

MF10 3G Wireless Router
Fixed Wireless Adapter
User Manual

LEGAL INFORMATION

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WELCOME

Thank you for choosing the ZTE MF10 Wireless Router (hereinafter referred to as "router"). The Wireless Router comprises two parts, one is a MF10 Fixed Wireless Adapter, and the other is a USB modem. The router supports Internet service, and offers you the connection to the Internet with LAN or WLAN.



Notes:

When you only buy the MF10 Fixed Wireless Adapter, if you want to enjoy the Internet service, you must prepare a USB modem which supports internet service.

To get more information 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 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 document at any time without prior notice.

Glossary

- AC: Alternating Current
- APN: Access Point Name
- DC: Direct Current
- DHCP: Dynamic Host Control Protocol
- DNS: Domain Name System (or Service or Server)
- EDGE: Enhanced Data GSM Evolution
- Ethernet: A frame-based computer networking technology for local area networks (LANs)
- GSM: Global System for Mobile Communications
- GPRS: General Packet Radio Service
- HSDPA: High Speed Downlink Packet Access
- HSUPA: High Speed Uplink Packet Access
- IP: Internet Protocol
- LAN: Local Area Network
- LED: Light - Emitting Diode
- MHz: Megahertz
- PDP: Packet Data Protocol
- PIN: Personal Identification Number
- PPP: Point to Point Protocol
- PUK: PIN Unlocking Key
- UPNP: Universal Plug and Play
- (U)SIM: (UMTS) Subscriber Identification Module
- WCDMA: Wideband CDMA (Code-Division Multiple Access)
- WEP: Wired Equivalent Privacy
- Wi-Fi: Wireless Fidelity
- WLAN: Wireless LAN
- WPA-PSK: Wi-Fi Protected Access–PreShared Key

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Chapter 1

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 device.
- The device 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 unit.

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 $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$, and the storage temperature range is $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$. The humidity range is 5%~95%.
- Do not use your router during a thunderstorm. Remove the main 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. User's failure to follow ZTE's installation, operation or maintenance instructions or procedures.
 - iii. 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.

Declaration

We, ZTE Corporation, declared that:

- The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.
- This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Chapter 2

Getting started

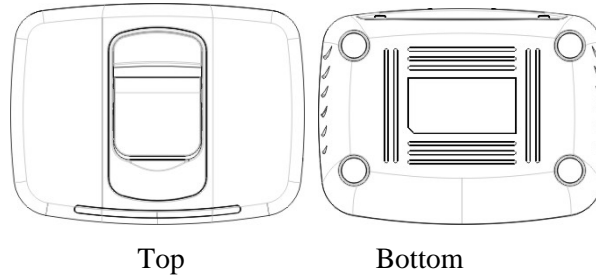
The router operates on the HSUPA/HSDPA/UMTS network or GSM/GPRS/EDGE network and supports data service.

Parts Supplied

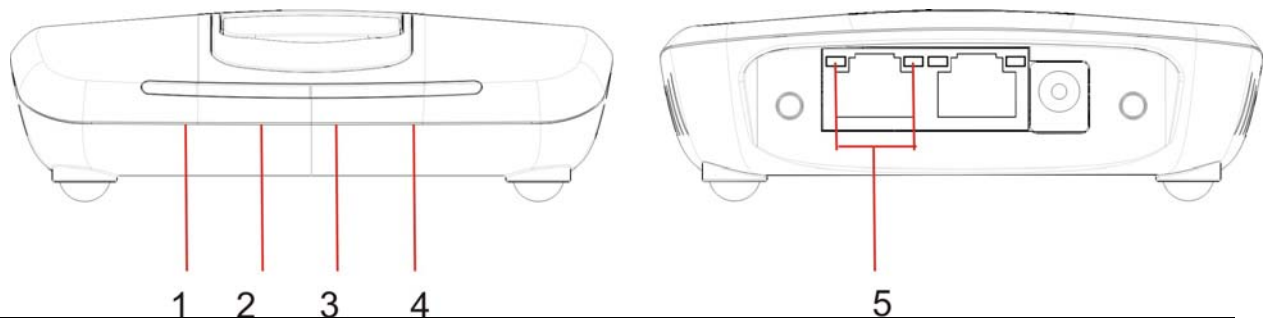
Parts	Quantity
3G Wireless Router	1
*USB Modem	1
External power adapter	1
User manual	1
Certificate of quality	1

*In this manual, the USB Modem is produced by ZTE.

Appearance



LED Indicator



Indicator	State	Description
1. POWER	ON	External power supply works

Indicator	State	Description
		normally.
	OFF	External power supply is disconnected or power off.
2. WLAN	ON	WLAN works normally.
	Blinking	Data transmission
	OFF	WLAN works abnormally.
3. PPP	ON	Internet connected
	Blinking	The router attempts to connect Internet.
	OFF	Internet disconnected and not attempt to connect.
4. WPS	ON	WPS authentication is started and available.
	Blinking	WPS authentication is in progress or unavailable.
	OFF	WPS authentication is not started.
5. LAN	Off	Out of Connection
	Solid Green	Connection
	Flashing Green	Data Service Process

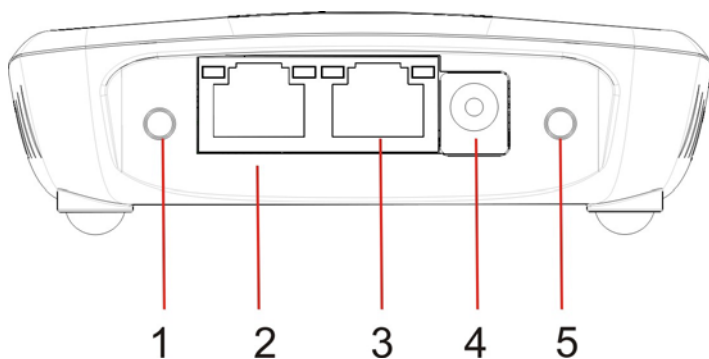
NOTE

Notes:

The indicators (including WLAN and PPP) are all blinking in green when:

- The (U)SIM card has not been installed.
- The PIN code or PUK code is required.
- The router can not work normally.

Interface Description



1. **WPS:** WPS button is used to start Wi-Fi Protected Setup authentication process.
2. **LAN 1:** Ethernet connections to computer.

3. **LAN 2:** Ethernet connections to computer.
4. **POWER Socket:** Connection to the external power supply.
5. **POWER Switch:** Turn the router ON or OFF. Hold on for several seconds to restore the factory default settings.

Installation

This section shows you how to install the hardware.

Inserting the (U)SIM Card

Insert the (U)SIM card into the modem(supplied by ZTE).

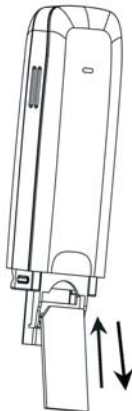
1. Take down the modem cap, and then the USB connector is visible.
2. Pull out the plastic socket above the USB connector out.



Notes:

Do not pull the (U)SIM socket rudely for the socket is fixed with the modem. Otherwise the socket will get damaged.

3. Insert the (U)SIM card into the socket, and make sure that metal contact area facing to the modem.

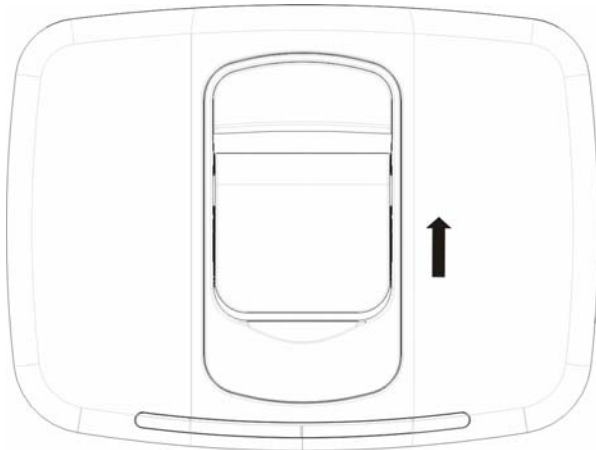


4. Insert the plastic socket into the modem. You can hear a click when the (U)SIM card socket locks into place.

Inserting the modem

Insert the modem into the router.

1. Rotate the front cover.



2. Plug the USB connector into the USB port.



Warning:

Please power off the router and remove the external power adaptor before removing or inserting the modem, if not, the router or modem may be damaged.

Connecting computer

Connect your computer to the LAN interface using the Ethernet cable (RJ45).



Notes:

The router will adapt the Ethernet cable style (crossover or straight) automatically.

Connecting the external power

1. Connect the external power adaptor to a standard power outlet.
2. 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.



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 power indicator should be lit on.

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 can not work.

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.

Notes on Service and Coverage

If you cannot get service, make sure that:

- You are in an area which has sufficient network coverage.
- You are using the correct (U)SIM card.
- If necessary you need enter your PIN or PUK code.
- Please wait 1-2 minutes for the modem to initialize, attach to the network and obtain an IP address.

Chapter 3

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, MAC OS X and Linux. The router supports two computers surfing on internet using Ethernet cables at the same time, and also supports Wireless LAN connection.



Notes:

All the parameter settings in this chapter are just for your reference. Please contact your service provider for detail.

Preparation

Before using the data service, make sure:

- The (U)SIM card is installed into the modem.
- The modem is inserted into the router.
- The Ethernet cable is connected properly.
- The power light is on.
- The PPP light is on.

Web browser requirement:

It is suggested that you use one of these web browsers to connect to the internet.

- IE 6.0 or above
- Firefox 2.0
- Netscape version 9.0

Settings

Do not change any settings unless instructed by your service provider. To make changes to your settings you need to disconnect the router from the network. After making changes reboot your router by turn off and on again.

Login

The router can be connected by RJ45 or by Wi-Fi (the SSID is “ZTE Wireless Network”). By either connection mode, you should set to obtain an IP address automatically in the attribution setting of Internet protocol (TCP/IP).

After your computer gets the IP address (like 192.168.0.101) from the router, open a web browser and type “http://192.168.0.1” in the address bar, and then input the username and password to log in.

User Name: admin

Password: admin



Welcome to ZTE MF10

goahead
WEB SERVER™

User Name :

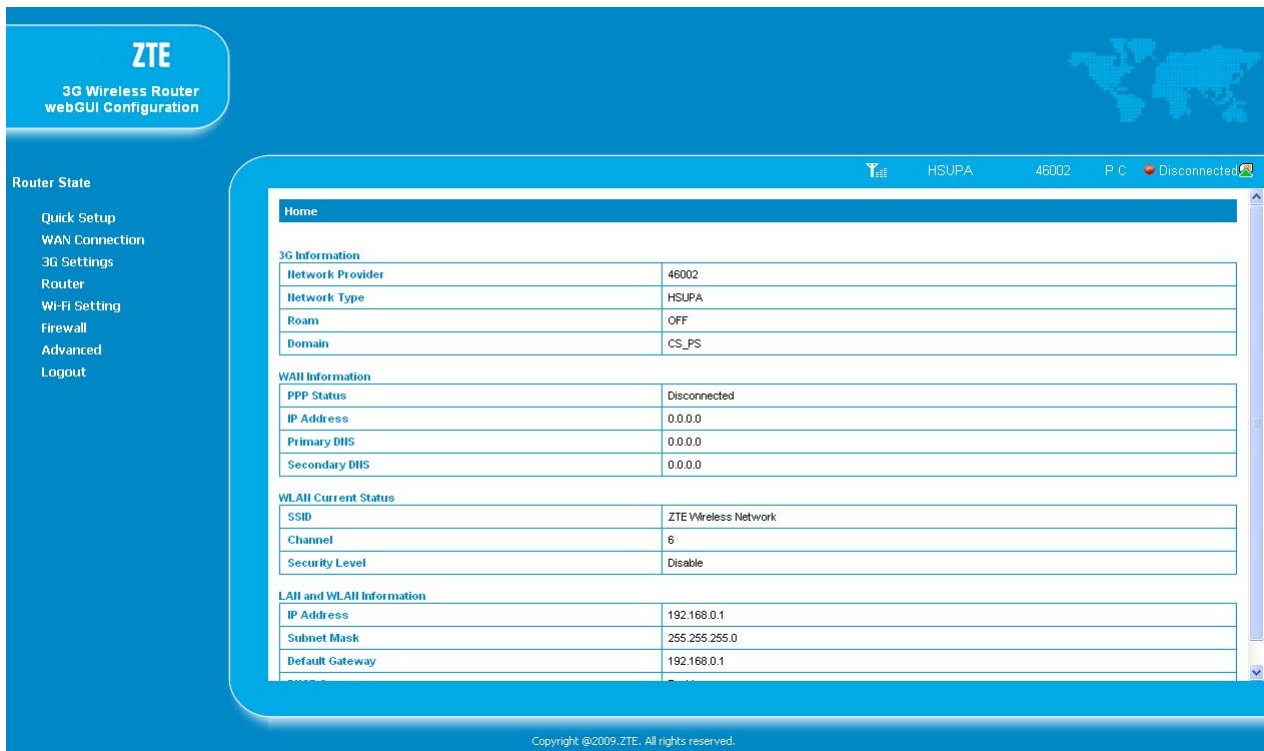
Password :

Save

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Click **Login** to log in the router. Check **Save** to let the Explorer keep the user name and password.

When you successfully login, the router status web page appears:



ZTE
3G Wireless Router
webGUI Configuration

Router State

- Quick Setup
- WAN Connection
- 3G Settings
- Router
- Wi-Fi Setting
- Firewall
- Advanced
- Logout

Y 3G HSUPA 46002 P C Disconnected

Home

3G Information

Network Provider	46002
Network Type	HSUPA
Roam	OFF
Domain	CS_PS

WAN Information

PPP Status	Disconnected
IP Address	0.0.0.0
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0

WLAN Current Status

SSID	ZTE Wireless Network
Channel	6
Security Level	Disable

LAN and WLAN Information

IP Address	192.168.0.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1

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The whole page is divided into two parts. Related functions can be executed by operation in the related areas.

- **Index area:** Show configuration list for your router.
- **Content area:** Show the detail configuration.

Quick setup

Click **Quick Setup**, you can set up your gateway in the safe way. Click **Next** button to show following figure:

Quick Setup

•The wizard will show you how to set up your gateway in the safe way: Click "Next" to continue, click "Back" and "Next"to navigate, and click "Finish" to save the settings.

Notes:

Basic parameters can be set in this wizard. For advanced parameters, you need to set them in other menus.

Next

Click Next button

Quick Setup-->PPP Profile Configuration

- Profile Name: The default profile that you used currently.
- APN: If a fixed APN(Access Point Name) is given by your ISP, select "Manual APN"; otherwise, select "Auto APN", the gateway automatically obtains it.
- Dial No.:This parameter is provided by your ISP, Dial No. is used for data service connections.

Profile

Profile Name	ZTE
--------------	-----

APN

APN Setting	<input type="radio"/> Auto APN <input checked="" type="radio"/> Manual APN
APN	cmwap

Dial Setting

Dial No.	*99#
----------	------

Back Next

Click Next button.

Quick Setup-->PPP Authentication

PPP Authentication

The authentication mode is provided by your Internet Service Provider(ISP).

Password Authentication Protocol(PAP): It provides a simple method without encryption for the peer to establish its identity using a 2-way handshake.

Challenge-Handshake Authentication Protocol(CHAP): It is used to periodically verify the identity of the peer

PPP User Name and PPP Password are provided by your ISP and used to obtain authentication from the ISP when the connection is established.

PPP Authentication

Authentication	<input type="radio"/> CHAP <input checked="" type="radio"/> PAP
PPP User Name	
PPP Password	

Back Next

Click Next button.

Quick Setup -->SSID Configuration

- Name SSID(Service Set Identifier): Enter a character string up to 32 characters as the name for your wireless local area network(WLAN).
- SSID Broadcast
 Enabled: The gateway broadcasts the SSID and other devices can detect and connect to it.
 Disabled: The gateway disables broadcasting and hides the name of your network.

SSID

Name(SSID)	ZTE Wireless Network
------------	----------------------

SSID Broadcast

SSID Broadcast	Enabled
----------------	---------

Back Next

Click **Next** button.

Quick Setup-->Security Configuration

- Add encryption to your wireless network to prevent unauthorized traffic monitoring and access.
- No Encryption: Your wireless network is open to everyone without authentication and encryption, and this option is not recommended.
- Wireless Equivalent Privacy(WEP): It is a 64-bit or 128-bit encryption method with user configurable fixed keys.
- Wi-Fi Protected Access(WPA): It is a 256-bit encryption method with keys changing automatically.
- WPA2: It is the securer version of WPA with implementation of the 802.11i standard.
- WPA Encryption Algorithm: TKIP, AES, TKIP+AES.
- WPA Pre-Shared Key: Enter the Pre-Shared key as a plain text(ASCII) pass-phrase of at least 8 characters.
- Key Rotation Interval: Specify the key update interval in seconds. Enter 0 to disable the update function.
- Network Key: Enter 5 ASCII characters or 10 hexadecimal digits for a 64-bit key, enter 13 ASCII characters or 26 hexadecimal digits for a 128-bit key.

Encryption Mode

Encryption Mode	NO ENCRYPTION
-----------------	---------------

Back Next

Click **Next** button.

Quick Setup-->Configuration as Follows

Profile Name:	ZTE
Dial No.:	*99#
PPP User Name:	
API Setting:	manual
API:	cmwap
PPP Authentication:	pap
Name (SSID):	ZTE Wireless Network
SSID Broadcast:	enable
Encryption Mode:	NO ENCRYPTION

Back Apply

Click **Apply** button to confirm your configuration.

WAN Connection

Click **WAN Connection**, you can configure how to connect to the Internet.

WAN Connection

PPP Connection Mode

<input type="radio"/>	Auto Connect
<input type="radio"/>	On Demand Connect
<input checked="" type="radio"/>	Manual Connect <input type="text" value="Connect Internet"/>
PPP Connection Status	Disconnected

Apply

There are three connection modes:

- **Auto Connect:** The router will automatically connect to WAN when it is powered on.
- **On Demand Connect:** The connection will be established when data transmission are required.
- **Manual Connect:** Connect to Internet manually. There are two options: Connect Internet and Disconnect Internet.

NOTE

Notes:

Please break the connection firstly if you want to change the dial mode, when the status of connection is Connected or On Demand.

Click **Apply** to confirm your configuration, and then the PPP connection status will be shown in the figure.

3G Settings

Wireless Info

Select **3G Settings > Wireless Info**, the 3G wireless information is shown in the following figure:

3G Settings-->Wireless Info

• Wireless Info • Network Select • API Setting

3G Wireless Information

Network Provider	46002
Network Type	HSLUPA
Roam	OFF
RSSI	-79 dBm
RSCP	-86 dBm
Ec/Io	-7 dB
Cell ID	1012
LAC Code	10

Refresh

Click **Refresh** to update the wireless information.

Network Select

Select **3G Settings > Network Select**, the Band Selection Mode is shown in the following figure:

3G Settings-->Network Select

• Wireless Info • **Network Select** • APN Setting

Band Selection Mode

<input checked="" type="radio"/>	Automatic
<input type="radio"/>	Only WCDMA
<input type="radio"/>	Only GSM

Apply

- **Automatic:** Router searches for valid network according to the wireless network.
- **Only WCDMA:** Router searches for WCDMA network only.
- **Only GSM:** Router searches for GSM network only.

Click **Apply** to confirm your configuration.

APN Setting

Select **3G Settings > APN Setting**, the APN parameters are shown in the following figure:

3G Settings-->APN Setting

• Wireless Info • Network Select • **APN Setting**

APN Setting

Profile Selection	ZTE
Profile Name	ZTE
APN Setting	<input type="radio"/> Auto APN <input checked="" type="radio"/> Manual APN
APN	cmwap
Dial No.	*99#
PDP Type	<input checked="" type="radio"/> IP <input type="radio"/> PPP
PDP Setting	<input checked="" type="radio"/> Auto PDP <input type="radio"/> Manual PDP
DNS	<input checked="" type="radio"/> Auto DNS <input type="radio"/> Manual DNS
Authentication	<input type="radio"/> CHAP <input checked="" type="radio"/> PAP
User Name	
Password	

Save Set default Add Delete

- **Profile Selection:** Select the profile which you want to use for the internet connection.
- **Profile Name:** The profile which is set as default.
- **APN Setting:** APN address mode. If a fixed APN is given by your service provider, select **Manual APN**. Otherwise select the **Auto APN**, and the router will automatically obtain this parameter.
- **APN:** APN string.
- **Dial No.:** This dial number is used for data service connection.
- **PDP Type:** **IP** (Default) or **PPP**.
- **PDP Setting:** PDP address mode. If a fixed IP address is given by your service provider, select **Manual PDP**. Otherwise select the **Auto PDP** and the router will automatically obtain this parameter.
- **DNS:** Select **Auto DNS** or **Manual DNS**.
- **Authentication:** Select **CHAP** or **PAP**.

- **User Name:** Set user name for this APN.
- **Password:** Set password for this APN.

To add a new APN profile:

1. Click **Add** to define a new APN profile.
2. Input those parameters as shown above.



Notes:

If you have any problem, please contact with your service provider.

3. Click **Save** to save this new profile.
4. Click **Set default** to set this profile as default.

Router

LAN

Select **Router > LAN**, the LAN parameters are shown in the following figure:

Router-->LAN	
-LAN	-DHCP Clients
LAN Interface Setup	
IP Address	<input type="text" value="192.168.0.1"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
MAC Address	00:22:93:A9:85:00
DHCP Type	Server <input type="button" value="v"/>
DHCP Start IP	<input type="text" value="192.168.0.100"/>
DHCP End IP	<input type="text" value="192.168.0.200"/>
DHCP Lease Time	<input type="text" value="24"/> hour(s)
UPNP	Disable <input type="button" value="v"/>
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

- **IP Address:** LAN IP address of the router.
- **Subnet Mask:** Subnet mask of the router.
- **MAC Address:** MAC address of the LAN interface.
- **DHCP Type:** The router is set up as a DHCP server, which provides IP address in IP pool range for all the computer connections.
- **DHCP Start IP:** Allocate start IP address for IP pool.
- **DHCP End IP:** Allocate end IP address for IP pool.
- **DHCP Lease Time:** Define how long the leased IP address will be expired.
- **UPNP:** Enable UPNP or not.

Click **Apply** to confirm your configuration.

DHCP Clients

Select **Router > DHCP Clients**, All of the DHCP clients information will be shown in the following figure:

Router-->DHCP Clients

• LAN • DHCP Clients

DHCP Clients

Host Name	MAC Address	IP Address	Expires in
zte-doc	00:16:EC:C9:BF:16	192.168.0.100	23:48:33

Refresh

Wi-Fi Settings

Station list

Select **Wi-Fi Setting > Station List**, All of the wireless network stations information will be shown in the following figure:

Wi-Fi Setting-->Station List

• Station List • Basic • Advanced • Security • WPS

Wireless Network

Station	MAC Address
---------	-------------

Basic

Select **Wi-Fi Setting > Basic**, the wireless network parameters and WDS mode are shown in the following figure:

Wi-Fi Setting-->Basic

• Station List • Basic • Advanced • Security • WPS

Wireless Network

Wi-Fi On/Off	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Network Mode	11b/g/n Mixed Mode
Network Name(SSID)	ZTE Wireless Network
Broadcast Network Name (SSID)	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
AP Isolation	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
BSSID	00:22:93:A9:85:00
Frequency (Channel)	2437MHz (Channel 6)

Wireless Distribution System(WDS)

WDS Mode	Disable
----------	---------

- **Wi-Fi On/Off:** Select **On** or **Off** to set the WIFI On or Off.
- **Network Mode:** Including 11b/g Mixed Mode, 11b only, 11g only and 11b/g/n Mixed Mode.
- **Network Name(SSID):** Service Set Identifier. Enter a string less than 32 characters as the name for your wireless local area network(WLAN).
- **Broadcast Network Name(SSID):** Disable or Enable(Default) this function. The router broadcasts the SSID, and other devices can detect and connect to it by selecting **Enable**. The router disables broadcasting and hides the name of your network by selecting **Disable**.
- **AP Isolation:** Isolate the router from other APs. When enable this function, each of your wireless client will not be able to communicate with each other.

- **BSSID:** Show the MAC address of the Wi-Fi.
- **Frequency(Channel):** The frequency band in which the WLAN operates. If some channels in your area may have interference from other electronic devices, please choose the clearest channel to optimize the performance and coverage of your wireless network. The default value is **2437MHz (Channel 6)**.
- **WDS Mode:** WDS provides the radio monitoring and management communication. Lazy Mode, Bridge Mode and Repeater Mode are available. The default value is **Disable**.

The HT physical Mode (Only available for 802.11n mode) parameters are shown in the following figure:

HT Physical Mode

Operating Mode	<input checked="" type="radio"/> Mixed Mode <input type="radio"/> Green Field
Channel BandWidth	<input type="radio"/> 20 <input checked="" type="radio"/> 20/40
Guard Interval	<input type="radio"/> long <input checked="" type="radio"/> Auto
MCS	Auto ▾
Reverse Direction Grant(RDG)	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
Extension Channel	2457MHz (Channel 10) ▾
Aggregation MSDU(A-MSDU)	<input checked="" type="radio"/> Disable <input type="radio"/> Enable
Auto Block ACK	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
Decline BA Request	<input checked="" type="radio"/> Disable <input type="radio"/> Enable

- **Operating Mode:** Set the HT physical operating mode.
- **Channel BandWidth:** Set the HT physical channel bandwidth.
- **Guard Interval:** Set the HT physical guard interval.
- **MCS:** Set fix MCS rate for HT rate.
- **Reverse Direction Grant(RDG):**Enable **RDG** or not.
- **Extension Channel:** Set extension channel. The extension channel is also able to send and receive data.
- **Aggregation MSDU(A-MSDU) :** Mark to enable Hyper Throughput TX Aggregate MAC Service Data Unit, and clear by selecting **Disable**.
- **Auto Block ACK:** Block ACK(Acknowledge Number) or not during data transferring.
- **Decline BA Request:** Reject peer BA-Request or not.

Click **Apply** to confirm your configuration.

Advanced

Select **Wi-Fi Setting > Advanced**, the advanced wireless network parameters and Wi-Fi multimedia parameters are shown in the following figure:

Wi-Fi Setting-->Advanced

•Station List • Basic •Advanced •Security •WPS

Advanced Wireless

Beacon Interval	<input type="text" value="100"/> ms (range 20 - 999, default 100)
Data Beacon Rate (DTIM)	<input type="text" value="1"/> ms (range 1 - 255, default 1)
Fragment Threshold	<input type="text" value="2346"/> (range 256 - 2346, default 2346)
RTS Threshold	<input type="text" value="2347"/> (range 1 - 2347, default 2347)
TX Power	<input type="text" value="100"/> (range 1 - 100, default 100)
Short Preamble	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Short Slot	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Tx Burst	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Pkt_Aggregate	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
IEEE 802.11H Support	<input type="radio"/> Enable <input checked="" type="radio"/> Disable(only in A band)

Wi-Fi Multimedia

WMM Capable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
APSD Capable	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

Apply

Cancel

- **Beacon Interval:** The router broadcasts beacon message to announce that it has buffered frames to deliver. The default value is 100 (ms).
- **Data Beacon Rate(DTIM) :**Set the wireless network data beacon rate.
- **Fragment Threshold:** Set the wireless network fragment threshold.
- **RTS Threshold:** Set the wireless network RTS threshold.
- **TX Power:** Set the wireless network TX power.
- **Short Preamble:** Disable short preamble or not.
- **Short Slot:** Enable short slot or not.
- **Tx Burst:** Enable Tx burst or not.
- **Pkt_Aggregate:** Enable packet aggregation or not.
- **IEEE 802.11H Support:** Support IEEE 802.11H or not.
- **WMM Capable:** Enable Wi-Fi Multimedia(WMM) or not.
- **APSD Capable:** Enable APSD or not.

Click **Apply** to confirm your configuration.

Security

Select **Wi-Fi Setting > Security**, the Security parameters and Wireless MAC Filtering parameters are shown in the following figure:

Wi-Fi Setting-->Security

- Station List
- Basic
- Advanced
- Security
- WPS

Security Policy

Security Mode	OPEN <input type="button" value="v"/>
Encrypt Type	NO ENCRYPTION <input type="button" value="v"/>

Wireless MAC Filtering

Add MAC Filtering Rule	Wireless Disable <input type="button" value="v"/>
------------------------	---

- **Security Mode:** Including **OPEN**, **SHARED**, **WEPAUTO**, **WPA-PSK**, **WPA2-PSK** or **WPA-PSK/WPA2-PSK**.
- **Encrypt Type:** Use WEP Encryption or not.
- **Add MAC Filtering Rule:** Choose the type of MAC filtering. When you select **disable**, the MAC addresses are not used to control network access.

The security modes are described below:

- **Open:** You can authenticate successfully with a SSID, whether it is valid or empty.
- **Shared:** The WLAN clients who have the same WEP key with wireless gateway can pass the authentication and access the wireless network.
- **WEPAUTO:** Select WEP security automatically.
- **WPA-PSK:** WPA Pre-Shared Key, Enter the Pre-Shared key as a plain text (ASCII) pass-phrase of at least 8 characters.
- **WPA2-PSK:** It is the securer version of WPA with implementation of the 802.11i standard.
- **WPA-PSK/WPA2-PSK:** Apply both the WPS-PSK and WPA2-PSK scheme.

If the Authentication type is **Shared** or **WEPAUTO**, or you select **Open** and set the **Encrypt Type** as **WEP**, the WEP parameters are shown in the following figure.

Wire Equivalence Protection (WEP)

Default Key	Key 1 <input type="button" value="v"/>	
WEP Keys	WEP Key 1 :	<input type="text"/> Hex <input type="button" value="v"/>
	WEP Key 2 :	<input type="text"/> Hex <input type="button" value="v"/>
	WEP Key 3 :	<input type="text"/> Hex <input type="button" value="v"/>
	WEP Key 4 :	<input type="text"/> Hex <input type="button" value="v"/>

- **Default Key:** Set the WEP Key as the default.
- **WEP Keys:** At most four keys can be set in the blank. Choose the primary key index. The primary key is the only key in use at a given time. Whatever keys you enter for an access point, you must also enter the same key for the client adapter in the same order. In other words, WEP key 1 on the AP must match WEP key 1 on the client adapter, WEP key 2 on the AP must match WEP key 2 on the client adapter, etc. A WEP is either 10 or 26 hexadecimal digits (0~9,a~f and A~F), either 5 or 13 ASCII characters based on whether you select 64 bits or 128 bits in the Encryption Strength drop-down list.

If the Authentication type is **WPA-PSK** , **WPA2-PSK** or **WPA-PSK/WPA2-PSK** , the WPA parameters are shown in the following figure.

WPA

WPA Algorithms	<input type="radio"/> TKIP <input type="radio"/> AES <input type="radio"/> AUTO
Pass Phrase	12345678
Key Renewal Interval	3600 seconds

- **WPA Algorithm:** TKIP, AES or AUTO.
- **Pass Phrase:** You can input hexadecimal digits up to 64 characters or input ASCII characters choose a length between 8 characters and 63 characters.
- **Key Renewal Interval:** Define how long the key should be renewed.

Click **Apply** to confirm your configuration.

WPS

This function is to simplify the security setup of Wi-Fi networks. This Router supports the configuration setup using PIN configuration method or PBC configuration method.

Select **Wi-Fi Setting > WPS**, the WPS configuration is shown in the following figure:

The screenshot shows the 'WPS Config' section of the router's web interface. The 'WPS' dropdown menu is set to 'Disable'. An 'Apply' button is visible at the bottom right.

Select **Enable** , and then click **Apply** to configure the details.

The following figure shows you the current configuration of WPS. Click **Reset OOB** on this page to restore the default value.

The screenshot shows the 'WPS Config' section with 'WPS' set to 'Enable'. Below it is a 'WPS Summary' table and a 'Reset OOB' button.

WPS Current Status	Idle
WPS Configured	No
WPS SSID	ZTE Wireless Network
WPS Auth Mode	Open
WPS Encryp Type	None
WPS Default Key Index	1
WPS Key(ASCII)	
AP PIII	11096320

Firewall

MAC/IP/Port Filtering

Select **Firewall > Mac/Ip/Port Filtering**, the Mac/IP/Port Filtering is shown in the following figure:

Firewall-->Mac/Ip/Port Filtering

• **Mac/Ip/Port Filtering** •URL Filtering •Port Forwarding •DMZ •System Security

Basic Settings

MAC/Ip/Port Filtering	Disable
-----------------------	---------

Apply

If you select **Enable**, the filter settings will appear:

Firewall-->Mac/Ip/Port Filtering

• **Mac/Ip/Port Filtering** •URL Filtering •Port Forwarding •DMZ •System Security

Basic Settings

MAC/Ip/Port Filtering	Enable
Default Policy -- The packet that doesn't match with any rules would be:	Dropped

Apply

MAC/Ip/Port Filter Settings

MAC address	<input type="text"/> (XX:XX:XX:XX:XX:XX, eg:00:1E:90:FF:FF:FF)
Dest IP Address	<input type="text"/> (XXX.XXX.XXX.XXX, eg:192.168.5.101)
Source IP Address	<input type="text"/>
Protocol	None
Dest Port Range	<input type="text"/> - <input type="text"/> (1~65535)
Source Port Range	<input type="text"/> - <input type="text"/>
Action	Accept
Comment	<input type="text"/>

The maximum rule count is 10.

Apply Reset

- **Default Policy:** Set how to handle the packet if none of the rules matches.
- **MAC address:** Set the MAC address that will be filtered.
- **Dest IP Address:** Set the destination IP address that will be filtered.
- **Source IP Address:** Set the source IP address that will be filtered.
- **Protocol:** Set which protocol will be used for filtering.
- **Dest Port Range:** Set the destination port numbers that will be filtered.
- **Source Port Range:** Set the source port numbers that will be filtered.
- **Action:** Set how to handle the packet if it matches with the rule.
- **Comment:** type comment for the filter settings.

Click **Apply** to confirm your configuration.

The following figure shows you the current MAC/IP/Port filtering rules in system.

Current MAC/Ip/Port filtering rules in system:

No.	MAC address	Dest IP Address	Source IP Address	Protocol	Dest Port Range	Source Port Range	Action	Comment
Others would be dropped								

Delete Reset

URL Filtering

Select **Firewall > URL Filtering**, the URL Filtering is shown in the following figure:

Firewall-->URL Filter Settings

- Mac.Ip.Port Filtering
- URL Filtering
- Port Forwarding
- DMZ
- System Security

Current Webs URL Filters:

No.	URL
-----	-----

Delete Reset

Add a URL filter:

URL: (eg: www.zte.com)

The maximum rule count is 10.

Add Reset

Type URL address, and then click **Add** to add the URL address into the filtering list. The new URL filtering item will be shown in the **Current Webs URL Filters** area.

Port Forwarding

Select **Firewall > Port Forwarding**, the port forwarding is shown in the following figure:

Firewall-->Port Forwarding

- Mac.Ip.Port Filtering
- URL Filtering
- Port Forwarding
- DMZ
- System Security

Virtual Server Settings

Virtual Server Settings

Apply

If you select **Enable**, the Virtual Server Settings will appear:

Firewall-->Port Forwarding

- Mac.Ip.Port Filtering
- URL Filtering
- Port Forwarding
- DMZ
- System Security

Virtual Server Settings

Virtual Server Settings	<input type="text" value="Enable"/>
IP Address	<input type="text"/> (XXX.XXX.XXX.XXX, eg:192.168.5.101)
Port Range	<input type="text"/> - <input type="text"/> (1~65535)
Protocol	<input type="text" value="TCP&UDP"/>
Comment	<input type="text"/>

The maximum rule count is 10.

Apply

Current Virtual Servers in system:

No.	IP Address	Port Range	Protocol	Comment
-----	------------	------------	----------	---------

Delete Reset

- **IP Address:** Set IP address for the hosts
- **Port Range:** Set port numbers for the virtual server.
- **Protocol:** Set protocol for the virtual server.
- **Comment:** Type comment for the virtual server settings.

Click **Apply** to confirm your configuration. And the current virtual servers will be shown in the Current Virtual Servers in system area.

DMZ

Select **Firewall > DMZ**, the DMZ setting is shown in the following figure:

Firewall-->DMZ

• Mac Ip Port Filtering • URL Filtering • Port Forwarding • **DMZ** • System Security

DMZ Settings

DMZ Settings

If you select **Enable**, set the DMZ IP address, and then click **Apply** to confirm your configuration.

Firewall-->DMZ

• Mac Ip Port Filtering • URL Filtering • Port Forwarding • **DMZ** • System Security

DMZ Settings

DMZ Settings

DMZ IP Address (XXX.XXX.XXX.XXX, eg:192.168.5.101)

System Security

Select **Firewall > System Security**, the system security setting is shown in the following figure:

Firewall-->System Security Settings

• Mac Ip Port Filtering • URL Filtering • Port Forwarding • DMZ • **System Security**

Remote management

Remote management (via WAN)

Ping from WAN Filter

Ping from WAN Filter

Allow or **Deny** the remote management function and **Enable** or **Disable** ping from WAN filter on requirement, and then click **Apply** to confirm your configuration.

Advanced

Status

Select **Advanced > Status**, the system information is shown in the following figure:

Advanced-->Status

• **Status** • Statistics • Management • Upgrade • Restore • Shutdown • PIN Manage

System Info

IMEI	352847025080498
Wireless access module software version	M01
Control and route module software version	CR_P670A2V1.0.0B01
Hardware version	PCBP670A2V1.0.0
System Up Time	17 mins, 50 secs

Statistics

Select **Advanced > Statistics**, the system statistics information is shown in the following figure:

Advanced-->Statistics

- [•Status](#)
- [•Statistics](#)
- [•Management](#)
- [•Upgrade](#)
- [•Restore](#)
- [•Shutdown](#)
- [•PIII Manage](#)

Memory

Memory total:	13240 kB
Memory left:	1388 kB

WAN/LAN

WAN Rx packets:	2397
WAN Rx bytes:	241549
WAN Tx packets:	2863
WAN Tx bytes:	1941362
LAN Rx packets:	2397
LAN Rx bytes:	241549
LAN Tx packets:	2863
LAN Tx bytes:	1941362

Management

Select **Advanced > Management**, the administrator settings information is shown in the following figure:

Advanced-->Management

- [•Status](#)
- [•Statistics](#)
- [•Management](#)
- [•Upgrade](#)
- [•Restore](#)
- [•Shutdown](#)
- [•PIII Manage](#)

Administrator Settings

Account	<input type="text" value="admin"/>
Password	<input type="password" value="••••"/>

To set new account, type new account and password, and then click **Apply** to confirm your configuration.

Notes:

If you change the Account or Password, please make sure that you can remember the new Account or Password.

Upgrade

Select **Advanced > Upgrade** to upgrade the software version of the router.

Advanced-->Upgrade

- [•Status](#)
- [•Statistics](#)
- [•Management](#)
- [•Upgrade](#)
- [•Restore](#)
- [•Shutdown](#)
- [•PIII Manage](#)

Update Firmware

Location:	<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="Upgrade"/>
-----------	----------------------	--	--

Click **Browse...** locate the latest software version, and then click **Upgrade**.

Notes:

Do not upgrade software unless necessary. Wrongly upgrade action may cause router malfunction or can not work.

Restore

Select **Advanced > Restore**, click **Restore** to set all the settings to their factory default values, and the device will restart automatically.

Advanced-->Restore

•Status •Statistics •Management •Upgrade •Restore •Shutdown •PIN Manage

Load Factory Defaults

Load Default Button	Restore
---------------------	---------

Shutdown

Select **Advanced** > **Shutdown**, click **Shutdown** to turn the router off.

Advanced-->Shutdown

•Status •Statistics •Management •Upgrade •Restore •Shutdown •PIN Manage

Shutdown Home Gateway

Shutdown	Shutdown
----------	----------

PIN Manage

Select **Advanced** > **PIN Manage**, the PIN manage is shown in the following figure:

Advanced-->PIN Manage

•Status •Statistics •Management •Upgrade •Restore •Shutdown •PIN Manage

PIN Manage

PIN Status	Disable
Action	Enable ▾
PIN	<input type="text"/>
3 attempts remaining for your PIN!	

If you select **Modify**, the modification parameters are shown in the following figure:

Advanced-->PIN Manage

•Status •Statistics •Management •Upgrade •Restore •Shutdown •PIN Manage

PIN Manage

PIN Status	Disable
Action	Modify ▾
PIN	<input type="text"/>
New PIN	<input type="text"/>
Confirm New PIN	<input type="text"/>
3 attempts remaining for your PIN!	

Type the old PIN code, and then type two times the new PIN code. Click **Apply** to confirm your configuration.



Notes:

Three times consecutive wrong PIN code entries will lock the (U)SIM card.

Logout

1. Select **Logout**, a pop-up windows will appear as shown in the following figure:



2. Click **OK** to log out.

Disconnecting from the Internet

1. Select **Disconnect Internet** from **WAN Connection** page, if you want to terminate your Internet connection.
2. Click **Apply** to confirm.



Tips:

Turn off the router can also terminate Internet connection.

Chapter 5

Troubleshooting

1. Make sure that the router is turned on and all the cables are connected correctly.
2. Check the PPP, WLAN and POWER LED's are all in normal state.

Internet Related Problems

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

Appendix A

Technical Parameters

MF10 Fixed Wireless Adapter

- LED Display:
 - i. Power Indicator
 - ii. WLAN Indicator
 - iii. PPP Indicator
 - iv. WPS Indicator
- External Interface:
 - i. External Power Socket
 - ii. Data Interface (LAN)
- Power Adapter:
 - Input: 100V~240V (AC), 50~60Hz
 - Output: +5V (DC), 2A
- Dimensions (W×H×D): 93mm×70mm×25mm

ZTE USB Modem (Inner modem)

- Network & Frequency Band:
 - EDGE/GPRS/GSM: 850/900/1800/1900MHz
 - HSUPA/HSDPA/UMTS: 850(900)/1900/2100MHz
- Data Service:
 - HSUPA 2Mbps UL
 - HSDPA 7.2Mbps DL
- Dimensions (H×W×D): 69mm×26mm×12mm