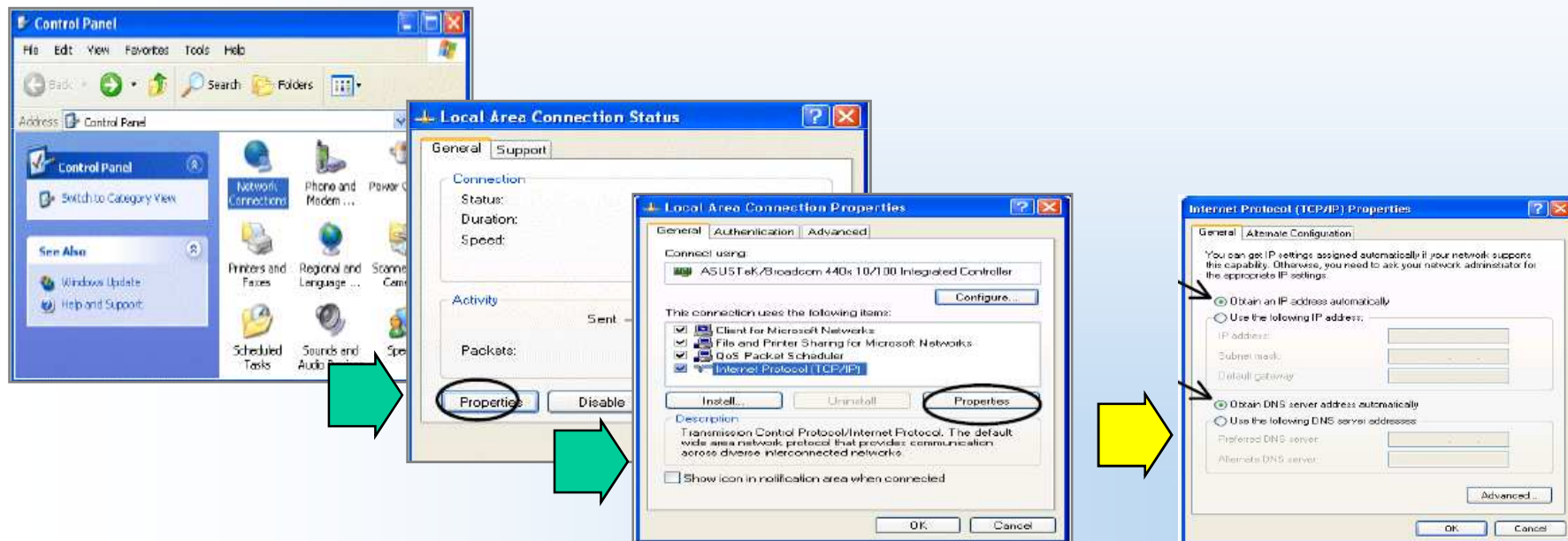
a) Configure in modem webpage GUI as Bridge Mode

The screenshot shows a web browser window displaying the '505 Web configuration' interface. The page title is '505 Web configuration - Windows Internet Explorer' and the URL is 'http://192.168.0.1/quick\_setup.htm'. The interface features a navigation menu on the left with options: Home, Quick Set-up, Basic Configuration, Advance Configuration, Tools, and System Monitor. The main content area is titled 'Quick Set-up' and includes a 'System' section with 'Operation Mode' set to 'Bridge' (selected) and 'Router'. Below this, the 'WAN' section shows 'Service Type' as 'RT' and 'Standard Mode' as 'ANSI'. The 'Bridge' section displays 'IP Address' as '192.168.0.1'. At the bottom of the form are 'Apply' and 'Cancel' buttons. The browser's address bar shows 'http://192.168.0.1/quick\_setup.htm' and the Windows taskbar at the bottom indicates the time as 10:08 AM.

## Cont- Bridge Mode Dialup Configuration

b) Configure PC / Laptop to obtain IP Address Automatically

“Start” >> “Control Panel” >> “Network Connections” >> “Local Area Connection” >> Properties



**Select Internet Protocol (TCP/IP) and click Properties.**

**Select the Obtain an IP address automatically and the Obtain DNS server address automatically radio buttons.**

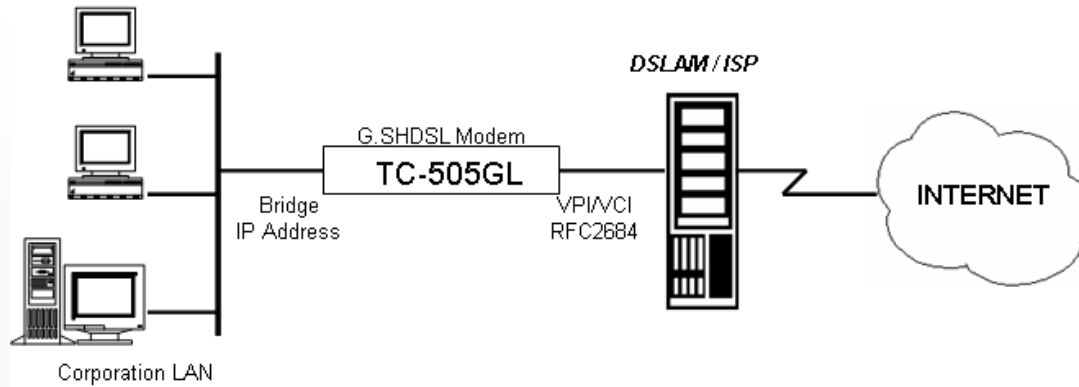
## Cont- Bridge Mode Dialup Configuration

- c) Create Window XP built in Dialer to Dial the internet connection

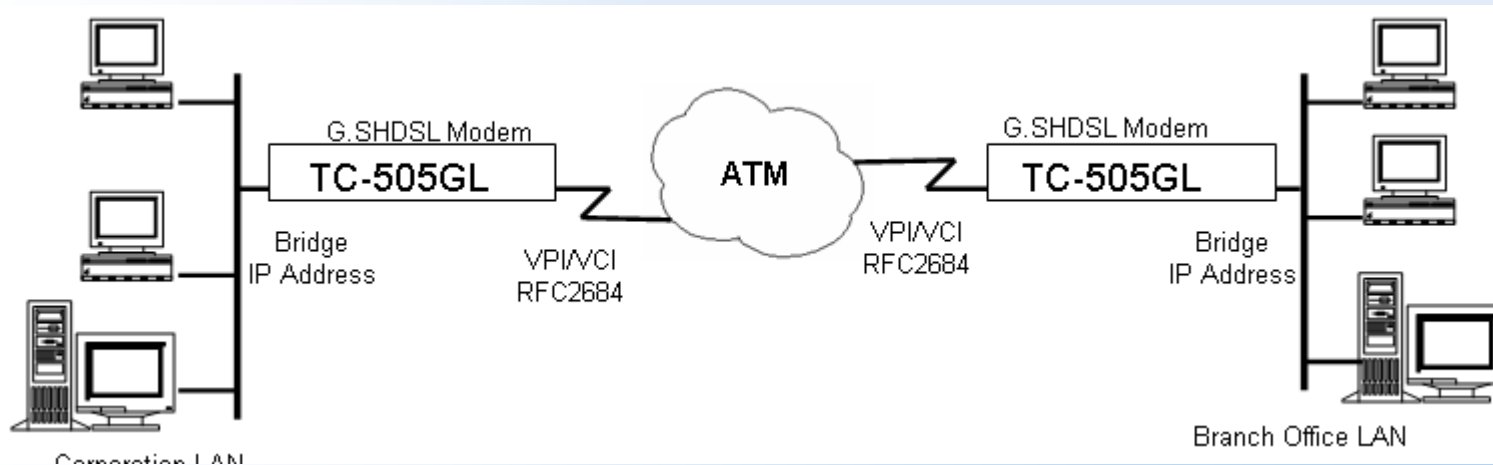


Click *Connect* and the dialer would connect automatically.

# Application Legend (1)



**1 Bridge Mode - Application of TC-505GL: Internet Access**



**2 Bridge Mode - Application of TC-505GL: LAN-to-LAN**

## PPPoE Configuration

1. Below are the steps for customer to connect to the internet thru PPPoE mode:
  - a) Configure in modem webpage GUI as PPPoE Mode

The screenshot shows a web browser window displaying the 'Quick Set-up' page of a modem's configuration interface. The page is titled '505 Web configuration' and shows the following settings:

- System:** Operation Mode:  Router  Bridge; Service Type: RT; Standard Mode: ANSI
- LAN:** IP Address: 192.168.0.1; Subnet Mask: 255.255.255.0
- WAN:** VPI: 0; VCI: 35; Encapsulation: PPPoE; Dynamic IP Address:  Enable  Disable; IP Un-numbered:  Enable  Disable; Local IP: 0.0.0.0; Subnet Mask: 255.255.255.0; Remote IP: 0.0.0.0; User Name: rigerdsl@tmnet; Password: [masked]; NAT:  Enable  Disable; PPP status: Connecting, Assigned-IP: 0.0.0.0

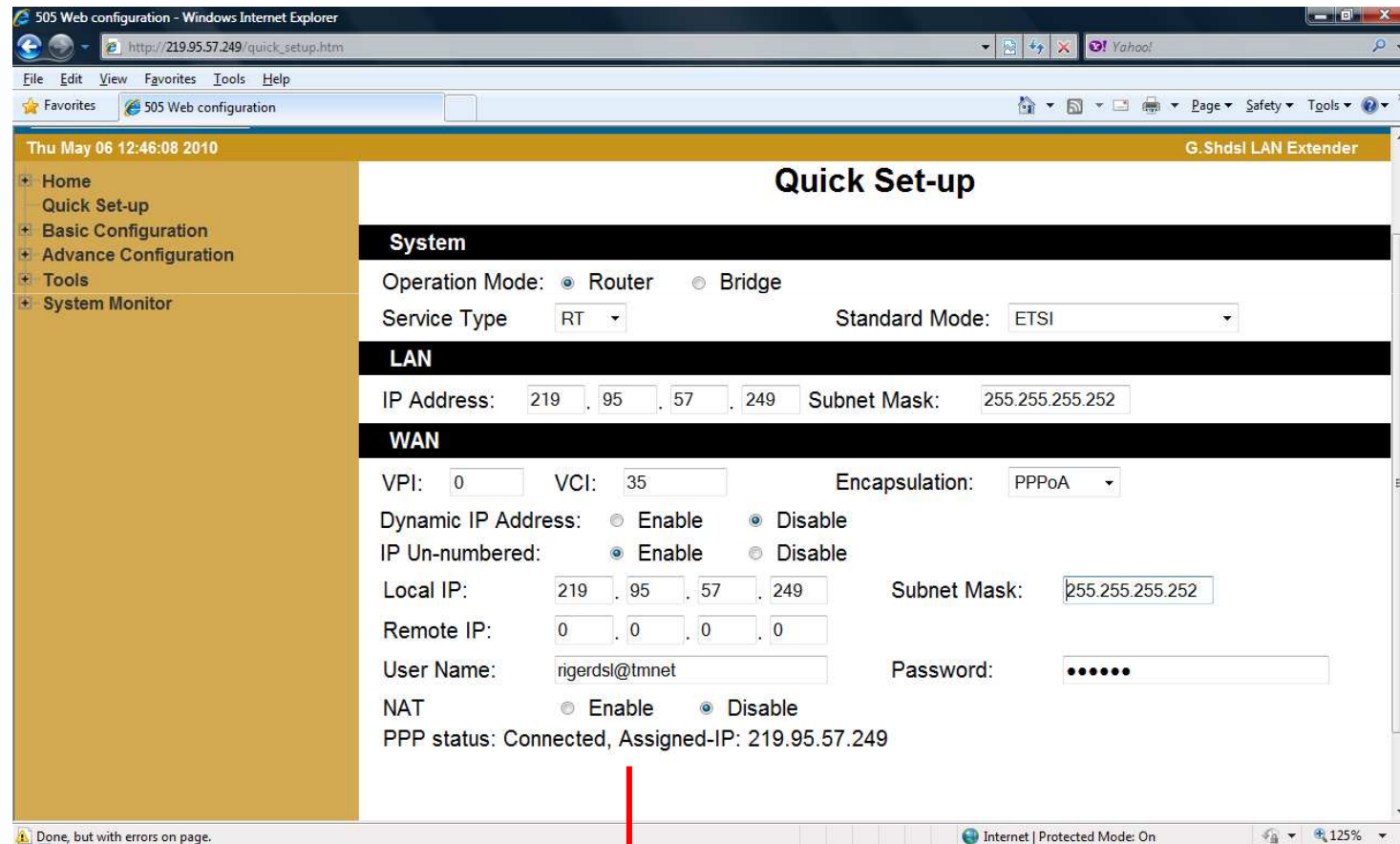
A red arrow points to the 'PPP status' field, which indicates that the modem is currently connecting and has assigned the IP address 0.0.0.0.

- Once connected and PPP status will get assigned IP, customer can start using the service

# PPPoA Configuration

1. Below are the steps for customer to connect to the internet thru PPPoA mode:

a) Configure in modem webpage GUI as PPPoA Mode

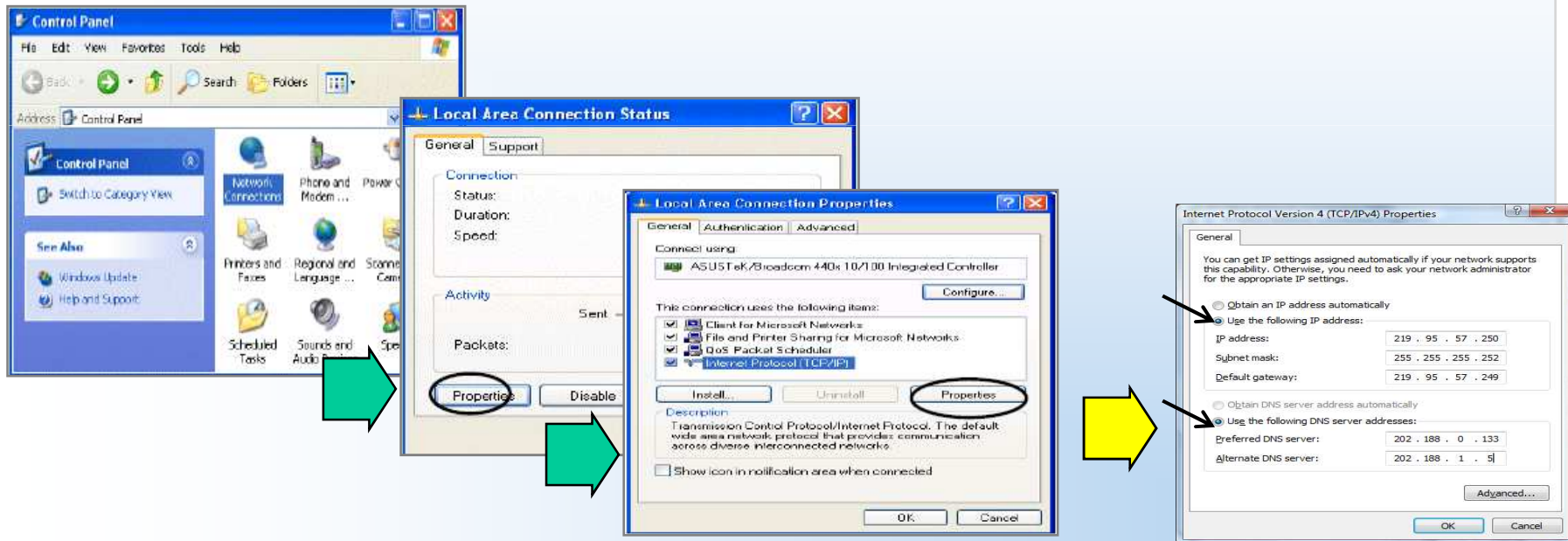


- Once connected and PPP status will get assigned IP, customer can start using the service

# Cont- PPPoA Configuration

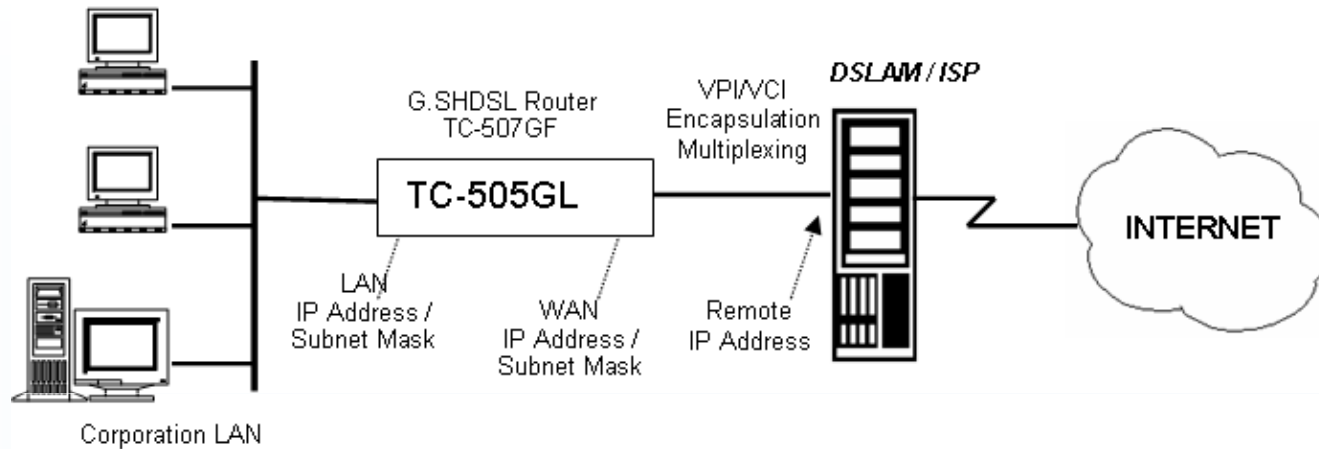
## b) Configure PC / Laptop to obtain IP Address Automatically

“Start” >> “Control Panel” >> “Network Connections” >> “Local Area Connection” >> Properties

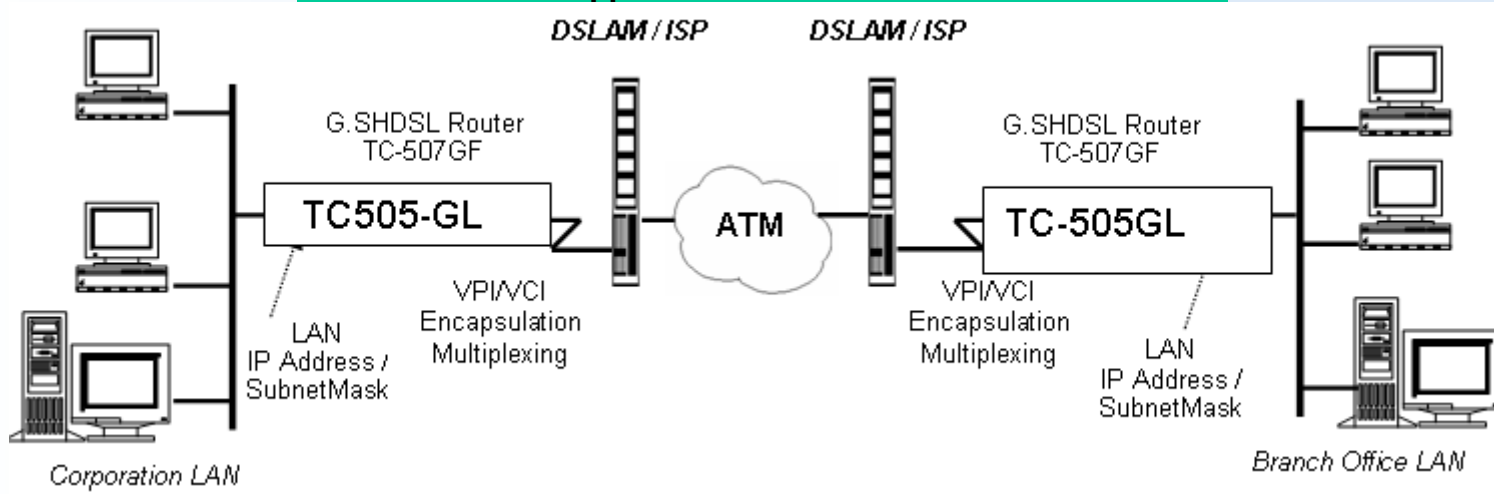


Select Internet Protocol (TCP/IP) and click Properties.  
Input IP address for Local Area Connection and DNS Server Number

# Application Legend (2)



**1 Router Mode - Application of TC-505GL: Internet Access**



**2 Router Mode - Application of TC-505GL: LAN-to-LAN**



## Advanced Features

- ▶ **DMZ**
- ▶ **Access Control List**
- ▶ **Virtual server ( Port forwarding)**
- ▶ **VPN**

**Note: Some features are only in router mode**

## DMZ

### DMZ Settings

VC Index (1..12):

DMZ Host IP Address:  .  .  .

Enable  Disable

**Note: All incoming Internet request will be directly to this IP address on your local network**

# Access Control List

## The Access Control List including :

- ▶ Standard Access Control List
- ▶ DOS Protection
- ▶ Extended Access Control List - IP filtering

## Standard Access Control List

List Index (1..99):	<input type="text" value="1"/>
Active:	No <input type="button" value="v"/>
Action:	Deny <input type="button" value="v"/>
Source Host:	Host <input type="button" value="v"/>
IP Address:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Wildcard Mask:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>

## Access Control List

### The Access Control List including :

- ▶ Standard Access Control List
- ▶ DOS Protection
- ▶ Extended Access Control List - IP filtering

### DOS Protection

Anti-spoofing:	<input type="radio"/> Enable	<input checked="" type="radio"/> Disable
Illegal TCP Flags Detection:	<input type="radio"/> Enable	<input checked="" type="radio"/> Disable
SYN Flooding Detection:	<input type="radio"/> Enable	<input checked="" type="radio"/> Disable

# Access Control List

## The Access Control List including :

- Standard Access Control List
- DOS Protection
- Extended Access Control List - IP filtering

Extended Access Control List - IP filtering	
List Index (101..199):	<input type="text" value="101"/>
Active:	<input type="button" value="No"/> ▾
Action:	<input type="button" value="Deny"/> ▾
Protocol:	<input type="text" value="0"/>
<b>Source Host</b>	
Type:	<input type="button" value="Host"/> ▾
IP Address:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Wildcard Mask:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Port Operation:	<input type="button" value="None"/> ▾
Port :	<input type="text"/>
<b>Destination Host</b>	
Type:	<input type="button" value="Host"/> ▾
IP Address:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Wildcard Mask:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Port Operation:	<input type="button" value="None"/> ▾
Port :	<input type="text"/>
TCP Established	<input type="checkbox"/>



# VPN

## VPN Settings

IPSec Passthrough:

Enable  Disable

L2TP Passthrough:

Enable  Disable

PPTP Passthrough:

Enable  Disable

Apply

Cancel

## Firmware Upgrade

There are 2 kind of method to update firmware:

- Through Serial port (**RS-232**)
- Through Ethernet port (**RJ45**)

**Note:**

1. **Serial port way:** using the modem protocol through serial port to upload the binary firmware file
2. **Ethernet port way:** there are two option:

- a) **TFTP client Way**

When the system is up, then there is a TFTP server runs in the system, then customer can run the TFTP client tool to upgrade the new firmware

- b) **TFTP server way**

When power on and hold the box in the u-boot state, then the customer can run the TFTP server, and there is the TFTP client program in u-boot

For more detail, please check the file: [TC505-507-firmware-Upgrade procedure.pdf](#) or Chapter 5 of the user manual



## Lab Test - Loop distance

The loop distance, at various data rate with 0.4 m/m wire

<b>Single Pair Data Rate, kbps</b>	<b>64</b>	<b>128</b>	<b>192</b>	<b>384</b>	<b>768</b>	<b>1024</b>	<b>1536</b>	<b>2048</b>	<b>2304</b>
<b>Distance, Km</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>	<b>5.2</b>	<b>4.5</b>	<b>4.2</b>	<b>4.0</b>	<b>3.6</b>	<b>3.5</b>
<b>Two Pair Data Rate, kbps</b>	<b>128</b>	<b>256</b>	<b>384</b>	<b>768</b>	<b>1536</b>	<b>2048</b>	<b>3072</b>	<b>4096</b>	<b>4608</b>
<b>Distance, Km</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>	<b>4.8</b>	<b>4.1</b>	<b>3.8</b>	<b>3.6</b>	<b>3.1</b>	<b>3.0</b>

## Lab Test - Loop distance

The loop distance, at various data rate with 0.5 m/m wire

<b>Single Pair Data Rate, kbps</b>	<b>64</b>	<b>128</b>	<b>192</b>	<b>384</b>	<b>768</b>	<b>1024</b>	<b>1536</b>	<b>2048</b>	<b>2304</b>
<b>Distance, Km</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>9.0</b>	<b>7.0</b>	<b>6.0</b>	<b>5.0</b>	<b>4.5</b>	<b>4.1</b>
<b>Two Pair Data Rate, kbps</b>	<b>128</b>	<b>256</b>	<b>384</b>	<b>768</b>	<b>1536</b>	<b>2048</b>	<b>3072</b>	<b>4096</b>	<b>4608</b>
<b>Distance, Km</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>9.0</b>	<b>7.0</b>	<b>6.0</b>	<b>5.0</b>	<b>4.5</b>	<b>4.1</b>

## Debug in the field

### 1. Check the LED status



### 2 Test DSL Loop resistance

AWG24 : ~ 180  $\Omega$ /Km @0.5 mm

AWG26: ~ 280  $\Omega$ /Km @0.4 mm

Loop resistance





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**Contact Us:**

**0199539588**

**0199369588**

**haizlynda@riger.com.my**

**fadzli@riger.com.my**

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