

4G Wireless Router

User Guide

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This user manual is used for installing and using Mobidata cellular wireless router. From this manual you will see the instruction description, compatible models, application of web management, as well as FAQ.

1. Product scope

There are two kinds of cellular wireless routers, Home/office grade broadband cellular wireless router, and industrial grade cellular wireless router as follows.

1.1. Home/office grade

Broadband HSPA WIFI wireless router
Broadband EVDO WIFI wireless router
Broadband HSPA+ WIFI wireless router
Broadband LTE WIFI wireless router

1.2. Industrial grade

Industrial HSPA wireless router
Industrial EVDO wireless router
Industrial HSPA+ wireless router
Industrial LTE WIFI wireless router

1.3. Pocket router

HSPA Wireless router
HSPA+ Wireless router

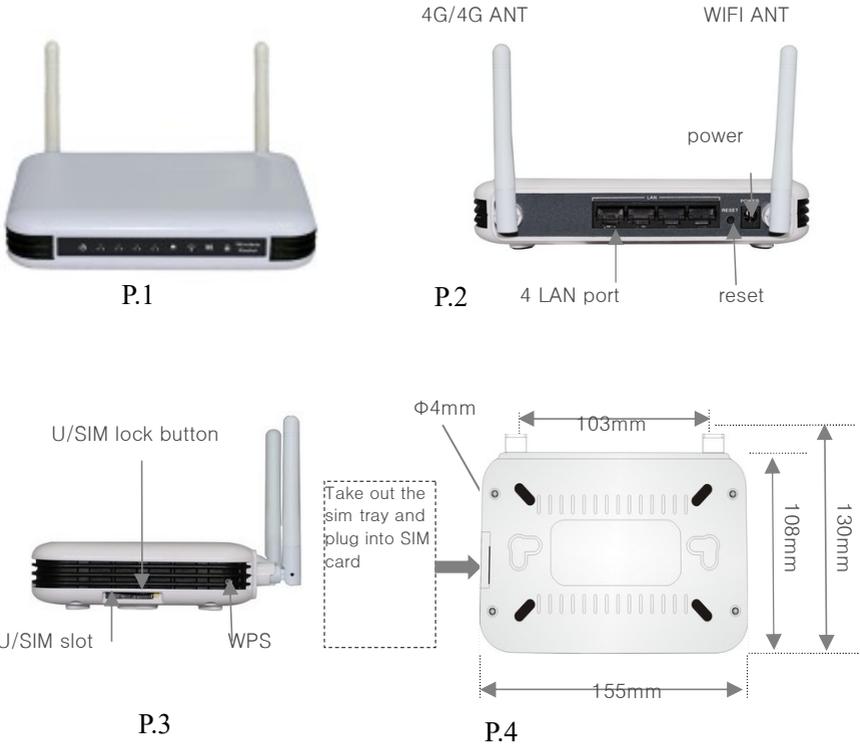
1.4. Feedback

If you have problem with the faulty router, please send below to us.

1. Router model and Firmware version
2. Application environment
3. Leds status and screenshot
4. Problem description

2. Introduction

2.1. Home/office grade



-R100X is series model of broadband cellular wireless router, supporting two types fixed antenna and detachable antenna.

2.2. Industrial grade

2.2.1 Single SIM Card Slot 4G LTE Router



R220X is series model of industrial cellular wireless router supporting detachable antenna.

2.2.2 Dual SIM Card Slot 4G LTE Router



2.3. Pocket router

Please see the description of pocket router in specification

3. Web management

The web management in above routers is almost same but different display on network and the operation is totally same. Hereby we will introduce this management under 4G LTE wireless router.

The user can access the management via web browser such as windows IE, Firefox, Chrome or other

Technology Terms:

APN (Access Point Name)

PLMN (Public Land Mobile Network, MCC and MNC)

WISP (Wireless Internet Service Provider)

WAN (Wide Area Network)

RCN (Remote Computer Network)

LAN (local area network)

WWAN (Wireless Wide Area Network)

WLAN (Wireless Local Area Networks)

DNS (Domain Name System)

DHCP (Dynamic Host Configuration Protocol, DHCP)

SSID (Service Set Identifier)

AP (Access Point)

WDS (Wireless Distribution System)

TCP/IP (Transmission Control Protocol/Internet Protocol)

CLIENT (Device connected to router)

VPN (Virtual Private Network)

VPDN (Virtual Private Dialing Network)

WIFI, (wireless fidelity)

IEEE 802.11 b/g/n, WIFI technology draft

3.1. Requirement of client PC

TCP/IP protocol

RJ45 interface network card or 802.11 b/g/n WLAN card

Command line operation mode

Windows IE 6.0 or higher version, Firefox 1.0 or higher version

3.2. Access web management

Please connect PC to cellular router via use Ethernet LAN connection or WIFI connection. Regarding to Ethernet connection, you can use a Ethernet cable or a switch..

If you use a switch to connect the router, please make sure the PC and cellular router are in the same network segment.

3.2.1 Configure IP on PC

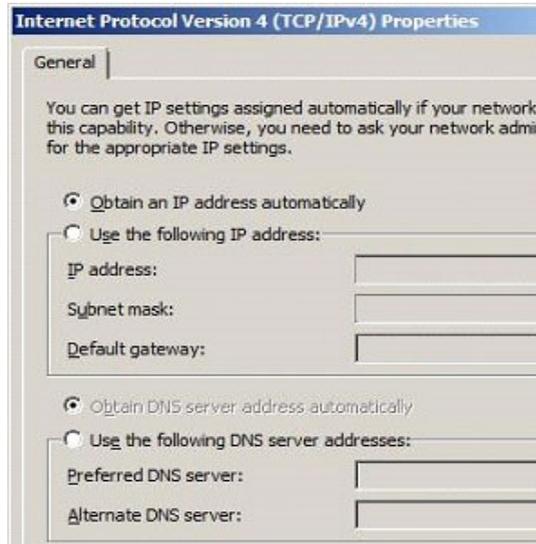
Before connecting PC to cellular router, please configure PC network firstly. DHCP in the router will dispatch IP address automatically. Please set the PC to obtain IP automatically.

If you want to use static IP, please configure network as follows.

IP range: 10.10.10.1~ 10.10.10.253

Sub-mask: 255.255.255.0

Default Gateway: 10.10.10.254



3.2.2 Login management GUI

- 1) The default login IP is 10.10.10.254. Please login GUI as follows. Please enter the IP in browser address bar to access user interface.



- 2) Please enter user name and password to pass the authentication, and the default user name and password are admin.



Remarks:

- Username and password could be changed in system setting of web server.
- 3) Front page of management



- 4) Instruction of shortcut on frontpage
- Open/close all: Spread or fold down the sub menu
 - Easy-net: Go back to front page
 - Sub-menu: Each configuration interface
 - Language: English, Simple Chinese, Traditional Chinese
 - Status: network status
 - Statistics: Volume data statistics
 - Management: system setting, update, security setting

3.2.3 Access router via telnet

If you can not access into GUI, please check router through Telnet

```
C:\Documents and Settings\Administrator>telnet 10.10.10.254
```

Both the login name and password are admin.

```
Telnet 10.10.10.254
Easy-net login: admin
Password:
BusyBox v1.12.1 (2012-09-06 10:46:38 CST) built-in shell (ash)
Enter 'help' for a list of built-in commands.
#
```

Please use command #ps to check the process.

```
51 admin 0 SW [pdflush]
52 admin 0 SW< [aio/0]
678 admin 0 SW [mtdblockd]
704 admin 1364 S nvram_daemon
705 admin 1816 S goahead
707 admin 1756 S telnetd
858 admin 1064 S datacard_manager
861 admin 1760 S /bin/sh
1088 admin 0 SW [RtmpCmdQTask]
```

Check whether the the process "goahead" is ok or not. If there's no "goahead", please start GUI manually.

```
2354 admin 1756 R p
# goahead&_
```

After around 30s, please access into GUI via <http://10.10.10.254> from browse.

3.3. WAN configuration

3.3.1 Status

1) WAN

4G mode:

Connection: green led for successful connection, red led for failed connection

SIM: green led for ready SIM, red led for no SIM

Register: three status “searching”, “registered”, “refused”

Network: displaying network phrase

Current network: displaying network operator

Signal: signal strength for reference

LTE	
SIM card Status	✔
Register Status	Registered
Network Type	LTE (E-UTRAN)
Current Network	China Unicom
Signal Quality	

Wide Area Network	
Connected Status	✔
Connected Type	LTE
WAN IP Address	10.23.47.58
Subnet Mask	255.255.255.252
Default Gateway	10.23.47.57
Primary Domain Name Server	210.24.188.0

DHCP IP Mode:

Obtain the IP address of the superior device automatically,

Wide Area Network	
Connected Status	✔
Connected Type	DHCP
WAN IP Address	192.168.1.132
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
Primary Domain Name Server	192.168.1.1
Secondary Domain Name Server	192.168.1.1
MAC Address	B0:0C:43:33:64:93

STATIC IP Mode:

Wide Area Network	
Connected Status	✔
Connected Type	STATIC
WAN IP Address	192.168.1.100
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
Primary Domain Name Server	168.95.1.1
Secondary Domain Name Server	8.8.8.8
MAC Address	B0:0C:43:33:64:93

PPPoE Mode:

Wide Area Network	
Connected Status	
Connected Type	PPPOE
WAN IP Address	
Subnet Mask	
Default Gateway	
Primary Domain Name Server	
Secondary Domain Name Server	
MAC Address	B0:0C:43:33:64:93

2) Internet WAN configuration

4G is the default WAN connection on this router. After register the router will obtain an IP, usually which is not a public IP. In this sheet the MAC is the physical address of WAN.

Wide Area Network	
Connected Status	
Connected Type	LTE
WAN IP Address	10.23.47.58
Subnet Mask	255.255.255.252
Default Gateway	10.23.47.57
Primary Domain Name Server	210.21.196.6
Secondary Domain Name Server	221.5.88.88

3) LAN configuration

This local IP is the router's address in local network, which could be modified in LAN settings. In this sheet the MAC is the physical address of LAN.

Local Area Network	
Local IP Address	10.10.10.254
Local Netmask	255.255.255.0
MAC Address	00:0C:43:76:20:30

4) System information

Gateway is the default operation mode, under which the 4G will work. From this sheet you will see the router's software version. If you have problem with the router please send the below system information to us

System Info	
Software Version	V5.00.01.01.23
SDK Version	4.2.1.0
System Up Time	25 mins, 49 secs
System Platform	MT7620 embedded switch

3.3.2 Setting

4G mode:

Most of the network profiles have been built in this manager, so usually the manager will connect internet automatically. If fail to connect internet, please check the network profile firstly. If the APN is incorrect or unavailable, please modify or create a new profile. After apply the new profile, the router will restart automatically. If you use Dual SIM Card slot Router, you need input two SIM card APN information. You can input any APN position for two SIM card.

APN Settings	
Mode	Automatic ▼
Profile Name	China Unicom
APN	UNINET
Dial Number	*99***1#
Username	
Password	
Auth Type	ΔITQ ▼

[open all](#) | [close all](#)

- Easy-net
 - Status
 - LTE
 - Settings
 - Log
 - Internet Settings
 - Wireless Settings
 - Firewall
 - Administration

Settings

If the Profile Name is None, show that no default APN. Please manually add.

APN Settings	
Mode	Automatic ▾
Profile Name	China Unicom
APN	UNINET
MCCMNC	46001
Dial Number	*99***1#
Username	
Password	
Auth Type	AUTO ▾
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

APN Settings	
Mode	Automatic ▾
Profile Name	China Unicom
APN	UNINET
MCCMNC	46001
Dial Number	*99***1#
Username	
Password	
Auth Type	AUTO ▾
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

DHCP IP mode:

Wide Area Network (WAN) Settings

You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

WAN Connection Type: DHCP (Auto config) ▾

DHCP Mode	
Hostname (optional)	<input type="text"/>
MAC Clone	<input type="checkbox"/> Enabled <input checked="" type="checkbox"/> Disable ▾
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

STATIC IP mode:

Wide Area Network (WAN) Settings

You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

WAN Connection Type:		STATIC (fixed IP) ▼
Static Mode		
IP Address	<input type="text"/>	
Subnet Mask	<input type="text"/>	
Default Gateway	<input type="text"/>	
Primary DNS Server	168.95.1.1	
Secondary DNS Server	8.8.8.8	
MAC Clone		
Enabled	Disable ▼	
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>		

PPPoE mode:

Wide Area Network (WAN) Settings

You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

WAN Connection Type:		PPPoE (ADSL) ▼
PPPoE Mode		
User Name	test	
Password	****	
Verify Password	****	
Operation Mode	Keep Alive ▼	
	Keep Alive Mode: Redial Period	60 seconds
	On demand Mode: Idle Time	5 minutes
MAC Clone		
Enabled	Disable ▼	
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>		

Remarks:

- If you don't know the network profile, please contact the local ISP.
- If the local ISP require MAC address bound, please enable "MAC clone".
- if 4G led indicates successful connection but no volume stream, please check the balance of SIM card
- Before reset, the router will save all the setting you made.
- 4G connection is the default WAN connection, which could

ier of wireless solution

IP Address	10.10.10.254
Subnet Mask	255.255.255.0
LAN 2	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
LAN2 IP Address	

2) DHCP service

In local network, the router will dispatch IP address to every clients connected, and the DHCP IP address will be from 10.10.10.100 to 10.10.10.200. In default, this function is enabled. If you use the bridge, WDS, switch function, please disable DHCP.

LAN2 Subnet Mask	
MAC Address	00:0C:43:30:52:77
DHCP Type	Server <input type="button" value="v"/>
Start IP Address	10.10.10.100
End IP Address	10.10.10.200
Subnet Mask	255.255.255.0
Primary DNS Server	168.95.1.1
Secondary DNS Server	8.8.8.8
Default Gateway	10.10.10.254
Lease Time	86400
	MAC: <input type="text"/>

Remarks:

- New IP configuration will effect after restart.

3.4.2 DHCP client

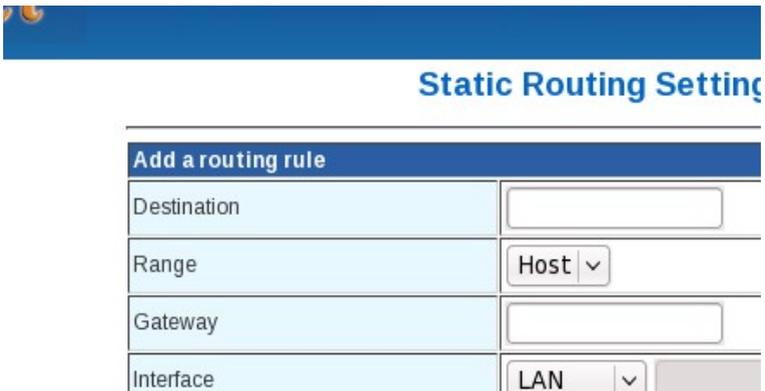
From this sheet you can see all the clients obtaining IP through DHCP.

You could monitor DHCP clients here.



3.4.3 Advanced routing

In default the router will work out data transmission via auto routing. While if you are good at network configuration, static routing is a good way to improve the routing efficiency in basic network.



Destination: the host or network segment to access

Range: host as default

Gateway: the gateway in destination router

Interface: LAN as default

Remarks:

- Destination IP and WAN/LAN IP should be configured in

different network segment.

- If the destination is a host, please use subnet mask 255.255.255.255.
- If the destination is a network segment, please use subnet mas 255.0.0.0.
- Gateway and WAN/LAN IP should be configured in same network segment.

This router could support both static routing and dynamic routing. Usually the router will use static routing. If you want to use dynamic routing, please enable this RIP setting.

3.5. WLAN configuration

3.5.1 Basic settings

The router provides two ways to open and close WIFI. RADIO ON/OFF is based on bottom firmware, and the operation is equivalent to a hardware switch. WIFI ON/OFF is based on application software, and the operation is equivalent to enabling/disabling WIFI function. Based on multi network mode, 802.11b/g/n mixed mode is the default, while you can modify the network mode.

SSID (service set identifier) is a good function to distinguish different WIFI network. And the router provides multi-SSID operation, through which you can create different VLAN networks. Usually, the SSID function is enabled at default. HT physical mode is used for adjust the TX/RX, as is auto operation in the router.

Wireless Network	
Driver Version	2.7.1.6
Radio On/Off	<input type="button" value="RADIO OFF"/>
WiFi On/Off	<input type="button" value="WiFi OFF"/>
Network Mode	11b/g/n mixed mode ▾
Network Name(SSID)	<input type="text" value="Easy-net"/> Hidden <input type="checkbox"/>
Multiple SSID1	<input type="text"/> Hidden <input type="checkbox"/>
Multiple SSID2	<input type="text"/> Hidden <input type="checkbox"/>
Multiple SSID3	<input type="text"/> Hidden <input type="checkbox"/>
Multiple SSID4	<input type="text"/> Hidden <input type="checkbox"/>
Multiple SSID5	<input type="text"/> Hidden <input type="checkbox"/>

Remarks:

- 11b, 11g, 11b/g, 11n, 11b/g/n, these network modes conduct different transmission. Please make sure the terminals' network mode is same to the router you set, otherwise the terminals could not receive the WIFI signal.
- Multi-SSID should be set in different name; different frequency and you can set 8 SSID at most on the router. Through the function of hidden, Isolated, AP Isolation you can improve the security of VLAN network.
- If this function enabled, the users cannot visit each other.
- Usually it is not allowed to modify physical parameters.
- If you want to connect this router to a 802.11N network via WIFI connection, please set the router WIFI as “11g only” or “11b/g mixed mode”, which will be used in WDS function.

3.5.2 Advanced settings

Advanced wireless is used for operation between two wireless stations, as is enabled in auto mode at default. Besides internet operation, the router provides a WMM application, through which you can configure WMM with internet.

items that are not available from the Basic Setup page, such as Beacon Interval and Basic Data Rates.

Advanced Wireless	
BG Protection Mode	Auto ▾
Beacon Interval	100 ms (range 20 - 999, default)
Data Beacon Rate (DTIM)	1 ms (range 1 - 255, default)
Fragment Threshold	2346 (range 256 - 2346, default)

3.5.3 WIFI security

In order to prohibit an unauthorized access or monitor to this router, it is suggested that you should enable the wireless encryption function and select a security mode to encrypt the wifi network. Before enabling the encryption, please select the SSID you set.

Wireless Security/Encryption Settings

Setup the wireless security and encryption to prevent from unauthorized access and monitor

Select SSID	
SSID choice	Easy-net ▾
"Easy-net"	
Security Mode	Disable ▾
Access Policy	
Policy	Disable ▾
Add a station Mac:	

This router manager could support many different security way. Some of them can be set as group passwords, but you can not use the group passwords at the same time. Herein it is suggested that you might modify the passwords or security way in aperiodicity.

Security Mode		OPEN	
Wire Equivalence Protection (WEP)		Disable	
Default Key		OPEN	
WEP Keys	WEP Key 1 :	SHARED	
	WEP Key 2 :	WEPAUTO	
	WEP Key 3 :	WPA	
	WEP Key 4 :	WPA-PSK	Hex
		WPA2	
		WPA2-PSK	Hex
		WPAPSK/WPA2PSK	
		WPA1/WPA2	Hex
		802.1X	Hex
Default Key		Key 1	
WEP Keys	WEP Key 1 :	Key 1	Hex
	WEP Key 2 :	Key 2	
		Key 3	
		Key 4	Hex

3.5.4 WDS application

2) **WDS** means Wireless Distribution System, which can enlarge the coverage area of Wi-Fi signal. The function setting of WDS has main router and sub-router. Main router connects internet and Sub-router Bridge the main router so that enlarge the main router Wi-Fi signal. When the function of WDS set successful, either the main router or LAN/WAM on the sub-router or several ways of Wi-Fi can connect internet.

For example:

Note: maintain the parameter such as Wi-Fi channel, SSID, password be the same, when you set up the main router and sub-router.

- a. Main router IP address: 192.168.0.1, enable DHCP, (shown as follows) select “repeat mode” on WDS mode, and fill sub-router MAC. (Shown as follows)
- b. Sub-router IP address: 192.168.0.2, shut down DHCP (shown

as follows), select “Repeat mode” on WDS mode, and fill main router MAC. (Shown as follows)

c. Other sub router, such as: Set up sub-n IP address: 192.168.0.n...

d. DHCP Open and Close: Access “Internet Settings”->”LAN”, open “Server”, and shut down “Disable”.

DHCP Type	Server
Start IP Address	192.168.0.100
End IP Address	192.168.0.200

e. Set up main and sub-router MAC : Access “Wireless Setting”->“WDS”, shown as follows:

AP MAC Address	
----------------	--

f. Router WDS mode selection, shown as follows:

WDS Mode	Repeater Mode
Phy Mode	Lazy Mode
EncryptType	Bridge Mode

g. Disable: shut down the function of router WDS

h. Lazy Mode: the main router need not set up sub-router MAC, sub-router set up the main router MAC only

i. Bridge Mode: this mode can be adopted by sub-router only, and enter into main router MAC

l. Repeater Mode: main router connects Internet, and enters sub-router MAC; sub-router enters into the main router MAC.

Remarks:

- When the connection succeed, you can connect by LAN/WAN or Wi-Fi three modes is belong to the same LAN network, and IP address will be distributed by main router

3.5.5 WPS quick setting

1) WPS is a quick setting for wireless network. Usually there're two working mode, PIN and PBC.

Wi-Fi Protected Setup

WPS Config

WPS: Disable ▾

WPS Progress

WPS mode: PIN PBC

PIN:

a. PIN Mode

This mode used in creating connection by input generated PIN code of the router

First step: choose PIN mode, set down PIN code of the router, also can click <Generate> and generate new PIN code. As shown follow:

AP PIN:

Second step: Open the network card software, choose PIN code to connect, and waiting for connecting after enter into the PIN code.

b. PBC Mode

This mode used in creating connection between router and network card by press the button.

First step: choose PBC mode, press the WPS button on network card, searching Wi-Fi signal.

Second step: press WPS button on router, and waiting for connection.

3.5.6 WIFI clients

In this sheet you can see all the terminals connected to router via WIFI.

Station List

You could monitor stations which associated to this AP here.

3.5.7 WIFI statistics

In this sheet you can see the RX and TX power and volume statistics. With the statistics you can optimize the router WIFI configuration.

Wireless TX and RX Statistics

Transmit Statistics	
Tx Success	0
Tx Retry Count	0, PEF
Tx Fail after retry	0, PLR
RTS Successfully Receive CTS	0
RTS Fail To Receive CTS	0
Receive Statistics	
Frames Received Successfully	0

3.6. Firewall

3.6.1 MAC/IP/Port Filtering

Before setting you need to enable MAC/IP/Port Filtering function and select a filtering policy.

Basic Settings
MAC/IP/Port Filtering

Apply

Reset

MAC/IP/Port Filter Settings

MAC address	<input type="text"/>
Dest IP Address	<input type="text"/>
Source IP Address	<input type="text"/>
Protocol	None ▾
Dest Port Range	<input type="text"/> - <input type="text"/>
Source Port Range	<input type="text"/> - <input type="text"/>
Action	Accept ▾
Comment	<input type="text"/>

(The maximum rule count is 32.)

Apply

Reset

Remarks:

- Only choose one of the ways from IP address bar and MAC address bar, can not fill it at the same time.
- Source IP address: the computer IP address is controlled in LAN network, if none it means all computer of LAN.
- Destination IP address: IP address of WAN, stand for the whole WAN network if the text is empty
- Destination port: WAN control computer IP address for corresponding port server and input ports or port range

For example:

Forbidding IP 192.168.0.100 on the internet in computer

Enter 192.168.0.100 into IP address text box, after click <Apply>, the forbidding IP address will be shown on the table,

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	Pkt Cnt	
1	<input type="checkbox"/>	-	-	192.168.0.100	-	-	-	Drop	-	-
Others would be accepted										-

shown as follows:

The conditions of above demonstration: firewall choose “Enable”, filtering rule choose “Dropped”, and the way of setting on MAC address and IP address must be the same, the form is: “00:00:00:00:00:00”

3.6.2 Port Forwarding

Enable the port service from one computer within the LAN, such as mail, FTP and so on; public network can visit the service directly, the setting shown as follows

Virtual Server Settings	
Virtual Server Settings	Enable <input type="button" value="v"/>
IP Address	192.168.0.100
Port Range	80 - 80
Protocol	TCP <input type="button" value="v"/>
Comment	

(The maximum rule count is 32.)

Shown as follows when add up:

Current Virtual Servers in system:					
No.	IP Address	Port Range	Protocol	Comment	
1	<input type="checkbox"/>	192.168.0.100	80 - 80	TCP	

3.6.3 DMZ

After Set up DMZ in one computer on LAN, input router WAN IP address, the WAN can access this computer directly, and not affect other computers of LAN. If use this function, choose “Enable”, input the IP address from one computer, it come into

effect when click “Apply”, shown as follows:

DMZ Settings	
DMZ Settings	Disable ▾
DMZ IP Address	<input type="text"/>

3.6.4 System security

In this sheet you can configure remote management via WAN Internet. If you need to access router via 4G network, please make sure the WAN IP is public. After configure DDNS, then you can access router through wireless network.

↓

You may configure the system firewall to protect AP/Router itself from

Remote management	
Remote management (via WAN)	Deny ▾

Ping form WAN Filter	
Ping form WAN Filter	Disable ▾

Block Port Scan	
Block port scan	Disable ▾

Block SYN Flood	
Block SYN Flood	Disable ▾

ng

3.6.5 Content Filtering

1) **Plug-in programs Filtering.** Filtering the contents on HTTP

can prevent Proxy deputy, Java program, ActiveX components invading. Firewall can clean the contents away from the HTTP, and protect computers from aggressive plugins, program and some hidden virus.

Setting shown as follows, choose the contents to filter, and it will come into effect after click “Apply”.

Webs Content Filter	
Filters:	<input type="checkbox"/> Proxy <input type="checkbox"/> Java <input type="checkbox"/> ActiveX
<input type="button" value="Apply"/> <input type="button" value="Reset"/>	

2) **Website Filtering.** The web server could work on both HTTP and FTP.

Current Webs URL Filters:	
No	URL
1 <input type="checkbox"/>	http://www.google.com/
<input type="button" value="Delete"/> <input type="button" value="Reset"/>	

Add a URL filter:	
URL:	<input type="text"/>
<input type="button" value="Add"/> <input type="button" value="Reset"/>	

3) **Keyword Filtering.**

Current Website Host Filters:	
No	Host(Keyword)
1 <input type="checkbox"/>	google
<input type="button" value="Delete"/> <input type="button" value="Reset"/>	

Add a Host(keyword) Filter:	
Keyword	<input type="text"/>
<input type="button" value="Add"/> <input type="button" value="Reset"/>	

Support filtering keywords in domain names.

3.7. System Management

3.7.1 Language and time settings

This web server can support English, simple Chinese and traditional Chinese. The default language is English.

System Management

Language Settings	
Password
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

NTP Settings	
Current Time	Mon Feb 27 09:52:00 UTC
Time Zone:	(GMT+08:00) China Coast

3.7.2 User name and password of web server

In order to prevent an unauthorized access to this router, it is suggested please change a new user name and password before you create a sharing network. The default user name and password are admin.

Select Language	English
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

Administrator Settings	

Remarks:

- If you forget the user name and password, please go to the rear side of the router and press the reset button to reset the router.

- Resetting function will load the factory settings, which will lost all parameters you set.

3.7.3 Upload Firmware

If there's an update from the manufacturer, you can update the router via this update interface. Please pay more attention on update; incorrect update will collapse the router.

Upgrade Firmware



Update Firmware	
Location:	

Remarks:

- Please make sure the update is correct version and official release.
- Update will lose all the parameters you set before, so if no need update, which is not suggested.
- During updating, please make sure the router works on uninterrupted power supply, otherwise sudden power-off will collapse the router.
- After select the update files, please don't press the button "Apply" ceaselessly, otherwise the router might collapse.
- After update if the router collapse, please contact

3.7.4 DDNS

This router can support DDNS (Dynamic Domain Name Server) function, through which it is convenient to access the router from public network by fixed domain bound with the router IP address.

DDNS Settings	
Dynamic DNS Provider	None <input type="button" value="v"/>
Account	<input type="text"/>
Password	<input type="text"/>
DDNS	<input type="text"/>

Remarks:

- Because the IP from the router is not fixed, so it is not convenient for public computers to visit the router by dynamic IP address. After fixed DDNS, it can be visited once put into domain, and the router can sent dynamic IP address to DDNS server and analyze.
- Router provides many DDNS providers, that is Dyndns.org, freedns.afraid.org, www.zoneedit.com, www.no-ip.com to choose.

3.7.5 Back up settings

Both resetting router and add new settings will lose the settings you made, so it is suggested that please back up the settings.

... importing the file, or reset them to factory default.

Export Settings	
Export Button	<input type="button" value="Export"/>

3.7.6 Load factory default

Choose “Load Factory Defaults” and press reset button at the back of router, the system will be restarted and recovered default settings,

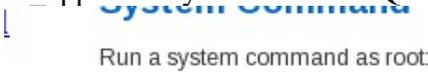
Settings file location	<input type="text"/>	Br
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3.7.7 System command

Sometimes the industrial module doesn't work fine because of unexpected bug in system, and then you can check and reset the industrial module manually.

For example through below commands you will see the signal quality.

Serial_app /dev/ttyUSB1 AT+CSQ



System command	
Command:	<input type="text"/>

3.7.8 System logs and statistics

In this sheet you will see the router operation logs, including part of 4G connection logs, so when you have problem with the router, please also send the system logs to us.

System Log	
Jan 1 00:00:30	Mobidata user.info kernel: rt3xxx-ohci rt3xx
Jan 1 00:00:30	Mobidata user.info kernel: rt3xxx-ohci rt3xx
Jan 1 00:00:30	Mobidata user.info kernel: usb usb2: configu
Jan 1 00:00:30	Mobidata user.info kernel: hub 2-0:1.0: USB
Jan 1 00:00:30	Mobidata user.info kernel: hub 2-0:1.0: 1 00

In this sheet you will see all the statistics of this router, the memory, Ethernet, interface description. From this sheet the engineer can study well on this router.

Take a look at the statistics

Memory	
Memory total:	29460 kB
Memory left:	5016 kB
WAN/LAN	
WAN Rx packets:	0
WAN Rx bytes:	0
WAN Tx packets:	6
WAN Tx bytes:	492
LAN Rx packets:	4133

3.7.9 Operation mode

Gateway is the default operation mode, and the 4G will work under gateway mode.

If you need to bridge two different network segment, please use bridge mode. Under this operation mode, NAT will be disabled automatically; also 4G will not work.

If you need to use WIFI as Internet connection, please use AP client. Under this mode all ethernet port and AP interface will be used for LAN connection. When the public WIFI is available this router could be used as WIFI receiver. Also 4G will not work under this operation mode.

Operation mode configuration

You may configure the operation mode suitable for you environment

Bridge:

▼ **Gateway.**

The first ethernet port is treated as WAN port. The other ethernet interface are bridged together and are treated as LAN ports.

Ethernet Converter:

The wireless interface is treated as WAN port, and the ethernet

AP Client:

The wireless apcli interface is treated as WAN port, and the wire ethernet ports are LAN ports.

NAT Enabled: ▼

3.8 VPN Settings

Under the "VPN" menu, it contains the following five function options: "VPN client", "VPN server", "IPSec", "VPN status" and "VPN traversal".

3.8.1 VPN Clients

This router provides two VPN clients: L2TP and PPTP. You can connect to the VPN server through the VPN client to access the VPN server internal network.

Connection Type:		L2TP ▾
L2TP Mode		
Server IP	<input type="text" value="l2tp_server"/>	
User Name	<input type="text" value="l2tp_user"/>	
Password	<input type="password" value="*****"/>	
<input type="button" value="Apply"/>		<input type="button" value="Cancel"/>

Connection Type:Optional is L2TP / PPTP, default is disabled.

Server IP:VPN server IP address or domain name

User Name: The user name provided by the VPN server.

Password:The Password provided by the VPN server.

Tip:

Before using the VPN client, please confirm whether the LAN segment of the router is the same as the network segment of the VPN server's internal network. If they are the same, please modify the LAN segment of the router. Be sure to turn off the IPSec function when starting this function.

3.8.2 VPN Servers

The router provides two VPN servers: L2TP and PPTP. You can use other VPN clients to connect to this VPN server.

Basic Settings:

Basic Settings	
VPN Server	Disable ▾
<input type="button" value="Apply"/> <input type="button" value="Reset"/>	

VPN server: Enable or disable the VPN server. The default is disable.

Add New User:

Add New User	
UserName	<input type="text"/>
PassWord	<input type="text"/>
<input type="button" value="Apply"/> <input type="button" value="Reset"/>	

Add a new VPN server user to the system.

Current VPN Server Users in system:

Current VPN Server users in system		
No	UserName	PassWord
<input type="button" value="Delete Selected"/> <input type="button" value="Reset"/>		

Display the existing VPN users in the current system, you can choose the number to delete.

Tip:

Be sure to turn off the IPSec function when starting this function.

3.8.3 IPSec

This router provides IPSec service, which protects the network transmission of the IP protocol by encrypting and authenticating the packets of the IP protocol.

IPSec Switch:

IPSec Switch	
IPSec	Disable ▾
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

The default is "disable", select "enable", this function takes effect.

Basic Settings:

Basic Settings	
Nat Traversal	<input type="radio"/> Yes <input checked="" type="radio"/> No
Left ID	<input type="text"/>
Left Subnet/Prefix Length	10.10.10.0 / 24 ▾
Right Type	Any ▾
Right ID	<input type="text"/>
Right IP/Host	0.0.0.0
Right Subnet/Prefix Length	0.0.0.0 / 0 ▾
Aggressive Mode	<input type="radio"/> Yes <input checked="" type="radio"/> No
Preshared Key	<input type="text"/>

Nat Traversal: whether to accept/offer to support NAT (NAPT, also known as "IP Masquerade") workaround for IPsec. Acceptable values are: yes and no (the default). This parameter may eventually become per-connection.

Left ID: the local identity.

Left Subet/Prefix Length:The LAN segment of the local router is automatically populated by the system.

Right Type :Support "Any" and "Subnet", choose the appropriate type according to different needs, the difference: when "Any" is selected, other IPsec can connect to the router, but "Right IP/Host" and "Right Subnet/Prefix Length" Input will be

prohibited. When "Subnet" is selected, the router will be able to connect to the IPSec service provided by other devices, and two fields of " Right IP/Host " and " Right Subnet/Prefix Length" will be filled in.

Right ID: Remote identity.

Right IP/Host: Fill in the IP address or domain name of the IPSec provider to be connected, which is only valid when "Subnet" is selected in "Right type".

Right Subnet/Prefix Length: Fill in the internal network segment of the IPSec provider to be connected, which is only valid when "Subnet" is selected in "Right Type".

Aggressive Mode: The default is off, and it will reduce IPSec security when turned on.

Preshared Key: The set IPSec password is used for IKE phase authentication of IPSec.

IKE:

IKE belongs to the first phase of IPSec negotiation and authentication.

IKE	
Encryption	AES256 ▾
Authentication	SHA-256 ▾
Key Group	DH4(2048) ▾

Encryption: The default is "AES256", which supports DES, 3DES, AES128, AES192 and AES256.

Authentication: The default is "SHA-256", which supports MD5, SHA-1 and SHA-256.

Key group: The default is "DH4 (2048)", which supports DH1 (768), DH2 (1024), DH3 (1536), DH4 (2048).

ESP:

ESP is the encryption of communication data.

ESP	
Encryption	AES256 ▾
Authentication	SHA-256 ▾
Mode	<input type="radio"/> Transport <input checked="" type="radio"/> Tunnel

Encryption: The default is "AES256", which supports DES, 3DES, AES128, AES192 and AES256.

Authentication: The default is "SHA-256", which supports MD5, SHA-1 and SHA-256.

Mode: The default is "tunnel", which supports the transport mode, but the tunnel mode is generally selected. Please do not use the transport mode without special requirements.

PFS:

PFS	
PFS	Enable ▾
Group	DH4(2048) ▾

PFS: The default is "Enable", select "Disable" or "Enable".

Group: The default is "DH4 (2048)", supporting DH1 (768), DH2 (1024), DH3 (1536), DH4 (2048)

Tip:

When using IPsec, please confirm whether the LAN segment of the router is the same as the network segment of the IPsec internal network at the opposite end. If they are the same, please modify the LAN segment of the router. To enable IPsec, please disable the VPN client and VPN server functions.

3.8.4 VPN Status

This function supports the display of the connection status of the VPN client, VPN server, and IPsec. In the case where the function was previously disabled, the status of the VPN client is displayed.

VPN Client Status	
Connected Status	
Connected Type	DISABLE
IP Address	0.0.0.0
Netmask Address	0.0.0.0
Connected times	00:00:00

VPN Server Status:

Current VPN Server users info			
UserName	VPN Type	Local IP Address	Connected times

IPSec Status:

Current IPSec info:		
Right IP/Host	Right Subnet/Prefix Length	Connected Status

3.8.5 VPN Passthrough

This function supports L2TP / IPSec / PPTP penetration. Whether to allow the three types of data packets passing through the router.

VPN Pass Through	
L2TP Passthrough	Disable ▾
IPSec Passthrough	Disable ▾
PPTP Passthrough	Disable ▾

The default value is "Disable". Select "Disable" or "Enable".

3.9 App Settings

3.9.1 GPS

GPS function: read GPS positioning data or LBS positioning data in the 4G module and transmit it to the designated server.

GPS Report Address Settings	
GPS Report Settings	Enable ▾
Protocol	JTT808 ▾
Server Address	www.easy-net.net
Server Port	7018
Report Interval	10 *1(s)
IMEI	548040568732 Please fill in 12 characters
Heart Beat Interval	15 *1(s)

GPS switch: The default is "Enable", select "Disable" or "Enable".

Transmission protocol: The protocol for transmitting positioning data. By default, "JTT808" is selected, which supports EGK and JTT808.

Server address: The default value is "www.easy-net.net". This address is the address of the JTT808 server. You can apply for an account with this website administrator to test this positioning function.

Server port: The default value is 7018.

Report interval: The default value is 10 seconds. Every 10 seconds, the positioning data is collected and uploaded to the configured server.

IMEI: The default value is read from the 4G module. This field is valid only when the transmission protocol is configured as "JTT808".

Heartbeat interval: The default value is 11 seconds. Every 11

seconds, the heartbeat data is sent to the server. This field is valid only when the transmission protocol is configured as "JTT808".

GPS log:

Log

Refresh

Clear

```
Log
-----
Software version: V5.00.02.01.55
-----GPS LOG-----
1970-01-01 00:00:09 [ERROR] Open Serial port:2 Baud rate:115200 Failed
1970-01-01 00:00:09 [ERROR] Open Serial port:2 Baud rate:115200 Failed
1970-01-01 00:00:09 [ERROR] do at cmd:AT+CGSN failed
1970-01-01 00:00:09 [INFO ] Get IMEI:failed
1970-01-01 00:00:12 [ERROR] /dev/ttyUSB2 does not exist
1970-01-01 00:00:12 [ERROR] /dev/ttyUSB2 does not exist
1970-01-01 00:00:12 [ERROR] do at cmd:AT+CGSN failed
1970-01-01 00:00:12 [INFO ] Get IMEI:failed
1970-01-01 00:00:14 [ERROR] /dev/ttyUSB2 does not exist
1970-01-01 00:00:14 [ERROR] /dev/ttyUSB2 does not exist
1970-01-01 00:00:14 [ERROR] do at cmd:AT+CGSN failed
1970-01-01 00:00:14 [INFO ] Get IMEI:failed
```

View GPS logs, click "Refresh" to view the latest GPS logs, and click "Clear" to delete all GPS logs.

3.9.2 RS232

The main function of DTU is to use TCP to transparently transmit serial data and server data. This function receives RS232 serial data and transmits to the set server, and can receive data on the server and transmit to the device on the RS232 serial port.

RS232 Switch	
RS232	Disable ▾
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	
Settings	
Baud Rate	115200 ▾
Data Bits	8 ▾
Parity	NONE ▾
Stop Bits	1 ▾
Max Frame Size	<input type="text"/>
Server Address	<input type="text"/>
Server Port	<input type="text"/>
Transfer Protocol	TCP ▾
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

RS232: The default value is "disabled" and can be configured as "enabled" or "disabled".

Baud Rate: The default value is 115200, supporting 1200, 1800, 2400, 4800, 9600, 19200, 38400, 57600 and 115200. The unit is bit / s (bps).

Data Bits: The default value is 8, and 5, 6, 7, and 8 are supported. The unit is bit.

Stop Bits: The default value is 1, and 1 and 2 are supported. The unit is bit.

Max frame Size: Limit access to 512 to 4096. That is, the maximum length that each RS232 serial port can transmit, in bytes.

Server Address: The IP address or domain name of the server to be connected.

Server Port: The server port number to be connected.

Transfer protocol: The type of protocol that communicates with the server.

Tip:

This function is only used on dual sim card routers

4. FAQ

1. No SIM card

Please plug out SIM tray and insert SIM card in correct way. Please check whether the SIM card has been damaged or out of service.

Please reset the router.

2. SIM card recognized, no internet connection

Please check the network profile of 4G.

Please check the network signals.

Please check whether the SIM card support data service.

Please restart the software by web server.

3. Internet connected, no volume stream

Please check the balance of SIM card.

Please check whether the terminals have connected to router successfully.

4. Limited LAN connection, or no LAN connection to router

Please sure Ethernet card of terminals have been enabled.

Please check whether the Ethernet cable has been damaged.

Please sure the DHCP function of the router is enabled.

If DHCP server is enabled and the terminal is auto configuration, please reconnect the LAN connection. Otherwise please fill the terminals IP address manually. When using fixed IP address, the terminal's IP address and the router's IP address must in same IP segment.

5. Plugging out SIM card when router is working.

It's not allowed to take our SIM card when router is working, which might damage the router.

6. How many users he router can support?

Theoretically, the router could support 30 visitors online simultaneously, while as known too many users will sharply decrease the internet transmission rate. Usually if the visitor use router for browsing web pages, it is suggested 10 or less users online simultaneously.

7. How to backup the web server and parameters?

Available

8. Online update

Not available

9. Router working logs

Not available

10. WAN ping function

Before sending ping command to router from public network computer, you need enable WAN ping in web server.

11. Remote web management

Before managing web servers remotely please enable remote management and WAN ping firstly, then enable DDNS server. By this fixed domain name you can visit the router remotely.

12. How to change the port of web management

Not available

13. Trouble shot

Not available

14. How to save new network profile

The new network profile you create or update will be stored in buffer. However after resetting router, all the parameters will be lost.

15. How to disconnect 4G connection manually

4G is the default connection. As long as SIM card available inside and powered, the router will be always online, unless you plug out SIM card.

16. Reconnection function

When fail to connect internet or disconnect temporally, the router will reconnect automatically. However if there's no SIM card, the reconnection function will not work.

17. How to use WAN , PPPOE, L2TP, PPTP?

Not available

18. Telnet

Support

19. Fail to enter into Web server

Please check the connection to router.

Please reset router manually.

20. “UNKNOWN” network operator

Please clear the buffer of IE, and then reset the router manually.