

HSPA+ USB Modem
User Manual

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1 Modem Introduction

1.1 Introduction

Thank you for purchasing DWM-158 HSPA+ USB Modem.

To guarantee that the modem is always in its best condition, please read this manual carefully and keep it for further use.

The pictures, symbols and contents in this manual are just for your reference.

They might not be completely identical with your modem. ZTE operates a policy of continuous development and reserves the right to update the technical specifications in this document at any time without prior notice.

The DWM-158 HSPA+ USB Modem is a type of multi-mode, 3G modem, suitable for GSM/GPRS/EDGE/UMTS/HSDPA/HSUPA/HSPA+ networks. With a USB interface connecting to a laptop or a desktop PC, it integrates the functionality of a modem and a mobile USB modem (SMS and USB modembook), combining mobile communication with internet perfectly. While connected to the mobile network, it can help you get SMS, data service and will help you break away from the limit of time and space, and realize wireless communication at any moment everywhere.

1.2 Warning and Notice

To the owner

- The use of electronic transmitting devices is forbidden in aircraft, at petrol stations and in hospitals. Please observe and obey all warning signs and switch off your modem in these conditions.
- Operating USB modem may interfere with medical devices like hearing aides and pacemakers.
- Be aware of warning signs in places such as oil refineries or chemical factories where there are explosive gases or explosive products being processed.
- Store the USB modem out of the reach of children. The USB modem may cause injury if used as a toy or may be damaged by rough play or moisture.
- Do not open the cover and touch the metallic (U)SIM bracket when the modem is working. Otherwise, you may get a burn.

Modem

- The USB modem must only be used with a PC that is certified to IEC 60950-1 (or equivalent) or a PC that has a power supply that is certified to IEC 60950-1 (or equivalent) or a PC that is powered by an internal battery and that has no connection to mains power.

- Only use original accessories supplied by the manufacturer. Using unauthorised accessories may invalidate your warranty.
- Avoid using the USB modem near or inside metallic structures or establishments that can emit electromagnetic waves.
- The USB modem is not waterproof. Please keep it dry and store it in a cool place out of direct sunlight.
- Handle the USB modem with care. Don't drop, bend, knock or treat it harshly to avoid damage to the unit.
- There are no user serviceable parts. Dismantling the unit will invalidate the warranty.
- Operating temperature range of -10°C ~ +60°C and humidity 5%~95% are recommended.

Health and safety information

Radio Frequency (RF) Energy

This model USB meets the government's requirements for exposure to radio waves. This USB modem is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government:

The exposure standard for wireless mobile USB modems employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. *Tests for SAR are conducted using standard operating positions accepted by the FCC with the USB modem transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the USB modem while operating can be well below the maximum value. This is because the USB modem is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

The highest SAR value for the model USB modem as reported to the FCC when tested for use at worn on the body is 0.831 W/kg (Body-worn measurements differ among USB modem models, depending upon available enhancements and FCC requirements.)

While there may be differences between the SAR levels of various USB modems and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this model USB modem with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model USB modem is on file with the FCC and can be found under the Display Grant section of <http://www.fcc.gov/oet/fccid> after searching on

FCC ID: KA2WM158B1

For body worn operation, this USB modem has been tested and meets the FCC RF

exposure guidelines for use a minimum of 0.5 cm from the body.

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

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.

1.3 Applicability Scope

DWM-158 HSPA+ USB Modem supports the present mainstream types of laptops and desktop PCs, such as HP, IBM, Toshiba, Lenovo, Dell, Sony, Apple, etc.

1.4 System requirements

Operating System: Windows XP, Vista, Windows 7, MAC OS

Configuration (Recommended):

CPU	1GHz Pentium or above
Hard Disk	20MB or above
RAM	512MB or above

The performance of the modem may be influenced if configuration is below the recommendation.

1.5 Functions

SMS service, data service, application management, microSD card supported, etc.

1.6 Specification

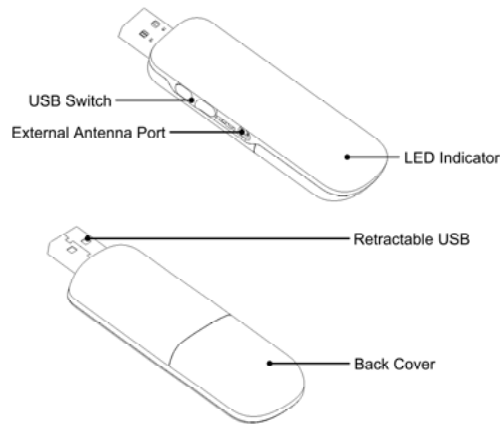
Interface Type	USB 2.0 high speed
Systems supported	Supports most types of laptop and desktop PC.
Operating systems	Windows XP, Vista, Windows 7, MAC OS
Functions	SMS service, Data service, Applications management, support microSD card, etc.
Network Standards	HSPA+/HSUPA/HSDPA /UMTS/EDGE/GPRS/GSM
Frequency band	HSDPA /UMTS: 2100MHz
	GSM/GPRS/EDGE: 1800/900MHz
Transmission (Max. data rate)	HSPA+: 21.6Mbps DL 5.76Mbps UL
Temperature	Storage: -40°C ~ +80°C

	Operation: -10°C ~ +60°C
Dimension	76.77mm×28.0mm×11.92mm
Weight	About 30g
MicroSD Capability	Up to 8G

2 Installation

2.1 Outline and Parts

1. Back cover
2. LED Indicator
3. Rotating USB connector
4. External antenna port



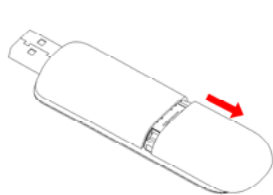
2.2 Hardware Installation

1. Insert the SIM/USIM card into the USB Modem

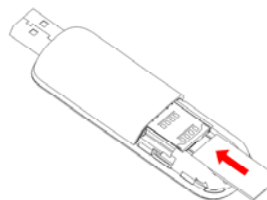
Your SIM/USIM card stores your service details, USB modembook and text messages. You can obtain it from a mobile USB modem service provider when you sign on as a subscriber.

To install SIM/USIM card

- Remove the back cover on the modem.
- Hold your SIM/USIM card with the cut corner oriented as shown and then slide it into the card holder with the metal contacts facing the modem.



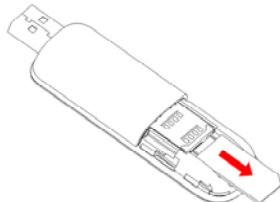
- Remove the back cover
- Replace the back cover.



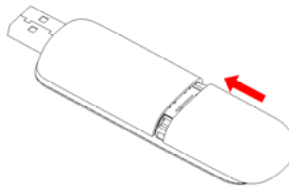
Slide the card into place

To remove SIM/USIM card from the USB modem

- Remove the modem from the computer.
- Remove the back cover.
- Pull out the SIM/USIM card from the card holder.



Pull out the card

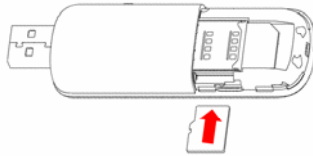


Replace the back cover

2. Install memory card

You can use a compatible microSD card to save more data. Only microSD card is supported by the modem and do not insert other memory card into the modem.

- Remove the back cover of the USB modem.
- Insert the microSD card into the holder until you hear a click. Make sure that the memory card is orientated as shown in the following picture.



- Replace the back cover.

The driver of the microSD card will be installed automatically when the modem driver is installed.

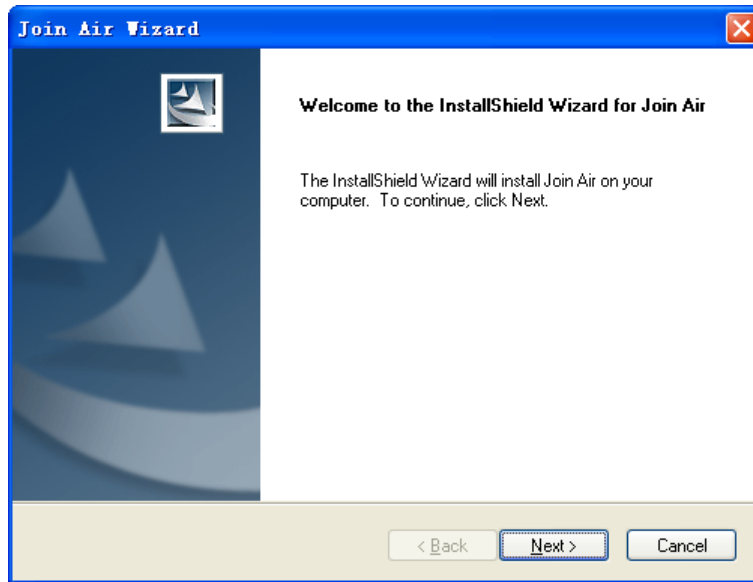
3. Connect the USB modem to your PC

- Plug the modem to the USB port of your computer. Make sure that it is tightly inserted.
- Your PC system will automatically detect and recognize the new hardware and display a new icon in the desktop taskbar, indicating that the computer and the USB modem have been connected properly.
- If you are using Windows XP, Vista, Windows 7 or Mac OS X system, the installation program will start automatically after a few seconds.

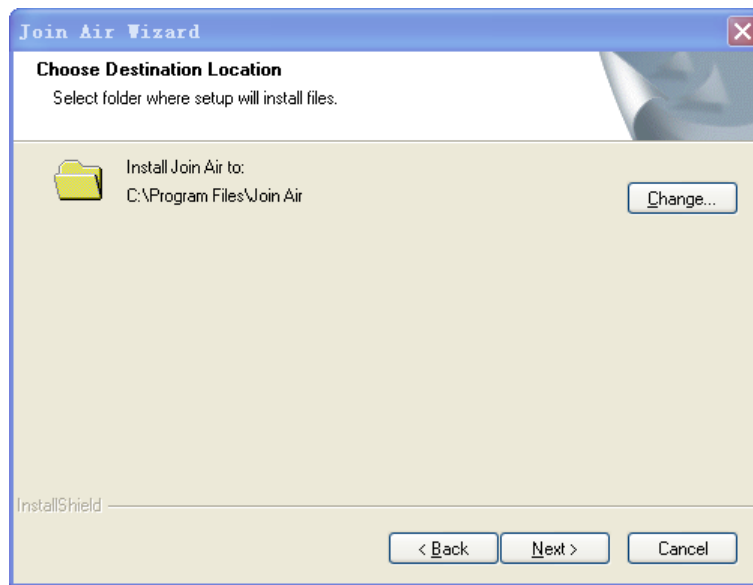
2.3 Software Installation

If your laptop or desktop PC supports automatic installation, the following installation interface will appear on the screen a few seconds after your PC recognizes the new hardware.

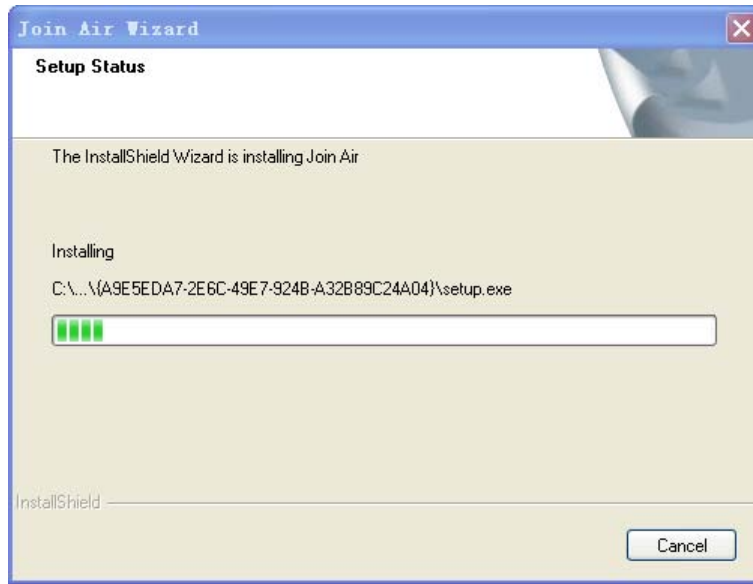
If your PC doesn't support automatic installation, start the installation program by running the *Install.exe* from the new CD-ROM drive in **My Computer** or **Computer**. The following installation interface will show how to start installation.



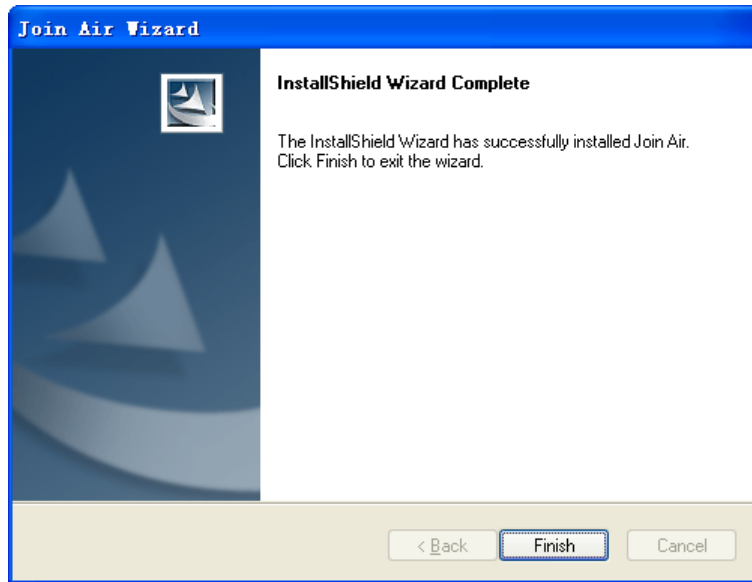
1. It is strongly recommended that you exit all other Windows programs, before clicking on "**Next**";



2. Select the folder that you want to install the software to. You can select a different path by clicking "**Change**";
4. Click "**Next**" to start the installation of the MF668 Modem connection manager software;



5. The system shows the installation progress. Wait a minute until the following screen appears;



6. Click **“Finish”** to complete the installation.

Note: After the software is installed, pull out the modem before restarting the computer to avoid damages to your modem. If you have problems with the installation steps above, please contact your service provider or ZTE.


After the installation, select **Start > Programs > Join Air**. You can find **Join Air** and **Uninstall**. There will be a shortcut icon on the desktop just as follows.



2.4 Run the Application Software


After the modem is correctly connected to the computer, click **Start > Programs > Join Air > Join Air** on the computer to run the application software.

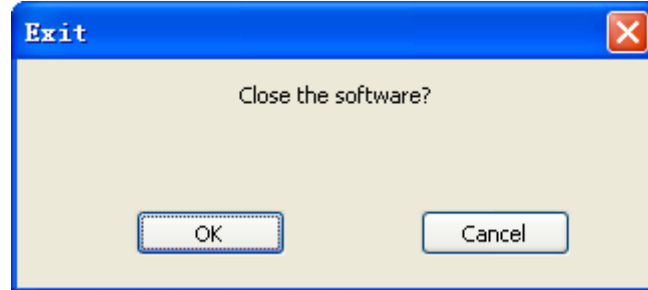
You can also launch the application software by double-clicking the shortcut icon shown above.

After the modem is initialized, the main interface of the connection manager appears. The standby icon  appearing in the taskbar indicates the modem working normally.

2.5 Hardware Uninstall

Close the software then remove the hardware following the procedures below.

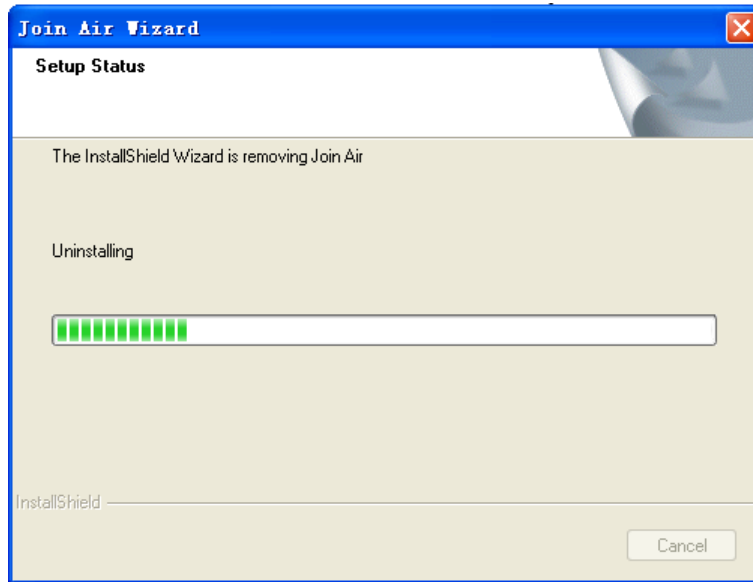
1. Click the close button ;
2. Click "OK" to close the software;



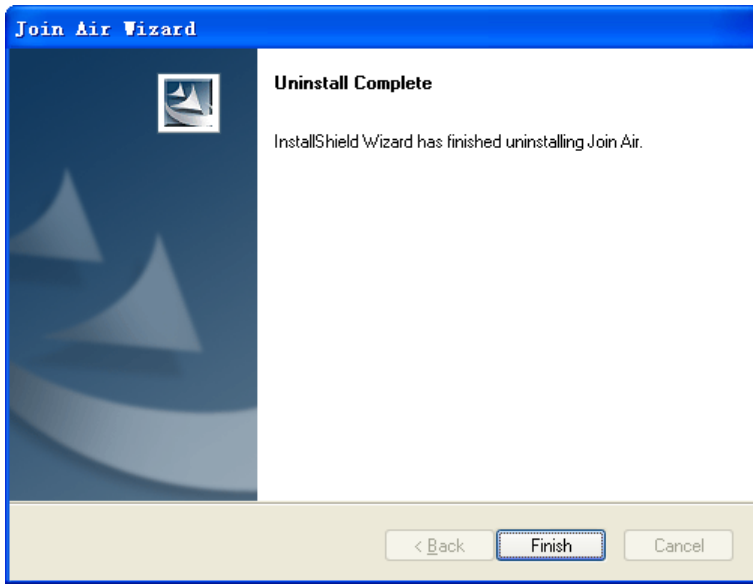
3. Safely remove the USB modem.

2.6 Software Uninstall

1. Close the application program before uninstall;
 2. Click **Start > Programs > Join Air > Uninstall** on the PC;
 3. Click **Yes** to confirm the removal of the software;
 4. Make sure to remove the modem device from the computer before clicking **Yes** to start uninstall.
- The following interface indicates the uninstall progress.



5. Click "**Finish**" to complete the uninstall of Join Air.



3 Functions & Operation

3.1 Interface introduction

3.1.1 Main Interface

The following picture is the starting screen of your MF668 connection manager. The whole interface is divided into four parts. Related functions can be executed by operation in the related areas.



System information area

Icons in this area show the system status and different kinds of tips.

Icon	Explanation
	Indication of signal strength, which is divided into 6 stages from none to the strongest.
	Indication of current network type.
	Roaming.
	Packet switched
	Circuit switched

Internet information area

This area shows the name of the current service provider, device condition and connection information.

Function button area

There are five function button icons.



SMS: Send, read and manage SMS.



USB modembook: Manage contact information.



Settings: Setting options for the modem.




Data record: Show connection information.



Connect: Connect to the Internet.

Main menu button area

Click the  icon to popup the following menu:


Log: The record of software operation.

Diagnostics: View hardware information, operational information and network settings.

Help: Enter connection manager software help.

Exit: Close the software.

3.1.2 Description of Mini Icons

Click the minimize button  and the software will minimize as an icon on the taskbar. This will not influence data transfer or sending and receiving of SMS.

Double click the icon on the taskbar to restore the window.

Taskbar icons description



The USB modem is ready to connect to the Internet.



The USB modem is connected to the Internet.

The uses of taskbar icons

Right click the taskbar icons, the following menu will appear. Please refer to **Main menu button area** in Section 3.1.1.

- Log
- Diagnostics
- Help
- Exit

Log: The record of software operation.



Diagnostics: View hardware information, operational information and network settings.

Help: Enter connection manager software help.

Exit: Close the software.

3.2 Connecting to the Internet


With the help of MF668 USB Modem, you can access the Internet and browse web pages while still be able to send and receive SMS.

Click the **"Connect"** button . The system will search for available networks automatically. You can click **"Cancel"** button  to cancel connection.




When connected, connection duration and data record will be shown in the Internet information area. Then you can access the Internet and receive email etc, through the network.

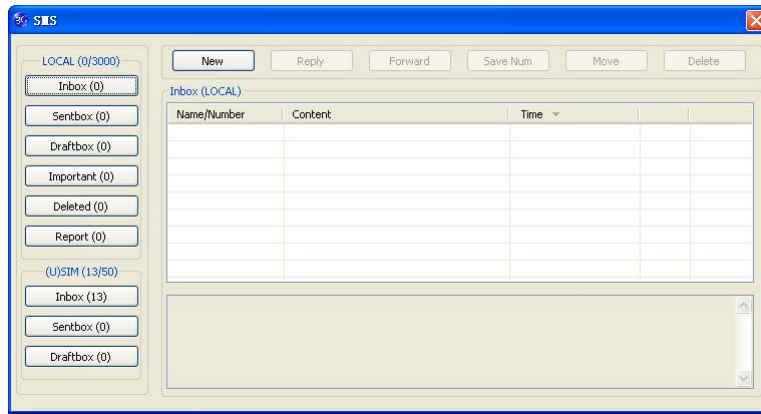


When the connection is established, the “Connect” button changes into the “Disconnect” button . Click it to disconnect from the Internet.

3.3 SMS

Note: To make sure that the SMS can be used properly, please setup the correct SMS center number. Refer to section **3.5.4 Messages settings**.

Click the “SMS” icon  to switch to the SMS interface, which shows the number of SMS in your PC (LOCAL) and (U)SIM card. Click “Inbox”, “Sentbox”, “Draftbox”, “Important”, “Deleted”, “Report” to enter relative interface.



Inbox: Save the received messages.

Sentbox: Save the successfully sent messages.

Draftbox: Save the SMS which haven't been sent. The drafts can only be saved in PC, not SIM/USIM.

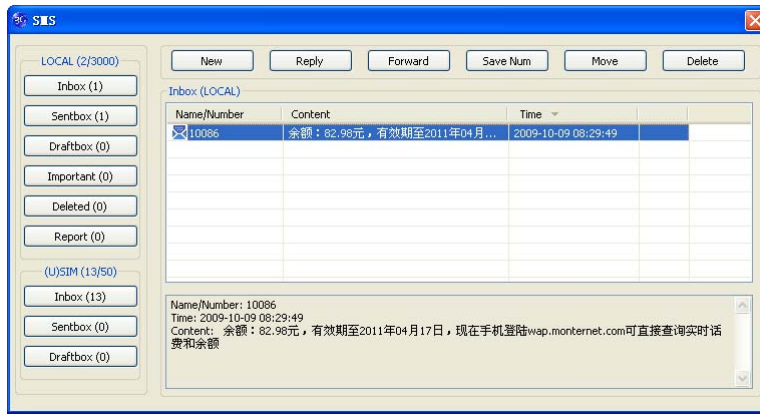
Important: Save the important messages that you have moved from other folders.

Deleted: Save the deleted messages.

Report: Save the message reports.

3.3.1 Check SMS

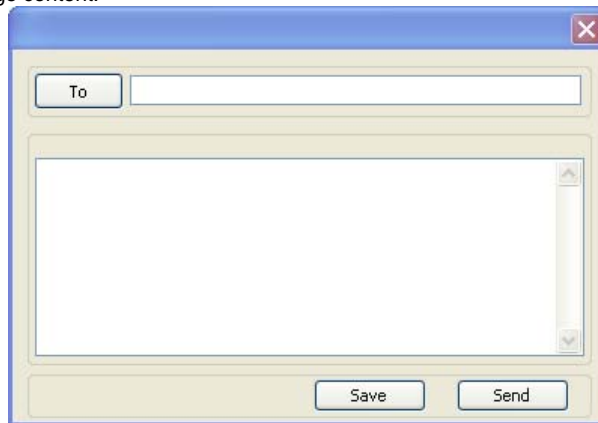
When an incoming message is received, a pop-up dialog box will appear above the taskbar. Click the **Inbox** button to check the new message.



Click other buttons in the SMS window to view the messages in each folder. Select a message to read its full content below the message list.

3.3.2 Create a new message

Click "New" to open a new dialog box and input the recipient's number and message content.

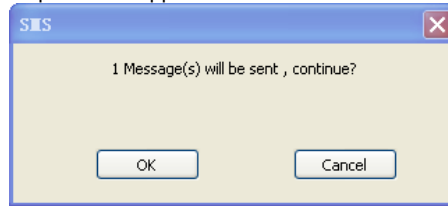


The recipient's number can be input directly or by clicking the **To** button and selecting contacts from the **USB modembook**.

To send a message to multiple recipients, please separate each recipient with “,”.

The SMS content can include 160 individual English characters (including English symbols). The total characters and the number of messages need to be sent are shown in the dialog box.

Click **Send**, a prompt box will appear.



Click **OK** to send the short message.

If the message is sent successfully, it will be saved in **Sentbox** automatically.

Otherwise, it will be saved in **Draftbox** automatically.

Sending SMS while browsing the web:

If your network supports, you can send short messages the same time surfing the Internet. Click **SMS** button, enter the SMS interface to write and send short messages normally.

3.3.3 The SMS box operating guide

Enter **Inbox/Sentbox/Draftbox/Important** to execute the following by clicking on each button or right-clicking on a message:

Reply: Reply short messages to the sender (available only in **"Inbox"**).

Forward: Forward a short message to other recipients (available only in **"Inbox"**).

Move: Change the location where selected messages are stored (LOCAL or USIM/SIM card). By default, the messages the modem received are saved on LOCAL (computer).

Delete: Delete the selected short messages.

Save Number / Save Num: Save the sender's number to **USB modembook**.

Send: Send selected messages in **Sentbox/Draftbox**.

Edit: Edit selected message in **"Draftbox"**.


Export/Import: Export the SMS to CSV or import SMS from CSV.

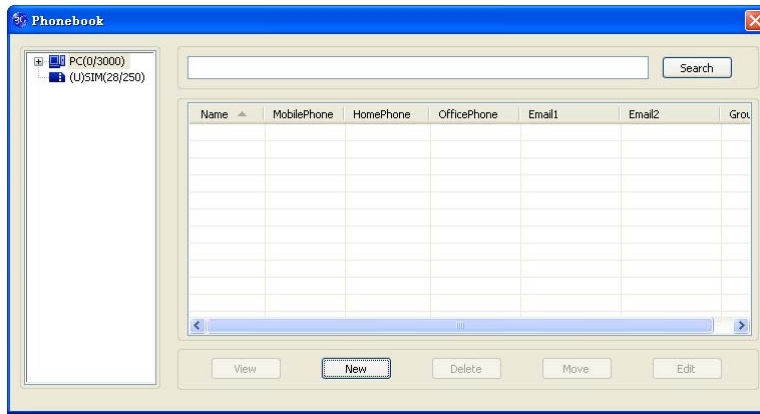
Save to Important: Move the SMS to **Important** folder.

Revert: Move the SMS from **Important** or **Deleted** folder back to other folders. If you want to select several messages, hold **"Ctrl"** or **"Shift"** key and left-click on the items.

New messages can not be received when the (U)SIM card is full (different USIM/SIM cards have different capacities). The system will indicate that the inbox is full and prompt you to clear the **"Inbox"** of USIM/SIM card.

3.4 USB modembook

Click **USB modembook** icon  to enter **USB modembook** interface. Contact information can be saved either on your PC or the SIM/USIM card. For each contact record on the PC, the information includes name, mobile USB modem number, home USB modem number, office USB modem number, emails and the group to which it belongs. For each contact record on the SIM/USIM card, the information only includes name and mobile USB modem number.



3.4.1 Create a new contact

1. Click **New** to add a new contact;
2. select contact type (**PC** or **SIM**) and input the information. Then click **OK**.

PC (selected) (U)SIM

Name(*)

MobilePhone(*)

HomePhone

OfficePhone

Email1

Email2

Group

OK Cancel

3.4.2 Modify contacts

1. Select a contact and click "**Edit**";
2. Edit the contact information and click "**OK**".

3.4.3 Delete contacts

Select one or more contacts and then click "**Delete**".

3.4.4 Send SMS to contacts

1. Right click the selected contacts and select "**SMS**";
2. Input message content in the new window and click "**Send**".

3.4.5 Search for a contact

1. Enter the keyword in the search box;
2. Click "**Search**" to search for matching results, which will be displayed in the contacts list.

3.4.6 Other buttons Description


If any contact is selected, you can execute any of the following by clicking on the corresponding button.

View: View the selected contact's information.

Move: Change the location (PC or SIM) where selected contacts information is stored.

Right click on the contacts and you can create new contacts, view, edit, copy-and-paste, move, delete, export, or import selected contacts.

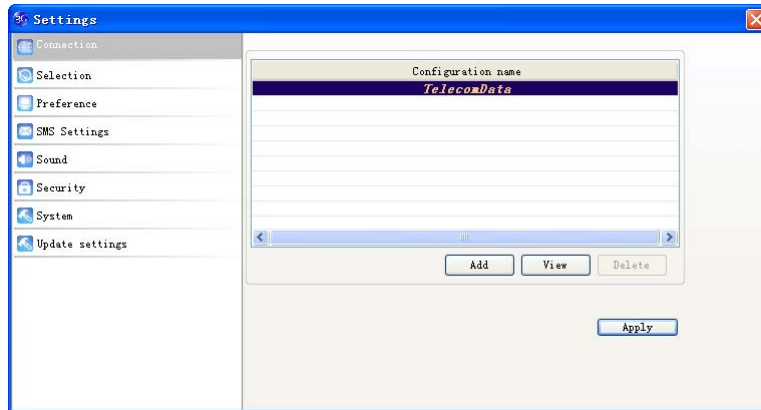
3.5 Settings

Click "**Settings**" icon  to switch to the settings interface.

Note: All the necessary settings have been preset by default. There is no need to change such settings. If you want to change these settings, please consult your service provider.

3.5.1 Connection settings

To ensure that the modem can connect to the Internet properly, you should configure the connection information first.



(1) Button description

Add: Add new configuration files.

View/Edit: View/edit the selected configuration file. The default configuration can only be viewed, not edited.

Delete: Delete the selected configuration files.

(2) Add new Configuration file

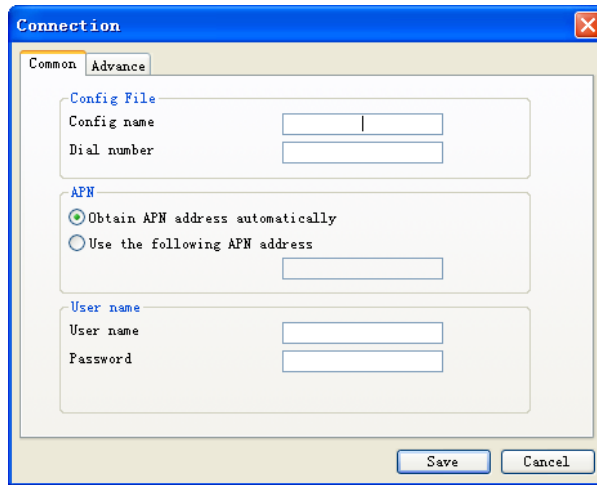
Click “**Add**” button to add new connection information to the system. According to the requirement, there may be two modes for adding a new config: **Add RAS Config** and **Add NDIS Config**.

Add RAS Config

There are two parts of configuration information: “**Common**” and “**Advance**”.

The “**Common**” information includes “**Config File**”, “**APN**” and “**User name**”.

The “**Advance**” information includes “**DNS**”, “**PDP server**”, “**Authentication mode**” and “**PDP Type**”. Please consult your network service provider for all above information. The configuration information may vary as the service provider and network type differ.

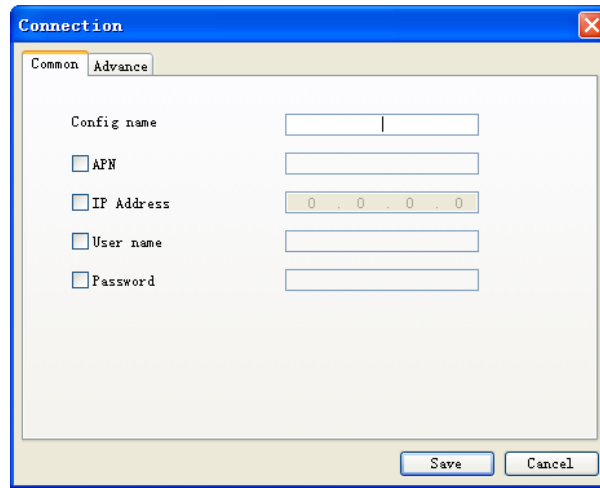


Add NDIS Config

There are two parts of configuration information: "Common" and "Advance".

The "Common" information includes "Config name", "APN", "IP Address", "User name" and "Password".

The "Advance" information includes "Preferred DNS", "Alternate DNS", "Preferred NBNS", "Alternate NBNS" and "Authentication". Please consult your network service provider for all above information. The configuration information may vary as the service provider and network type differ.



3.5.2 Selection settings

Automatic: The system selects the network automatically.

Manual: Manually select the network.

When "**Manual**" is selected, click "**Search**" button to search for available networks. Select the proper network from the search results and click "**Apply**" to enter the network.

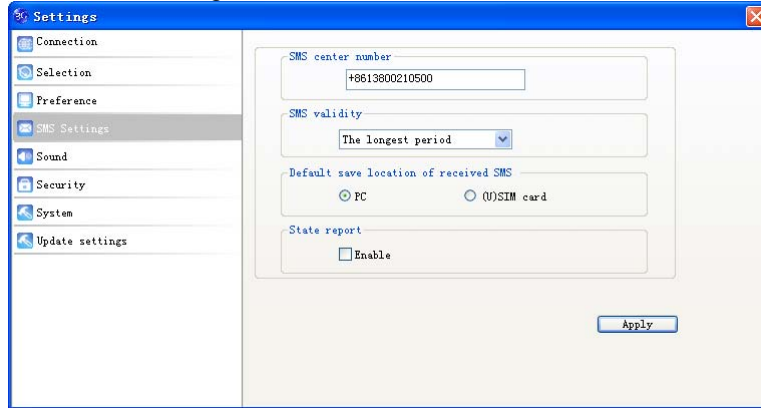
3.5.3 Preference settings

Automatic: The system selects available network automatically.

UMTS/HSPA Only: The system will only select UMTS or HSPA networks.

GPRS/EDGE Only: The system will only select GPRS or EDGE networks.

3.5.4 SMS Settings



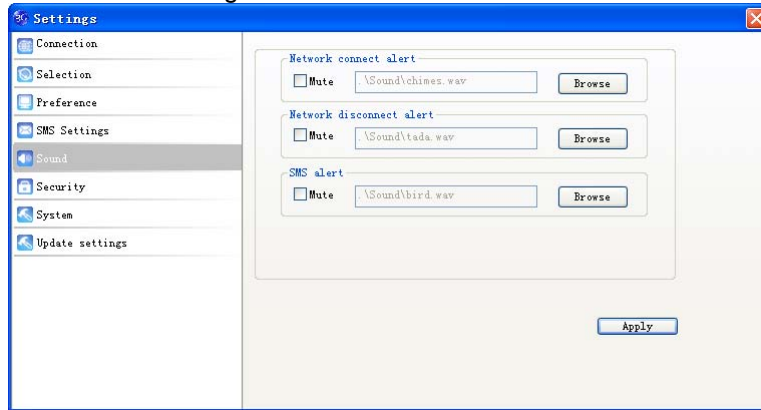
SMS center number: Set the message center number. You can use the default number preset by your service provider. The correct SMS center number must be input in order to use the SMS properly. If you want to edit it, please consult with your service provider for more information.

SMS validity: Set the time limit for saving SMS in the network side. (This function needs network support.) You can select “12 hours”, “A day”, “A week” or “**The longest period**”. The default setting is the longest period permitted by the network.

Default save location of received SMS: Select “PC” to save the received SMS in your PC; select “(U)SIM card” to save it in SIM/USIM card.

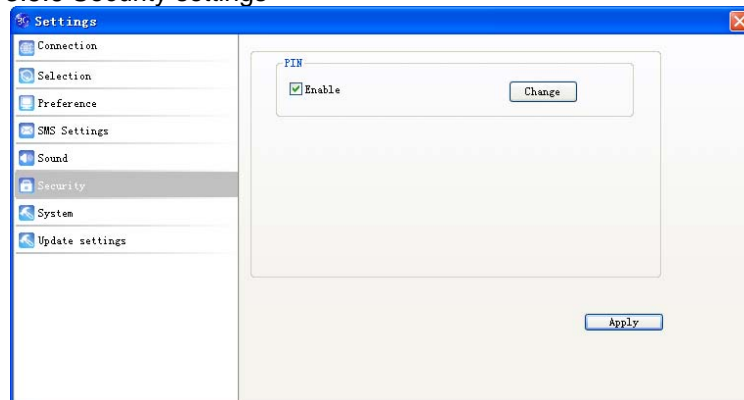
State report: Enable state report to receive notification when the message is sent successfully.

3.5.5 Sound settings



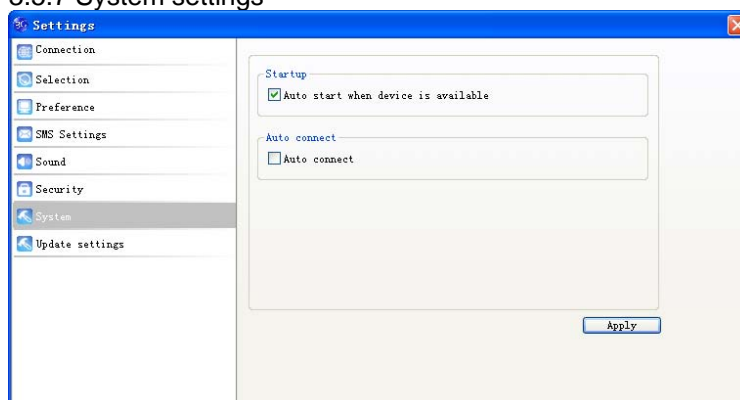
You can set **“Network connect alert”**, **“Network disconnect alert”** and **“SMS alert”**. These alerts will sound on the PC side. The audio file supports MP3, WAV, MID and WMA formats. Select **“Mute”** to mute corresponding alert.

3.5.6 Security settings



Enable or disable PIN code protection. Click "**Change**" button to change the PIN code. Click "**Apply**" button and input the PIN code to apply the security changes. **Note:** If the PIN code protection is enabled, you need to enter the PIN code every time you start to use the modem.

3.5.7 System settings

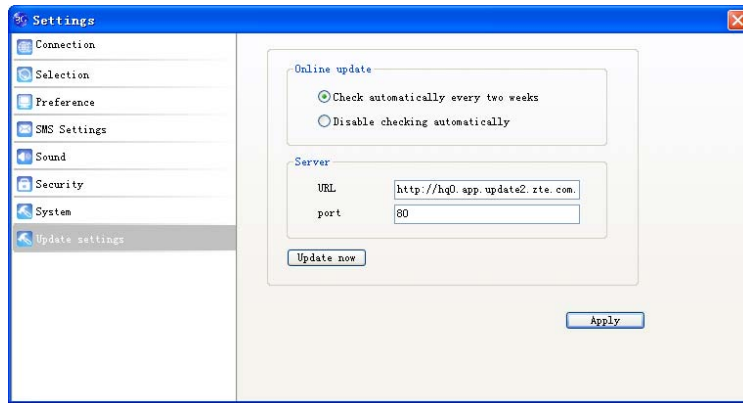


Auto start when device is available: The software will start automatically when the modem is inserted into the PC.


Auto connect: Automatically connect to the Internet when the software is ready.

3.5.8 Update settings

You can set online update settings. Click "**Update now**" to update immediately.



3.6 Data record


Click “**Data record**” icon  to check the log of Internet connection history. In the “Transfer Data” tab, you can check the real-time upload/download speed, upload/download data and transfer time. You can also check the upload/download data and duration in one day, one month and one year. In the “Data record” tab, select start date “**From**” and end date “**To**” on top to view the record of data exchange in the given period. Select a record and click “**Delete**” button to delete the record. Click “**Clear**” to delete all the records in the list.

Note: Data usage is approximate only; please contact your operator for actual usage.

3.7 MicroSD card

When you use a microSD card in the modem, the PC will display the MicroSD card as a removable disk. You can use it freely.

3.8 Help

Click “**Help**” icon  to open the help interface. You may also access the help information by right-clicking the taskbar icon and select “**Help**”.

4 FAQ

When you meet the following problems in service, please refer to the following answers to solve it. If the problems persist, please contact your retailer.

Problem Description	Possible Causes	Possible Solution
The system can not run the installation program automatically.	The system is not properly configured for auto run.	The device will appear as a virtual CD-ROM under "My Computer". Click on the icon to start installation. If you have previously installed a version of the program, please uninstall it first.
After the full installation, the system doesn't install the driver program properly.	The system is not properly configured for auto run.	Please install the driver program manually. The driver program can be found in the installation folder.
After the modem is plugged in, the UI program doesn't run automatically.	The system configuration is Incorrect.	Please open the UI program manually. You can find it on the desktop or in the Programs menu.
After restarting the computer, there is no signal.	You are in a place where there is no available GSM/GPRS/EDGE/UMTS/HSPA + network, such as underground parking lot, tunnels and remote rural areas.	Try again in other locations.

Problem Description	Possible Causes	Possible Solution
	The modem is not properly connected.	Exit the software and remove the modem as usual. Then insert it again.
	The SIM/USIM card is not properly inserted.	Remove the card and reinsert it properly. Please refer to 2.2 Hardware Installation.
	The position of the USB modem affects the signal reception.	Adjust the angle and position of the USB modem or its proximity to other electronic devices.
When the USB modem has been plugged in, the computer cannot find it.	The installation programs of the USB modem have not been installed properly.	Run the installation program first, then plug in the modem. Now install the drivers as normal in Windows.
	The modem is not properly connected.	Restart the computer, or remove and reinsert the modem again.
	The SIM/USIM card is not properly inserted.	Reinsert the SIM/USIM card correctly.

Problem Description	Possible Causes	Possible Solution
Messages cannot be sent.	The SMS center number is incorrect.	Please contact your service provider and configure the correct number in "SMS Settings".
	The network is busy or you are in a area with no signal.	Try later or move to another area with better coverage.
Date connection failed.	You are in the place with no GSM/GPRS /EDGE/ UMTS/ HSPA+ network coverage.	Move to an area with better signal.
	The network is busy.	Try later.
	The APN in the configuration file is incorrect.	Check the APN in the configuration file in the "Connection" settings.
	The modem data is corrupted.	Local network access or the target server may be experiencing problems. Retry data request.
	The network type has been selected manually and is incorrect.	Reselect the network type according to the type of the SIM/USIM card.
The modem is Connected to the Internet, but it cannot open any	After connection is established, you are unable to open web pages.	Check the APN setting in the Configuration files.

Problem Description	Possible Causes	Possible Solution
web page.	The IE browser is causing problems.	Upgrade to the new version or reinstall the IE browser.
	The operating system is infected by viruses.	Use a professional anti-virus software to check your computer and remove the viruses.
	You have connected an APN which cannot connect to the Internet.	Check and correct the entry. Consult your service provider if necessary.