



KD319RI

ADSL Router User Manual

KASDA Digital Technology Co. Ltd

www.kasda.cn

NOTICE

This document contains proprietary information protected by copyright, and this Manual and all the accompanying hardware, software, and documentation are copyrighted. All rights are reserved. No part of this document may be photocopied or reproduced by mechanical, electronic, or other means in any form.

The manufacturer does not warrant that the hardware will work properly in all environments and applications, and makes no warranty or representation, either expressed or implied, with respect to the quality, performance, merchantability, or fitness for a particular purpose of the software or documentation. The manufacturer reserves the right to make changes to the hardware, software, and documentation without obligation to notify any person or organization of the revision or change.

All brand and product names are the trademarks of their respective owners.

© Copyright 2014

All rights reserved.

Content

1	OVERVIEW	1
1.1	FEATURES	1
1.2	PACKET CONTENTS	3
1.3	SYSTEM REQUIREMENTS	3
1.4	FACTORY DEFAULTS	3
1.5	WARNINGS AND CAUTIONS	4
2	HARDWARE DESCRIPTION	5
	<i>Front Panel</i>	5
	<i>Rear Panel</i>	6
3	HARDWARE INSTALLATION	7
4	PC CONFIGURATION GUIDE	8
4.1	LOCAL PC CONFIGURATION	8
4.2	ACCESS THE PROGRAM	10
4.3	ADSL SETUP	10
	<i>4.3.1 PPPoE(PPP over Ethernet)</i>	<i>11</i>
	<i>4.3.2 PPPoA(PPP over ATM)</i>	<i>13</i>
	<i>4.3.3 Bridged</i>	<i>15</i>
	<i>4.3.4 LAN Interface</i>	<i>16</i>
	<i>4.3.5 TR069</i>	<i>18</i>
4.4	RESET ROUTER	19
	APPENDIX FREQUENT ASKED QUESTIONS	20

1 Overview

Thank you for using this Asymmetric Digital Subscriber Line (ADSL) router. With the asymmetric technology, this device runs over standard copper phone lines. In addition, ADSL allows you to have both voice and data services in use simultaneously all over one phone line. It is an ideal solution for the small and medium size business environment.

This ADSL router provides a 10/100BaseT interface for Ethernet connection. Computers can connect to the router via its Ethernet port to share its high-speed Internet access. You can connect to its port regardless of the operating system you are using. It receives adaptive rates up to 24Mbps and transmits 1Mbps upstream.

1.1 Features

1.1.1 *ADSL Compliance*

- ANSI T1.413 issue 2
- Downstream: Up to 24Mbps.
- Max upstream speed: 1Mbps.
- Rate Adaptive at 32 Kbps steps
- Interoperable with all major DSLAM equipment

1.1.2 *Standards & Protocols Conformance*

- ITU G.994.1 G.992.1(G.DMT) G.992.2(G.LITE)
- ITU G.992.3(G.DMT.BIS)
- ITU G.992.5
- T1.413
- PPPoE
- PPPoA
- MER

1.1.3 Operating System Support

- WINDOWS 98
- WINDOWS 98 SE
- WINDOWS ME
- WINDOWS 2000
- WINDOWS XP
- WINDOWS VISTA
- WINDOWS 7
- Macintosh
- LINUX

1.1.4 ATM Capabilities

- ATM Connection
- VPI Range: 0-255
- VCI Range: 16-65535
- AESA (E.164, DCC, ICD)
- PVC Support
- UNI 3.0 & 3.1 Signaling
- Support AAL 5

1.1.5 Management Support

- Web Based GUI
- Upgrade or update via FTP/HTTP
- Command Line Interface via Telnet
- Diagnostic Test
- Firmware upgrade-able for future feature enhancement

1.1.6 Environmental

- Operating humidity: 10%-90% non-condensing
- Non-operating storage humidity: 5%-95% non-condensing

1.2 Packet Contents

The packet contents are as the following:

- ADSL Router x 1
- External Splitter x 1
- Power Adapter x 1
- Telephone Line x 1
- Ethernet Cable x 1
- CD x 1

1.3 System Requirements

Before using this ADSL router, verify that you meet the following requirements:

- Subscription for ADSL service. Your ADSL service provider should provide you with at least one valid IP address (static assignment or dynamic assignment via dial-up connection).
- One or more computers, each contains an Ethernet 10/100M Base-T network interface card (NIC).
- A hub or switch, if you are connecting the device to more than four computers.
- For system configuration using the supplied web-based program: A web browser such as Internet Explorer v5.0 or later, or Netscape v4.7 or later.

1.4 Factory Defaults

The device is configured with the following factory defaults:

- IP Address: 192.168.1.1
- Subnet Mask: 255.255.255.0
- Encapsulation: According to local information
- VPI/VCI: According to local information

1.5 Warnings and Cautions

- Never install telephone wiring during storm. Avoid using a telephone during an electrical storm. There might be a risk of electric shock from lightening.
- Do not install telephone jacks in wet locations and never use the product near water.
- To prevent dangerous overloading of the power circuit, be careful about the designed maximum power load ratings. Not to follow the rating guideline could result in a dangerous situation.
- Please note that telephone line on ADSL router must adopt the primary line that directly outputs from junction box. Do not connect ADSL router to extension phone. In addition, if your house developer divides a telephone line to multi sockets inside the wall of house, please only use the telephone that has connected with the splitter of ADSL router when you access the Internet. Under the above condition, if you also install telephone with anti-cheat-dial device, please pull out this kind of telephone, otherwise ADSL router may occur frequently off-line.

2 Hardware Description


Front Panel



LED	Color	Function
PWR	Green	ON: Power is on
		OFF: Power is off
LAN	Green	On: LAN link established and active Blinking: Data activity occurs Off: No LAN link
DSL	Green	On: DSL link established and active Quick Blinking: DSL is trying to establish a connection Slow Blinking: No DSL link
INET	Green	On: IP connected Blinking: IP connected and IP Traffic is passing thru the device Off: Modem power off, ADSL connection not present

Rear Panel



Port	Function
DSL	Connects the device to an ADSL telephone jack or splitter using a RJ-11 telephone cable
Reset	System reset or reset to factory defaults.
LAN	Connects the device to your PC's Ethernet port, or to the uplink port on your hub/switch, using a RJ-45 cable
 ON OFF	Switches the unit on and off
POWER	Connects to the supplied power adapter

3 Hardware Installation

This Hardware Installation describes how to connect ADSL router to your computer, LAN and the Internet. This Installation assumes you have subscribed to an ISP for ADSL service and only covers the basic configurations to be applied to residential or corporate networks.

1. Using a telephone line to connect the **DSL** port of ADSL router to the **MODEM** port of the splitter, and using another telephone line to connect your telephone to the **PHONE** port of the splitter, then connect the wall phone jack to the **LINE** port of the splitter.

The splitter comes with three connectors as below:

LINE: Connects to a wall phone jack (RJ-11 jack)

MODEM: Connects to the DSL jack of ADSL router

PHONE: Connects to a telephone set

2. Using an Ethernet Cable to connect the LAN port of the ADSL router to your LAN or a PC with network card installed.
3. Connect the power cable to the POWER connector on ADSL router, then plug in the power adapter to the power outlet, and then press the on-off button.

Notes: Without the splitter and certain situation, transient noise from telephone can interfere with the operation of the ADSL router, and the ADSL router may introduce noise to the telephone line. To prevent this from happening, a small external splitter must be connected to each telephone.

4 PC Configuration Guide

4.1 Local PC Configuration

4.1.1 *Windows 95, 98, ME, XP*

1. In the Windows task bar, click the “Start” button, point to “Settings”, and then click “Control Panel”.
2. Double-click the “Network” icon.
3. On the “Configuration” tab, select the TCP/IP network associated with your network card and then click “Properties”.
4. In the “TCP/IP Properties” dialog box, click the “IP Address” tab. Set the IP address as 192.168.1.x (x can be a decimal number from 2 to 254.) like 192.168.1.5, and the subnet mask as 255.255.255.0.
5. On the “Gateway” tab, set a new gateway as 192.168.1.1, and then click “Add”.
6. Configure the “DNS” tab if necessary. For information on the IP address of the DNS server, please consult with your ISP.
7. Click “OK” twice to confirm and save your changes.
8. You will be prompted to restart Windows. Click “Yes”.

4.1.2 *Windows 2000*

1. In the Windows task bar, click the “Start” button, point to “Settings”, and then click “Control Panel”.
2. Double-click the “Network and Dial-up Connections” icon.
3. In the “Network and Dial-up Connections” window, right-click the “Local Area Connection” icon, and then select “Properties”.
4. Highlight “Internet Protocol (TCP/IP)”, and then click “Properties”.
5. In the “Internet Protocol (TCP/IP) Properties” dialog box, set the IP address as 192.168.1.x (x can be a decimal number from 2 to 254.), and the subnet mask as 255.255.255.0 and the default gateway as 192.168.1.1. Then click “OK”.
6. Configure the “DNS” tab if necessary. For information on the IP address of the DNS server, please consult with your ISP.
7. Click “OK” twice to confirm and save your changes.

4.1.3 Windows Vista

1. Go to Start. Click on Network.
2. Then click on Network and Sharing Center at the top bar.
3. When the Network and Sharing Center window pops up, select and click on Manage network connections on the left window column.
4. Select the Local Area Connection, and right click the icon to select Properties.
5. Select Internet Protocol Version 4 (TCP/IPv4) then click Properties.
6. In the TCP/IPv4 properties window, select the Obtain an IP address automatically and Obtain DNS Server address automatically radio buttons. Then click OK to exit the setting.
7. Click OK again in the Local Area Connection Properties window to apply the new configuration

4.1.4 Windows 7

1. Go to Start. Click on Control Panel. Then click on Network and Internet.
2. When the Network and Sharing Center window pops up, select and click on Change adapter settings on the left window panel.
3. Select the Local Area Connection, and right click the icon to select Properties.
4. Select Internet Protocol Version 4(TCP/IPv4) then click Properties.
5. n the TCP/IPv4 properties window, select the Obtain an IP address automatically and Obtain DNS Server address automatically radio buttons. Then click OK to exit the setting.
6. Click OK again in the Local Area Connection Properties window to apply the new configuration.

4.2 Access the program

After configuring the IP Address of you computer, powering on the ADSL Router, and launching a web browser, such as Internet Explorer, use <http://192.168.1.1/> to log on to the setting pages.

The screenshot shows the 'ADSL Router Login' web page. It has a blue header with the title. Below the header, there are two input fields: 'User Name:' and 'Password:'. To the left of the 'User Name' field, a callout box says 'Enter username 'admin' and password 'admin''. Below the input fields, there are two buttons: 'Login' and 'Reset'. A callout box points to the 'Login' button with the text 'Click Login'.

Attention: the username and password are both lowercase.

4.3 ADSL setup

From home page, you can find Interface option on the top router configuration page.

From **Interface**, click **WAN**, configure the parameters for the channel operation modes of your ADSL Router.

The screenshot shows the 'Realtek ADSL Router' configuration page. The top navigation bar includes 'Interface', 'Status', 'Interface' (highlighted), 'Advanced', 'Service', 'Firewall', and 'Maintenance'. Under 'Interface', there are sub-tabs for 'WAN' and 'LAN'. The 'Channel Configuration' section is active. It contains a note: 'This page is used to configure the parameters for the channel operation modes of your ADSL Modem/Router. Note : When connect type of PPPoE and PPPoA only is "Manual", the "Connect" and "Disconnect" button will be enable.' Below the note, there is a 'Default Route Selection' section with two radio buttons: 'Auto' and 'Specified' (which is selected).

4.3.1 PPPoE(PPP over Ethernet)

PPPoE (Point to Point Protocol over Ethernet) provides access control and billing functionality in a manner similar to dial-up services using PPP. The router bridges a PPP session over Ethernet (PPP over Ethernet, RFC2516) from your computer to an ATM PVC (Permanent Virtual Circuit) which connects to ADSL Access Concentrator where the PPP session terminates. One PVC can support any number of PPP sessions from your LAN.

Select **PPP over Ethernet (PPPoE)** as **Channel Mode**, and select **LLC** as encapsulation mode.

Channel Configuration

This page is used to configure the parameters for the channel operation modes of your ADSL Modem/Router. Note : When connect type of PPPoE and PPPoA only is "Manual", the "Connect" and "Disconnect" button will be enable.

Default Route Selection: ☐ Auto ☒ Specified

VPI: VCI: Encapsulation: ☒ LLC ☐ VC-Mux
 Channel Mode: Enable NAPT: ☒
 Enable IGMP: ☐

IP Protocol:

PPP Settings:

User Name: Password:
 Type: Idle Time (min):

WAN IP Settings:

Type: ☒ Fixed IP ☐ DHCP
 Local IP Address: Remote IP Address:
 Netmask:
 Default Route: ☐ Disable ☒ Enable ☐ Auto
 Unnumbered ☐

IPv6 WAN Setting:

Address Mode:

Enable DHCPv6 Client: ☐

Current ATM VC Table:

Selec t	Inf	Mode	VPI	VCI	Enca p	NAP T	IGMP	DRou te	IP Addr	Rem ote IP	NetM ask	User Nam e	Unnu mber	Statu s	Edit
------------	-----	------	-----	-----	-----------	----------	------	------------	------------	------------------	-------------	------------------	--------------	------------	------

Item	Description
VPI/VCI	Enter the PVC that your ISP gives you.
Enable NAT	NAPT extends the notion of NAT one step further by also translating the transport identifier (eg TCP and UDP port numbers, ICMP query identifiers). This allows the transport identifiers of a number of private hosts to be multiplexed into the transport identifiers of a single public IP address.
Enable IGMP	IGMP(Internet Group Management Protocol) is a network-layer protocol used to establish membership in a Multicast group- it is not used to carry user data. IGMP version 2 (RFC 2236) is an improvement over version 1 (RFC 1112) but IGMP version 1 is still in wide use.
PPP settings: User name & password	Enter the user name and password that your ISP gives you.
PPP Settings: Type	<p>Continuous: If you want to access the Internet all the time, select Continuous type.</p> <p>Connect on Demand: Select this type when you don't want the connection up all the time and specify an idle time-out in the Idle Time field.</p> <p>Manual: When connect type of PPPoE and PPPoA only is "Manual", the "Connect" and "Disconnect" button will be enable.</p>

4.3.2 PPPoA(PPP over ATM)

PPPoA stands for Point to Point Protocol over ATM Adaptation Layer 5 (AAL5). A PPPoA connection functions like a dial-up Internet connection. The router encapsulates the PPP session based on RFC1483 and sends it through an ATM PVC (Permanent Virtual Circuit) to the Internet Service Provider's (ISP) DSLAM (digital access multiplexer). Please refer to RFC2364 for more information on PPPoA.

Select PPP over ATM (**PPPoA**) as **Channel Mode** and **VC-Mux** as encapsulation mode.

Channel Configuration

This page is used to configure the parameters for the channel operation modes of your ADSL Modem/Router. Note : When connect type of PPPoE and PPPoA only is "Manual", the "Connect" and "Disconnect" button will be enable.

Default Route Selection: ☐ Auto ☒ Specified

VPI: VCI: Encapsulation: ☒ LLC ☐ VC-Mux
 Channel Mode: Enable NAPT: ☐
 Enable IGMP: ☐

IP Protocol:

PPP Settings:

User Name: Password:
 Type: Idle Time (min):

WAN IP Settings:

Type: ☒ Fixed IP ☐ DHCP
 Local IP Address: Remote IP Address:
 Netmask:
 Default Route: ☐ Disable ☒ Enable ☐ Auto
 Unnumbered ☐

IPv6 WAN Setting:

Address Mode:

Enable DHCPv6 Client: ☐

Current ATM VC Table:

Select	Inf	Mode	VPI	VCI	Enca	NAP	IGMP	DRou	IP	Rem	NetM	User	Unnu	Statu	Edit
t					p	T		te	Addr	ote	ask	Nam	mber	s	

Item	Description
VPI/VCI	Enter the PVC that your ISP gives you.
Enable NAT	NAPT extends the notion of NAT one step further by also translating the transport identifier (eg TCP and UDP port numbers, ICMP query identifiers). This allows the transport identifiers of a number of private hosts to be multiplexed into the transport identifiers of a single public IP address.
Enable IGMP	IGMP(Internet Group Management Protocol) is a network-layer protocol used to establish membership in a Multicast group- it is not used to carry user data. IGMP version 2 (RFC 2236) is an improvement over version 1 (RFC 1112) but IGMP version 1 is still in wide use.
PPP settings: User name & password	Enter the user name and password that your ISP gives you.
PPP Settings: Type	<p>Continuous: If you want to access the Internet all the time, select Continuous type.</p> <p>Connect on Demand: Select this type when you don't want the connection up all the time and specify an idle time-out in the Idle Time field.</p> <p>Manual: When connect type of PPPoE and PPPoA only is "Manual", the "Connect" and "Disconnect" button will be enable.</p>

4.3.3 Bridged

With bridging the router has a static IP address for connection. The router passes traffic through to another device (a computer or router for example) that handles authenticating with the ISP. Enter VPI and VCI according to your local region and select the appropriate **Encapsulation mode**. Click **Add** to add your configuration and then click **Save** button on the left bottom.

Channel Configuration

This page is used to configure the parameters for the channel operation modes of your ADSL Modem/Router. Note : When connect type of PPPoE and PPPoA only is "Manual", the "Connect" and "Disconnect" button will be enable.

Default Route Selection: ☐ Auto ☒ Specified

VPI: VCI: Encapsulation: ☒ LLC ☐ VC-Mux
 Channel Mode: Enable NAPT: ☐
 Enable IGMP: ☐

PPP Settings:

User Name: Password:
 Type: Idle Time (min):

WAN IP Settings:

Type: ☒ Fixed IP ☐ DHCP
 Local IP Address: Remote IP Address:
 Netmask:
 Default Route: ☐ Disable ☒ Enable ☐ Auto
 Unnumbered ☐

Current ATM VC Table:

Select	Inf	Mode	VPI	VCI	Enca p	NAP T	IGMP	DRou te	IP Addr	Rem ote IP	NetM ask	User Nam e	Unnu mber	Statu s	Edit
--------	-----	------	-----	-----	-----------	----------	------	------------	------------	------------------	-------------	------------------	--------------	------------	------

4.3.4 LAN Interface

From **LAN**, Configure the DSL Router's IP Address and Subnet Mask for LAN interface.

LAN
DHCP
DHCP Static
LAN IPv6

LAN Interface Setup

This page is used to configure the LAN interface of your ADSL Router. Here you may change the setting for IP addresss, subnet mask, etc..

Interface Name: e1

IP Address:

Subnet Mask:

☐ Secondary IP

IGMP Snooping: ☒ Disable ☐ Enable

LAN Port:

Link Speed/Duplex Mode:

ETHERNET Status Table:

Select	Port	Link Mode
<input type="radio"/>	LAN	AUTO Negotiation

MAC Address Control: ☐ LAN1 ☐ USB

New MAC Address:

Current Allowed MAC Address Table:

MAC Addr	Action
----------	--------

Item	Description
IP address	This is the IP address that other devices on your local network will use to connect to the modem. The default is 192.168.1.1 .
Subnet mask	This defines the size of your network. The default is 255.255.255.0 .
Secondary IP	Select this option is to let the device use a second IP on the LAN interface. You can also use this second IP address to access the device for management. Enter the LAN IP

	address of your device in dotted decimal notation, for example, 10.0.0.1. Type the subnet mask.
IGMP snooping	IGMP Snooping is a method that actually “snoops” or inspects IGMP traffic on a switch. When enabled, the switch will watch for IGMP messages passed between a host and a router, and will add the necessary ports to its multicast table, ensuring that only the ports that require a given multicast stream actually receive it.
Link Speed/Duplex Mode	You have five choices here. 100Mbps/Full Duplex, 100Mbps/Half Duplex, 10Mbps/Full Duplex, 10Mbps/Half Duplex and Auto Negotiation.
MAC Address Control	Select the LAN interface for which you want to use MAC address control rule. There are two interface, LAN1 and USB. Click Apply Changes to save and apply your configuration.
New MAC Address	Enter the MAC address allowed, for example, 00:0e:f4:33:33:22.

4.3.5 TR069

WAN Management Protocol (TR-069) allows a Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device. Select

Configure TR-069 from **Advanced**→**CWMP**.

TR-069 Configuration

This page is used to configure the TR-069 CPE. Here you may change the setting for the ACS's parameters.

ACS:

Enable: ☒

URL:

User Name:

Password:

Periodic Inform Enable: ☐ Disable ☒ Enable

Periodic Inform Interval: seconds

Connection Request:

User Name:

Password:

Path:

Port:

URL: URL for the CPE to connect to the ACS using the CPE WAN Management Protocol.

User Name: Username used to authenticate an ACS making a Connection Request to the CPE.

Password: Password used to authenticate an ACS making a Connection Request to the CPE. When read, this parameter returns an empty string, regardless of the actual value.

Periodic Inform Enable: Whether or not the CPE must periodically send CPE information to Server using the Inform method call.

Periodic Inform Interval: The duration in seconds of the interval for which the CPE MUST attempt to connect with the ACS and call the Inform method if Inform is enabled.

Connection Request User Name: Username used to authenticate the CPE when making a connection to the ACS using the CPE WAN Management Protocol. This username is used only for authentication of the CPE.

Connection Request Password: Password used to authenticate the CPE when making a connection to the ACS using the CPE WAN Management Protocol. This password is used only for authentication of the CPE.

4.4 Reset Router

1. On the Rear Panel of the ADSL router you will find a small hole with the word "**reset**" written below it. It's just big enough for a ball-point tip. Insert a ball-point tip into this little hole (actually it's a reset switch) and keep the ball-point tip in there.
2. You can release the ball-point after about 5 seconds. You have then completed the full-reset. Your ADSL router will now have its factory default settings. IP address will be 192.168.1.1 and the subnet mask will be 255.255.255.0. User name will be admin and password will be admin.

Appendix Frequent Asked Questions

Q: None of the LEDs are on when you power on the ADSL router?

A: Please make sure what you use is the power adaptor attached with the ADSL router package, and check the connection between the AC power and ADSL router.

Q: DSL LED does not turn on after connect telephone line?

A: Please make sure what you use is the standard telephone line (as attached with the package), make sure the line is connected correctly and check whether there is poor contact at each interface. Wait for 30 seconds to allow the ADSL router establishes connection with you ADSL operator.

Q: DSL LED is in the circulation of slow-flashing and fast-flashing after connect telephone line?

A: This situation means the ADSL router is in the status of failing to establish connection with Central Office. Please check carefully and confirm whether the ADSL router has been installed correctly.

Q: LAN LED does not turn on after connect Ethernet cable?

A: Please make sure Ethernet cable is connected hub/PC and ADSL router correctly. Then please make sure the PC/hub have been power on.

Please make sure that you use parallel network cable to connect UpLink port of hub, or use parallel network cable to connect PC. If connect normal port of hub (not UpLink port), you must use cross-cable. Please make sure that your network cables meet the networking requirements above.

Q: PC cannot access the Internet?

A: First check whether PC can ping the interface Ethernet IP address of this product successfully (default value is 192.168.1.1) by using ping application. If ping application fails, please check the connection of Ethernet cable and check whether the states of LEDs are in gear.

If the PC uses private IP address that is set manually (non-registered legal IP address), please check:

1. Whether IP address of the PC gateway is legal IP address. Otherwise please use the right gateway, or set the PC to Obtain an IP address automatically.
2. Please confirm the validity of DNS server appointed to the PC with ADSL operator. Otherwise please use the right DNS, or set the PC to Obtain an IP address automatically.
3. Please make sure you have set the NAT rules and convert private IP address to legal IP address. IP address range of the PC that you specify should meet the setting range in NAT rules.

Central Office equipment may have problem.

Q: PC cannot browse Internet web page?

A: Please make sure DNS server appointed to the PC is correct. You can use ping application program to test whether the PC can connect to the DNS server of the ADSL operator.

Q: Initialization of the PVC connection failed?

A: Be sure that cable is connected properly from the DSL port to the wall jack. The DSL LED on the front panel of the ADSL router should be on. Check that your VPI, VCI, type of encapsulation and type of multiplexing setting are the same as what you collected from your service provider, Re-configure ADSL router and reboot it. If you still can not work it out, you may need to verify these variables with the service provider.

If the cause is not given above, please contact your local service provider!