LEGAL INFORMATION

MF28D
Quick Guide

Welcome

Thank you for choosing ZTE MF28D Router (hereinafter referred to as "device" or "router"). To get the most from your router and to keep it in the best condition, please read this manual carefully.
The pictures, symbols and contents in this manual are for your reference only. They might not be completely identical with your router. ZTE operates a policy of continuous development. We reserve the right to update the technical specifications in this manual at any time without prior notice.

General Information

Safety Precautions

• Some electronic devices may be susceptible to electromagnetic interference. Locate the router away from TV set, radio and other electronic equipment to avoid electromagnetic interference.
• The router may interfere with medical devices like hearing aids and pacemakers. Consult a physician or the manufacturer of the medical device before using the router.
• Please keep yourself at least 20 centimeters away from router.
• Do not use your router in dangerous environments such as oil terminals or chemical factories where there are explosive gases or explosive products being processed.
• Please use original accessories or accessories that are authorized by ZTE. Unauthorized accessories may affect the router performance, damage the router or cause danger to you.
• Do not attempt to dismantle the router. There are no user serviceable parts.
• Do not allow the router or accessories to come into contact with liquid or moisture at any time. Do not immerse the router in any liquid.
• Do not place objects on top of the router. This may lead to overheating of the router.
• The router must be placed in ventilation environment for use.

• Do not expose the router to direct sunlight or store it in hot areas. High temperature can shorten the life of electronic devices.
• Do not allow children to play with the router or charger.
• Keep the length of the cable between the router and the phone less than 10 meters.
• The router is for indoor use only. Do not use the router outside. Do not connect telephone extensions which run outside of the building. These can result in lightning damage to your router.

Cleaning and Maintaining

• Use an antistatic cloth to clean the router. Do not use chemical or abrasive cleanser as these could damage the plastic case. Turn off your router before you clean it.
• Use the router within the temperature range of -10°C ~ +55°C, and the storage temperature range is -20°C ~ +65°C. The humidity range is 5%~95%.
• Do not use your router during a thunderstorm. Remove the mains power pack from the wall socket.
• Do not take out your (U)SIM card unnecessarily. The (U)SIM card may be easily lost or it can be damaged by static electricity.

Limited Warranty

• This warranty does not apply to defects or errors in the Product caused by:
  i.   Reasonable Router Appearance Disfiguration.
  ii. End User's failure to follow ZTE's installation, operation or maintenance instructions or procedures.
  iii. End User's mishandling, misuse, negligence, or improper installation, disassemble, storage, servicing or operation of the Product.
  iv. Modifications or repairs not made by ZTE or a ZTE-certified individual.
  v.   Power failures, surges, fire, flood, accident, actions of third parties or other events outside ZTE's reasonable control.
  vi. Usage of products of third Parties, or usage in conjunction with third party products provided that such defects is due to the combined usage.

  vii. Any other cause beyond the range of normal usage for Products. End User shall have no right to reject, return, or receive a refund for any Product from ZTE under the above-mentioned situations.
• This warranty is end user's sole remedy and ZTE's sole liability for defective or nonconforming items, and is in lieu of all other warranties, expressed, implied or statutory, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, unless otherwise required under the mandatory provisions of the law.

Limitation of Liability

ZTE shall not be liable for any loss of profits or indirect, special, incidental or consequential damages resulting from or arising out of or in connection with using of this product, whether or not ZTE had been advised, knew or should have known of the possibility of such damages, including, but not limited to lost profits, interruption of business, cost of capital, cost of substitute facilities or product, or any downtime cost.

Getting started

The router operates on the LTE/HSUPA/HSDPA/WCDMA network and supports voice and data service.

Appearance

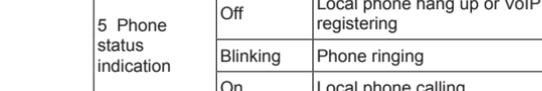**WPS button**: To activate the PBC (Push Button Config) function.

LED Indicator

| Indicator	State	Description
1 WAN signal strength indication	ON	Signal strength is very good or good (RSSI >= -90dBm)
	Blinking	Signal strength is weak (-100dBm < RSSI < -90dBm)
	OFF	No signal(RSSI < -100dBm)
2 Network mode indication	Blue	Registered to LTE network
	Green	Registered to 3G network
	OFF	Not Registered
3 WAN connection status indication	ON	WAN connection established (PDP activated)
	Blinking	WAN connection establishing (PDP activating)
	OFF	WAN connection not established (PDP not activated)
4 Phone status indication	Off	Local phone hang up or VoIP network registering
	Blinking	Phone picked up, ringing
	On	Local phone calling
5 Phone status indication	Off	Local phone hang up or VoIP network registering
	Blinking	Phone ringing
	On	Local phone calling
6 WiFi indication	Off	WLAN shut down
	On	WLAN working normally with no data transmission
	Blinking	WLAN working normally with data transmission
7 Power indication	Red	Once power button is pushed and device is initializing
	Green	Device is powered on
	OFF	Once power button is pushed and device is powered off

Interface Description
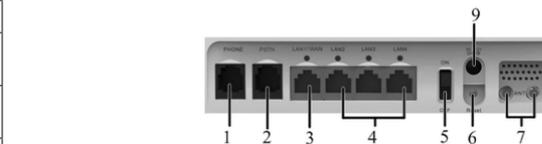
1. **Phone**: Standard RJ11 connector for Telephone.
2. **PSTN**: Standard RJ11 connector for PSTN.
3. **LAN1/WAN**: Ethernet connections to the Internet or computer.
4. **LAN2~LAN4**: Ethernet connections to computer.
5. **ON/OFF**: Turn the router ON or OFF.

6. **Reset**: To restore factory default configurations after pressing for 5 seconds.
7. **ANT**: Connect with the external antenna.
8. **PRESS ANT ON**: To switch between internal antenna and external antenna modes. Press-down means to use internal antenna, prompt-up means to use external antenna. It's in press-down mode as default, only prompt up this button when you connect to an external antenna.
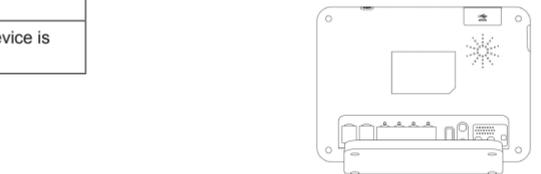
Note: If you prompt up this button without using external antenna, the RSSI signal of the router will be poor.
9. **POWER Socket**: Connect with the external power adaptor.

Installation

Inserting (U)SIM Card

Open the protect cover of (U)SIM port. Insert the (U)SIM card into the (U)SIM port.

Notes: Please power off the router and remove the external power adapter before removing or inserting the (U)SIM card. If not, the router or (U)SIM card may be damaged.
About (U)SIM Card
Avoid handling the (U)SIM card unnecessarily. Hold the card by the edges to prevent static damage. Keep the (U)SIM card away from electrical and magnetic appliances.
If you cannot get service, make sure that:
• You are in an area which has network coverage.

• You are using the correct (U)SIM card.

Connecting to Phone
Connect the telephone to the **PHONE** interface with a phone cable(RJ11).

Connecting to Computer
Connect your computer to the **LAN** interface with an Ethernet cable (RJ45).
Notes: The router will adapt the Ethernet cable style (crossover or straight) automatically.

Connecting to PSTN
Connect PSTN with a phone cable (RJ11).

Connecting to LAN1/WAN
Connect WAN with an Ethernet cable (RJ45).

Connecting with External Power
Connect the external power adaptor to a standard power outlet. Insert the plug into the socket at the rear of the router.

Switching on Your Device
1. Turn the power switch on to get started. Make sure that the phone is on hook before power on.
Notes: Do not put anything on the top of the router. Do not lay routers to overlap each other when using.
2. Wait 1 ~ 2 minutes after turning the router on before you use the service. The network mode & POWER indicator should be lit on.

Notes:
When the router is turned off, an incoming caller will hear the prompt like "The number you have dialed is currently unavailable."
If the net mode indication LED is blinking constantly, try to move the router to another location. The router takes 1~2 minutes to initialize, attach to the network and obtain an IP address.

Power Supply
For normal operation, connect the router to the external power adapter. In case of power failure or when there is no available external power supply, the router will not work.

Voice

Making a Call

You can only make a call through VoIP.
To make a call:
1. Pick up the handset.
2. Key in the telephone number.
3. You can either press # key on the telephone to send the call, or wait 4 ~ 8 seconds for the call to be connected automatically.
4. Call will be connected.
Notes: If the network mode indicator is off, the RF signal is unavailable. Change the location of the router and make sure nothing is blocking it.

Making a Trunk Call
If you are making a trunk call, add the area code as normal.
E.g. 03 9612 3456

Making an International Call
If you are making an international call, key in the international access code followed by the country code, area code and number.
E.g. 00 11 64 12 345678

Answering a Call

When the phone rings, pick up the handset to answer it. If the telephone has hands-free function you also can answer the call by pressing the **Hands-free** button. Press the **Hands-free** button again to end the call.

Internet Access

The router does not require any drivers, and it supports all operating systems with Ethernet LAN capability, such as Windows 2000, XP, Vista, Windows 7, MAC OS X and Linux.
Note: All the parameter settings in this chapter are just for your reference. Please contact your service provider for detail.

Preparation

Establishing a connection between your device and the client

Via RJ45 Ethernet cable
1. Connect your device and the client with the RJ45 Ethernet cable.
2. Power on your device.
The connection between your device and the client will be established successfully a moment later.

Via Wi-Fi
1. Power on your device directly. It will take 1~2 minutes to initialize, and then Wi-Fi LED lights on.
2. Use your normal Wi-Fi application on the client to search the available wireless network.
Notes: You need to check your Wireless Network Connection. Set the client to obtain an IP address automatically in the Internet protocol (TCP/IP) properties, and the client will get an IP address like"192.168.1.100".
3. Select the SSID of your device, and then click **Connect**.

Notes:
• Please check the label on your device to get the default SSID.
• The default setting of the device is no encryption. The client can connect with the device directly.
• You can set the security mode and password on **Settings > Wi-Fi Settings > Security**. Then there will be a pop-up window to require the password. Please remember the password you set. If you forget the password, you can connect the device with the computer by RJ45 Ethernet cable to view the password on **Settings > Wi-Fi Settings > Security**.
4. Wait a moment, the connection between your device and the client will be established successfully.

Accessing the Internet

Before accessing the internet, make sure;
1. Switch on the device.
2. Establish a connection between your device and the client.
Accessing the Internet by Bridge Mode
1. Connect the device with LAN port.
2. Login the WebGUI and set the **Operation Mode** as **Bridge** mode.
Accessing the Internet by Cable Broadband
1. Connect the device with LAN1/WAN port.
2. Login the WebGUI and set the **Operation Mode** as **Cable Broadband** mode.
3. Set **WAN Connection** in WebGUI.
Accessing the Internet by 4G Gateway
Note: Please make sure that you have inserted (U)SIM card before you switch on the device.
1. Login the WebGUI and set the **Operation Mode** as **4G Gateway**.
2. Set **WAN Connection** in WebGUI.

Accessing the WebGUI Configuration Page

1. Make sure the connection between your device and the client is correct.
2. Launch the internet browser and enter http://192.168.1.1 in the address bar.
Notes: It is recommended that you use IE (7.0 and later), Firefox (5.5 or later), Opera (11.11or later), Safari (5.1 or later) or Chrome (11.0 or later).
3. The login page appears as follows.

Login

In the WebGUI Configuration page, select the desired language and input the password (the default **Password** is **admin**).

Click **Login** to log in the device.
Notes: If you check **Save** after type in password, the device will save it. Next time when you want to login the device with the same password, what you need to do is click **Login**.

When you login, the following interface appears.

Operation Mode

When you login the webGUI, you need to choose the operation mode to make the correct setting.

There are three operation modes:
• **Bridge**: Connect to Internet by Bridge.
• **Cable Broadband**: Connect to the Internet via the network cable provided by ISP.
• **4G Gateway**: Connect to Internet by (U)SIM.
Please choose the correct operation mode according to your actual network condition. For detailed information, please contact network operator. Click **Apply** to finish the setting.

WAN Connection

In Cable Broadband mode
Click **WAN Connection**, you can configure how to connect to the Internet.

In 4G Gateway mode
Click **WAN Connection**, you can configure how to connect to the Internet.

Settings
After logging in, select **Settings**, and you can do the following operations.

Select **Settings > Network Select**	Select network. This function is only available in 4G Gateway mode.
Select **Settings > Wi-Fi Settings**	View the current station list, change the basic or advanced wireless network settings, choose security mode and encrypt, and perform the WPS configuration.
Select **Settings > Firewall**	Set the MAC/IP/Port Filtering, URL Filtering, Port Forwarding, DMZ or the System Security configuration.
Select **Settings > DLNA**	Upload or share the multimedia file.

Select **Settings > Advanced**	Change the Administrator Settings, restore factory defaults, manage PIN, LAN Interface Setup, upgrade the software, SNTP or set TR069 configuration.

Notes: Make sure that you can remember the new password if you change the login password by selecting **Settings > Advanced > Management**. Please restore the device to the factory default settings in case you forget the new password.

Usage of WPS
If your client device supports WPS, you need not to input the password manually after WPS has been available. Please do the following:
1. Start up your device.
2. Launch the client device connected to your device.
3. Enable the WPS function of your device.
4. Enable the WPS function of the client.
Notes: For the detailed operations about the client, please refer to the client's instruction.

U-Disk Master
1. Start up your device.
2. Launch the client device connected to your device.
3. Connect the storage devices (i.e.USB disk) to the USB port of the device.
4. Select **Start > Run** of the computer.
5. Input \\192.168.1.1\, in the open field and press OK.
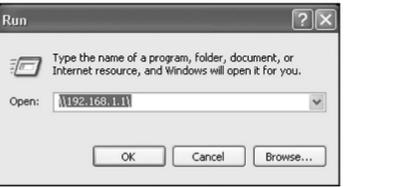
6. Input User Name and Password. The default User Name is admin. Password is admin. Then you can view storage devices.

Logout
Select **Logout**, a pop-up window will appear as the following figure shown:
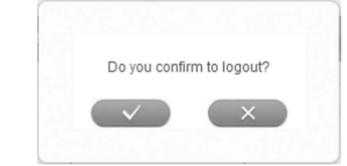
Click [✓] to logout the web page.

Troubleshooting

Voice Related Problems

Symptoms	Possible Problems/ Solutions
The line is noisy/ distorted when I lift the phone off the hook.	Remove any electrical appliance which is too close to the phone or router. The cable or phone set might be faulty.
I hear a rapid engaged tone as soon as I lift the phone off the hook.	Put the phone on hook and try again.
After dialing the last digit I hear nothing /silence.	When you have finished dialing you can press the # key or wait 4-8 seconds to connect the call.

Symptoms	Possible Problems/ Solutions
No Dial Tone.	Please wait for 1~2 minutes after the router is turned on. If network LED light is blinking, you have no good RF reception. Change the location of the router.
There is a prompt/ phone alert/ announcement as soon as I lift the phone off the hook.	Make sure your (U)SIM card is inserted correctly and the PIN number has been entered. If the PIN number has been entered incorrectly then you will need to enter the PUK code when prompted.

Internet Related Problems

Symptoms	Possible Problems/ Solutions
I cannot access the internet at all.	Please check your configuration settings. Please wait 1~2 minutes for the router to initialize. Check the status of the related LED indicator.
The download or upload speeds are very slow.	The speed is dependent on signal strength. Check your signal strength and network type.

Others

Symptoms	Possible Problems/ Solutions
The RSSI signal indicator is always blinking or does not light.	This indicates poor reception. Try moving the router to another location near the window.