



File Name:	Original Industrial Router Guide	Version	1.0
Project:	V520	Update Date:	Nov.16 <sup>th</sup> , 2018

# **iStartek 3G/4G INDUSTRIAL ROUTER USER GUIDE**

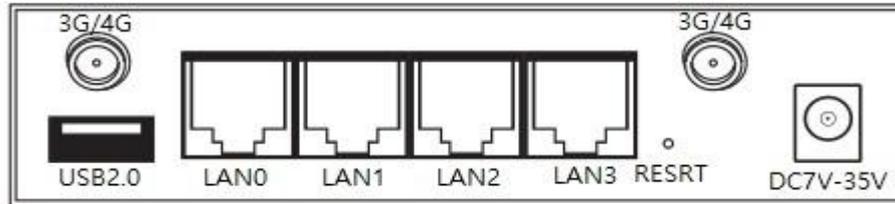
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Startrack Technology

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## 1 Connector Description



Front Side

1) RJ45 connector: LAN0

Description: LAN0 can be used as WAN port in the standard router mode.

2) RJ45 connector: LAN1

3) RJ45 connector: LAN2

4) RJ45 connector: LAN3

5) DC connector: DC7V~35V wide voltage

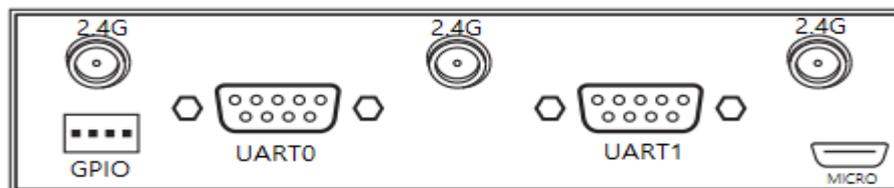
DC Power connector: use 2.1mm round head power connector, DC7V~35V wide voltage design.

Inner: "+", Outer: "-"

6) 3G/4G antenna connectors: SMA antenna connectors which the outer part is spiral and the inner part is hole.

7) Reset button: SYS light (SYS) will be flashing quickly when long press RESET button 5 seconds, the system resets successfully when router restarting.

8) USB connector: USB2.0



Back Side

1) 3 pieces of 2.4G WIFI antenna connectors: SMA antenna connectors which the outer part is spiral and the inner part is hole, the middle 2.4G can be used as a GPS antenna connector according to customer requirements. User can choose suitable outer shape and antenna automatically. The Bigger antenna gain, the more effect of wireless sending and receiving in theory. We advise using 3 -5DB antenna gain under 3G/4G/4G antenna. WiFi antenna's choice is based on the requirement of user coverage. Our Product support 15DB antenna gain at the maximum.

2) Serial port connector: Standard 9PIN connector.

3) SIM card slot: The SIM card slot is located at the bottom of the product and has a screw. Unscrew the screw and take out the protective cover to install the SIM card.

4) TF card slot: The TF card slot is located at the bottom of the product and has a screw. Unscrew the screw and take out the protective cover to install the TF card.

5) Serial port: Serial port 0 is used as Console, and serial port 1 is used as serial communication interface.

6) Micro USB port: can be connected to the computer to dial directly, then V520 can be used as a USB network card.

7) GPIO port:



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Indicator status description

Name	Status	Description
GPS Light	Constant on	GPS is connected
	Off	GPS is not connected
LAN0-LAN3 Light	Constant on	RJ45 port is connected
	Off	RJ45 port is not connected
WLAN	Constant on	Constant on after power-on, indicating that the wireless is normal.
	Fast Flash	Flashes quickly after power-on, indicating that data is being transferred.
	Off	Off after power-on, indicating that the wireless function is turned off or malfunctions.
VPN	Constant on	Constant on after power-on, indicating that the VPN connection is successful.
	Off	Off after power-on, indicating that the VPN function is down or faulty.
System Light(SYS)	Constant on	Lights up after power-on, indicating that the power supply is normal.
	Off	About 10 seconds after power-on, from constant light to slow flash, indicating that the system is operating normally.
3G/4G Light	Constant on	connection succeeded
	Slow Flash	connecting
	Off	no connection
PWR	Constant on	Normal power

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## 2 Setting Preparation

### 2.1 Connecting Equipment

You can connect your computer and router as below procedure.

### 2.2 Set Computer 's IP Address

Before access to the web setting, we advise you to setting your computer into obtain IP address and DNS IP address automatically. Router can assign IP address automatically. If you want to assign static IP address to the computer, you need to set your computer and router of LAN port IP address into a same subnet. ( The default IP address is 192.168.10.1 for LAN port of router , Subnet mask is 255.255.255.0).

### 2.3 Connection by WiFi

Check your Wifi router's wireless internet connection, then click "connection" button to create connection, Wifi password:12345678



### 2.4 Confirm Computer Connection with Router

Please use Ping order to confirm if the computer connect with router or not when your computer monitor successfully connected with IP.

For example: Proceed Ping order under Windows XP environment: Ping 192.168.10.1

If LCD display as below, it means computer and router successfully connected.

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```

Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ping 10.168.10.1

Pinging 10.168.10.1 with 32 bytes of data:
Reply from 10.168.10.1 : bytes=32 time=1ms TTL=64
Reply from 10.168.10.1 : bytes=32 time=2ms TTL=64
Reply from 10.168.10.1 : bytes=32 time=1ms TTL=64
Reply from 10.168.10.1 : bytes=32 time=5ms TTL=64

Ping statistics for 10.168.10.1
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 2ms

C:\Users\Administrator>
  
```

## 2.5 Router Login

Then login Web setting configuration of router.

Click <http://192.168.10.1> in the address field of web browser, then click the user name and password in pop-up window.

The defaulted user name is admin and password is admin when you login at the first time to use.



## 2.6 Enter Web Setting

Enter web setting when you successfully login, Then you can set and management router.



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# M2M

3G WiFi Module

语言/Language: **English**

China CMCC LTE  
Version: 2.1.9.4

[Status](#) | [Mode](#) | [3G/4G](#) | [VPN](#) | [LAN](#) | [Media](#) | [Wireless24](#) | [Security](#) | [Server](#) | [Routing](#) | [Admin](#) | [Logout](#)

**Summary** | [Log](#) | [File Sharing](#) | [Video](#)

Work Mode	<a href="#">3G/4G Wireless Router Mode</a>
3G/4G Connect	Auto Select
3G/4G ISP	TD-SCDMA/LTE
Signal	74%
SIM/UIM Status	Available ( <a href="#">SIM</a> )
3G/4G Service	Valid service
3G/4G Network	LTE

**WAN Info:**

Connection Type	<a href="#">3G/4G Wireless Dial Up(Connected)</a>	<input type="button" value="CONNECT"/>	<input type="button" value="DISCONNECT"/>
IP Address	10.122.164.175		
Subnet Mask	255.255.255.224		
Gateway	10.122.164.176		
DNS 1	211.136.17.107		
DNS 2	211.136.20.203		
MAC Address	DC:56:E8:04:DB:59		
Keep Time	00:05:22		
cloud status	offline		

**LAN Info:**

IP Address	192.168.10.1
Subnet Mask	255.255.255.0
DHCP Server	<a href="#">Enable</a>
MAC Address	DC:56:E8:04:DB:58

**Help**  
Summary: Show current status and configurations of the router.

Startrack

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### 3 Working Mode

V520 offer 4 types of working mode: 3G/4G wireless router mode (defaulted), standard wireless router mode, Wireless AP+ wireless customer end bridge mode, wireless AP+ Wireless customer end.



#### 3.1 3G/4G Wireless Router Mode

The default to V520 is 3G/4G wireless router, Insert 3G/4G SIM card, Router will search 3G/4G internet automatically. You can also define the internet supplier what you want to.

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Status | Mode | **3G/4G** | VPN | LAN | Media | Wireless24 | Security | Server | Routing | Admin | Logout

Setup Break-Detection DDNS AT CMD

### 3G/4G setup

Dial Device  3G/4G Device  UART1

Auto select 3G/4G ISP  Break DetectionEnable

3G/4G ISP TD-SCDMA/LTE

APN cmnet

Pin Code

Dialed Number \*99\*\*\*1#

Username

Password

Authentication  Auto  CHAP  PAP

Auto Dial-up

Router will reboot after dial: 5 times failed. (0 will disabled)

Extra AT cmd (If there are more then one AT cmd, please use ';')

Use local IP  0

Primary DNS Server

Secondary DNS Server (Optional)

Network Type Auto

APPLY CANCEL

**Help**  
 3G/4G setup: Setup 3G/4G modem dial information if enable 'Auto select 3G/4G ISP',The device will automatic input ISP dial information by IMSI. But the fuction olny use for Chinese ISP.

Server	3G/4G network	APN	Dial number	User name	Password
China mobile com	TD-SCDM A TDD-LTE	cmnet	*99# or *98*1#	card	card
China Telecom	CDMA200 0 FDD-LTE LDD-LTE	ctnet	#777	card	card
China Unicom	WCDMA FDD-LTE	3gnet	*99#	Null	Null

## 3.2 Standard Router Mode

When you are ready to use the "standard wireless routing mode", please use Wi-Fi to connect to the router. If you use a network cable to connect to the router through a wired network, you need to pay attention to the network cable to be connected to the LAN port of the router (note that the function of the network port changes due to the change of working mode).

### 3.2.1 Static Internet Connection Mode

Entering working mode to choose standard router mode, Choose the static IP address under WAN setting windows, Click IP address and net mask, gateway and DNS which ISP provided. Then apply it.

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Status | Mode | **WAN** | VPN | LAN | Media | Wireless24 | Security | Server | Routing | Admin | Logout

▶ Setup Break-Detection MAC-Clone DDNS

**WAN Setup**

Connection Type:  ▼

IP Address:

Subnet Mask:

Default Gateway:

MTU:  (576~1500)

Primary DNS Server:

Secondary DNS Server:  (Optional)

**Help**  
Static IP Settings: Setup IP, Subnet Mask and Gateway provided by your ISP. MTU is the Maximum Transmission Unit of a network. DNS server address must be entered manually and also must be only one.

### 3.2.2 Dynamic Internet Connection Way

Entering working mode to choose standard router mode, Choose the dynamic IP address under WAN setting windows. Click apply button, then the router will obtain ISP assigned parameter automatically.

**M2M** 3G WiFi Module 语言/Language:  ▼ Version: 2.1.9.4

Status | Mode | **WAN** | VPN | LAN | Media | Wireless24 | Security | Server | Routing | Admin | Logout

▶ Setup Break-Detection MAC-Clone DDNS

**WAN Setup**

Connection Type:  ▼

MTU:  (576~1500)

Primary DNS Server:  (Optional)

Secondary DNS Server:  (Optional)

Hostname:  (Optional)

**Help**  
WAN Setup: MTU is the Maximum Transmission Unit of a network. You can setup DNS server address to obtain it manually or the one provided by ISP.

### 3.2.3 PPPoE Internet Connection Way

Entering working mode to choose standard router mode, Choose the PPPoE under WAN setting and fill the user name, password that ISP offer. Click apply button.

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Status | Mode | **WAN** | VPN | LAN | Media | Wireless24 | Security | Server | Routing | Admin | Logout

▶ Setup Break-Detection MAC-Clone DDNS

**WAN Setup**

Connection Type:  ▼

PPPoE Username:

PPPoE Password:

MTU:  (546~1492)

Primary DNS Server:  (Optional)

Secondary DNS Server:  (Optional)

Hostname:  (Optional)

Service Name:  (Optional)

**Help**  
 PPPoE Settings: Enter username and password provided by your ISP. MTU is the Maximum Transmission Unit of a network. You can setup DNS server address to obtain it manually or to use it provided by ISP. Server name is the name of your ISP and generally it's not required to fill in.

### 3.3 Wireless AP+ Customer End Bridge Mode

Choose this mode, we can use V520 as a bridge connection for AP using, it's used as bridge connection of former grade wireless router. At first, Set your computer's IP address into 192.168.10.100, and enter Web by wire cable connect LAN2 connector, then enter the router admin page, Choose wireless AP+ Customer end bridge mode.

Status | **Mode** | WAN | VPN | LAN | Media | Wireless24 | Security | Server | Routing | Admin | Logout

▶ Mode

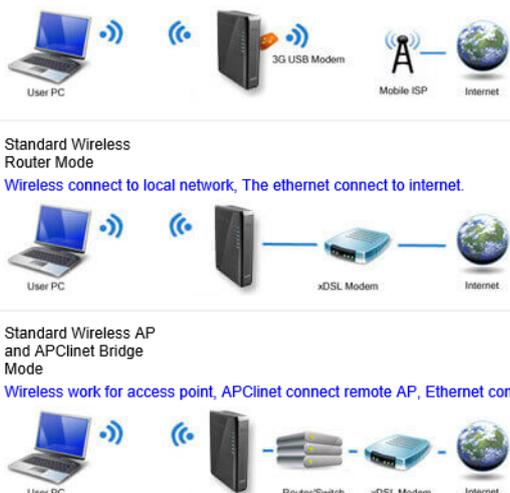
**Device Work Mode**

3G/4G Wireless Router Mode  
 Wireless and ethernet port connect to local network, The 3G/4G USB modem connect to internet.

Standard Wireless Router Mode  
 Wireless connect to local network, The ethernet connect to internet.

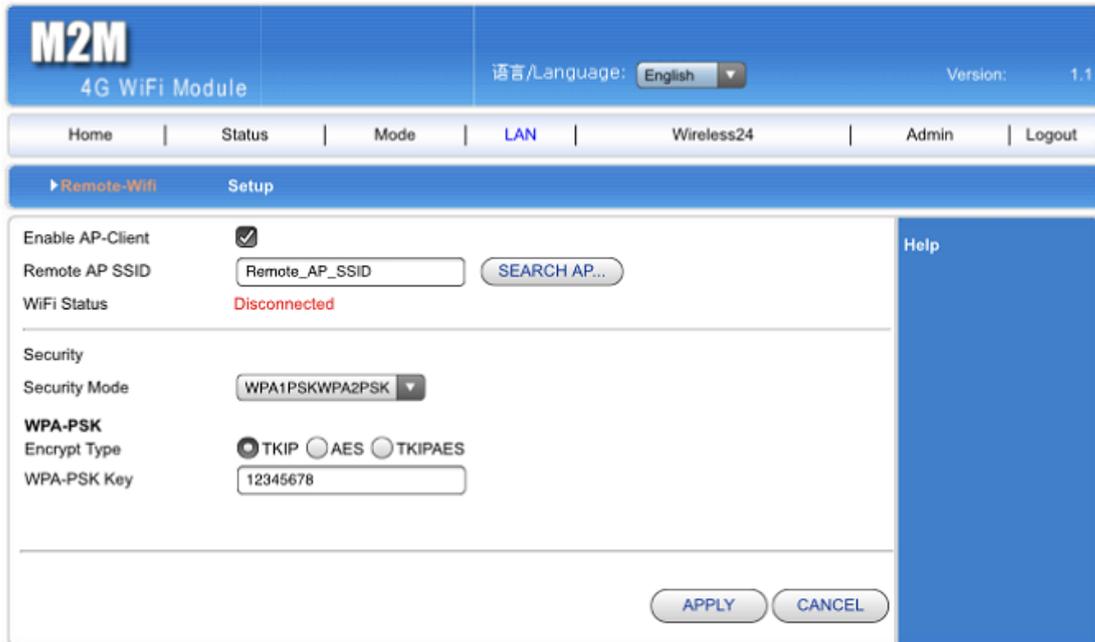
Standard Wireless AP and APClient Bridge Mode  
 Wireless work for access point, APClient connect remote AP, Ethernet connect to local network.

**Help**  
 WorkMode: Choice the device work mode. if choice 'Smart Mode', The device will detect wan mode automatically. The priority as: 3G/4G -> DHCP -> PPPoE -> AP-Client. Please input parameters in different mode at first.

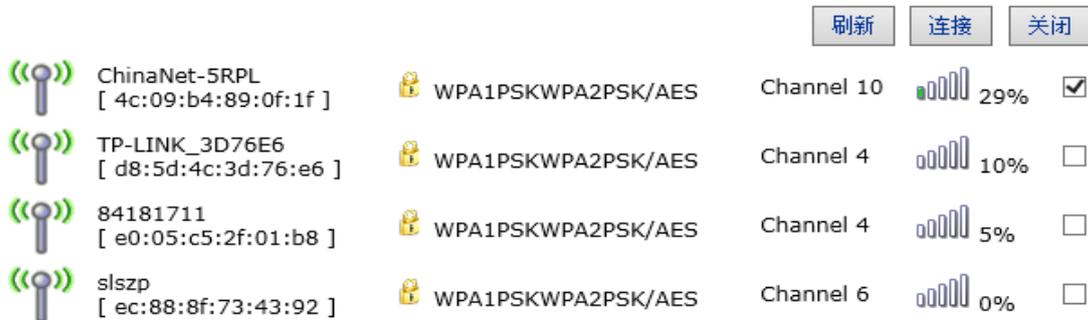


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### 3.3.1 Click LAN setting button, search for wireless network.



### 3.3.2 You can see the name of wireless AP within current coverage range, Choose wireless AP accordingly.



### 3.3.3 Fill wireless AP password chose, then you can bridge connection former Wireless AP.

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Status | Mode | LAN | Media | Wireless24 | Admin | Logout

Remote-Wifi Setup

Enable AP-Client

Remote AP SSID

WiFi Status **Disconnected**

Security

Security Mode

**WPA-PSK**

Encrypt Type  TKIP  AES  TKIPAES

WPA-PSK Key

Help

#### 4. Wireless AP+Customer End Mode

- Web- working mode – Wireless AP+ Customer end mode, click apply.
- Wireless connection –Use menu of Internet ways to choose AP client – Dynamic address (Get from DHCP server automatically, Click and search Wireless Internet, Then it will pop-up choice dialogue box that search for all wireless network. Choose WiFi network you want to connect. Pay attention to channel's IP you want to select net, click and connect. If the WiFi you chosen has password, Please fill in password accordingly under Wireless security. Pay attention that the password is character or hexadecimal. Then press apply button.

Home | Status | Mode | Wifi-WAN | LAN | Wireless24 | Security | Server | Routing | Admin | Logout

Setup Break-Detection MAC-Clone DDNS

**WAN Setup**

Connection Type

MTU  (576~1500)

Primary DNS Server  (Optional)

Secondary DNS Server  (Optional)

Hostname  (Optional)

Remote AP SSID

WiFi Status **Disconnected**

Security

Security Mode

**WPA-PSK**

Encrypt Type  TKIP  AES  TKIPAES

WPA-PSK Key

Help  
Setup wireless client interface obtain IP from another AP,Click 'Search AP' will show APs around the device.

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## 4. Wireless Safety Setting

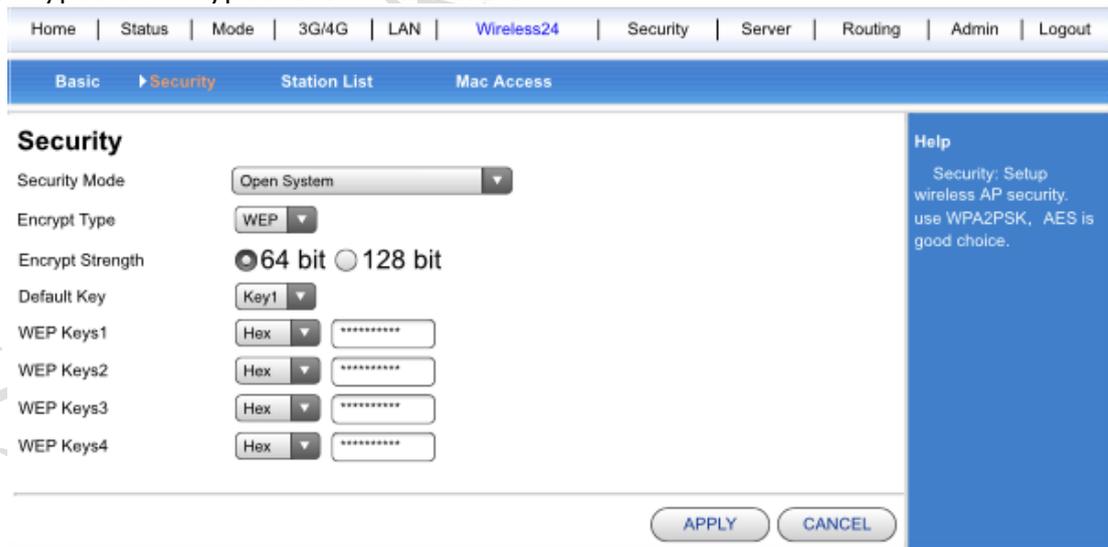
### 4.1 Wireless Safety

Wireless safety mode has several types, It can choose different safe mode as your requirement.

- Stop in use
- Open System
- WPA-PSK
- WPA2-PSK
- WPAPSKWPA2PSK (WPA-PSK and WPA2-PSK mixed mode )

### 4.2 Open System

There are two types of encryption: None and WEP.



Home | Status | Mode | 3G/4G | LAN | **Wireless24** | Security | Server | Routing | Admin | Logout

Basic | **Security** | Station List | Mac Access

### Security

Security Mode: Open System

Encrypt Type: WEP

Encrypt Strength:  64 bit  128 bit

Default Key: Key1

WEP Keys1: Hex [\*\*\*\*\*]

WEP Keys2: Hex [\*\*\*\*\*]

WEP Keys3: Hex [\*\*\*\*\*]

WEP Keys4: Hex [\*\*\*\*\*]

APPLY CANCEL

**Help**

Security: Setup wireless AP security. use WPA2PSK, AES is good choice.

Description listed as below:

Web item	Description
----------	-------------

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Encryption type	Only two encryption type to choose: None and WEP. Choose "None" means no encryption, choose "WEP" showed as above.
The length of WEP encryption	Only two length of WEP encryption types to choose: 64 bit and 128bit. Default length: 64bit.
Default key ID	You can set 4 WEP keys at same time, but only choose 1 key in use. Default value is Key 1.
WEP key	Choose key type and set WEP key number. There are two types of WEP key: sexadecimal type and character type. You can set different WEP key based on different encryption length and type.

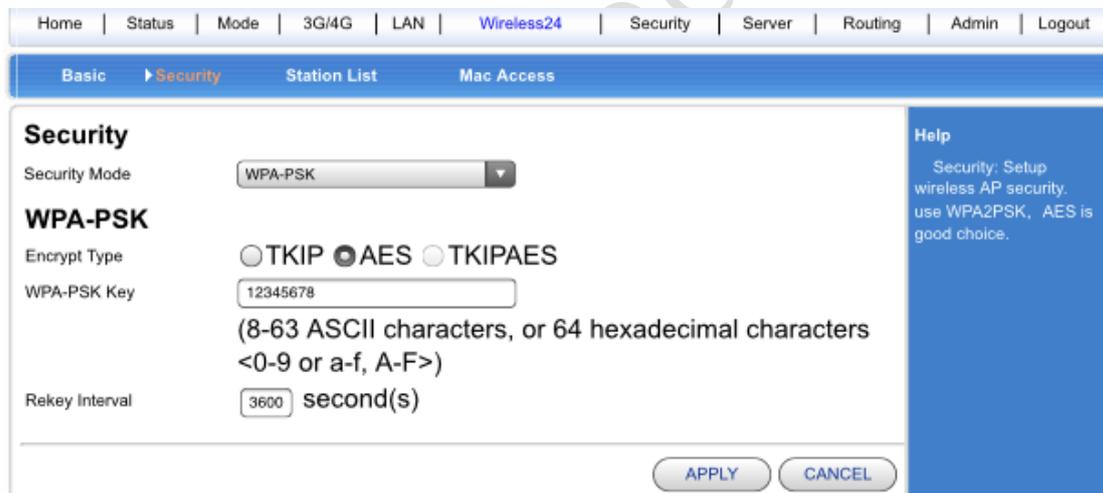
WEP key setting :

64bit encryption: 10 unit sexadecimal or 5 unit character type.

128bit encryption: 26 unit sexadecimal or 13 unit character type.

### 4.3 WPA-PSK

This mode is WPA-PSK encryption mode.

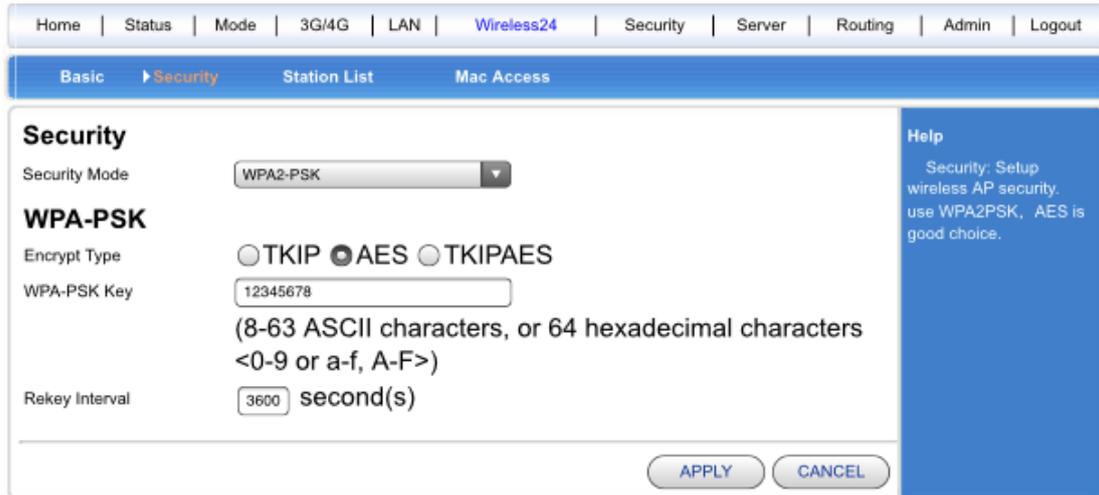


Description listed as below:

Web item	Description
Safe mode	Choose WPA-PSK.
WPA-PSK encryption	Only two choices: TKIP and AES.
WPA-PSK key	Set key, legal key length: 8-63 ASCII character 64 sexadecimal (0~9, a~f or A~F).
Key update interval	Set key interval updating time. the unit is as per second.

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## 4.4 WPA2-PSK

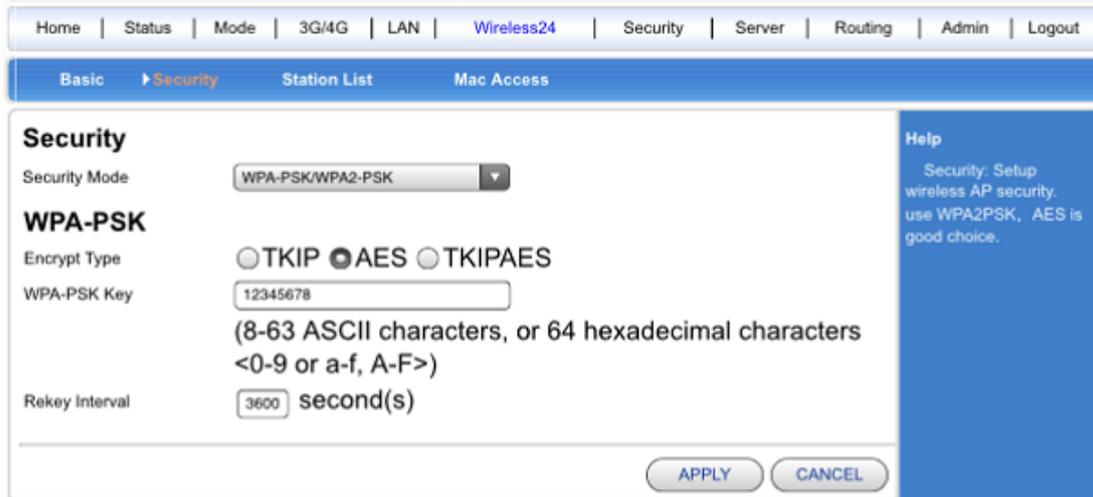


Description listed as below:

Web item	Description
Safe mode	Choose WPA2-PSK.
WPA-PSK encryption	Only three choices: TKIP, AES and TKIPAES.
WPA-PSK key	Set key, legal key length: 8-63 ASCII character 64 hexadecimal (0~9, a~f or A~F).
Key update interval	Set key interval updating time. the unit is as per second.

## 4.5 WPAPSKWPA2PSK

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Description listed as below:

Web item	Description
Safe mode	Choose WPA2-PSK.
WPA-PSK encryption	Only three choice: TKIP,AES and TKIPAES.
WPA-PSK key	Set key, legal key length: 8-63 pieces ASCII character or 64 sexadecimal (0~9、a~f or A~F).
Key update interval	Set key interval updating time. the unit is as per second.

## 5. System Service

V520 offer many items to choose, here we mainly describe Virtual server, serial service and SMS service.



### 5.1 Virtual Service

BC-628E can be use data Internet server, offer many service function, Only need to fill right IP address of external connector, internal connector and internal server. then it can be used as virtual service.

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### Virtual Server Settings

Preset Settings: WEB(http) (port: 80) ▼

service name: WEB

external Port: 80 -- 80

Internal Port: 80 -- 80

Protocol: TCP/UDP ▼

Internal Server IP: 192.168. .

ADD

---

0 项

DELETE DELETE-ALL

APPLY CANCEL

firewall. You can configure virtual server on the router to change it.

## 5.2 Serial Port

One main functions of VT520 is used as serial port server (customer end), Here, we can connect many serial ports.

Status | Mode | 3G/4G | VPN | LAN | Media | Wireless24 | Security | **Server** | Routing | Admin | Logout

Virtual-Server Application DMZ File Sharing **Com2Server** Sms WIFI DOG

### COM Server Setup

COM Server Setup  Enable

COM Server  AT Mode  Transparent

Host ID: Wifi-7628

Restart Time: 0 Mins restart.(0--Disabled)

HeartBeat: ###%device\_mac&%wan\_ipa Support % variable wildcard

Period: 0 Second (0--Disable)

---

Not receive TCP/UDP socket data: 0 seconds, restart service (0--Disabled)

Restart service: 0 times, then reboot route (0--Disabled)

---

**Client Mode** ON ▼

	Server Addr	Protocol	TCP port	UDP port
1.	192.168.10.254	TCP&UDP ▼	5000	5000
2.		TCP&UDP ▼	5001	5001
3.		TCP&UDP ▼	5002	5002
4.		TCP&UDP ▼	5003	5003
5.		TCP&UDP ▼	5004	5004

---

**Server Mode** OFF ▼

Help

Regarding to this content of this chapter, we will give brief description.

## 5.3 SMS Service

We can send SMS to V520 router and control the start, close and restart by setting telephone number if V520 have 3G/4G SIM card for sending and receiving messages. The details listed below:

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4G WiFi Module
语言/Language: English
Version: 1.1

[Home](#) | [Status](#) | [Mode](#) | [3G/4G](#) | [LAN](#) | [Wireless24](#) | [Security](#) | [Server](#) | [Routing](#) | [Admin](#) | [Logout](#)

[Virtual-Server](#) | [Application](#) | [DMZ](#) | [Sms](#)

Help

Sms Service

Sms center number  Optional

Access user phone 1

Access user phone 2

Access user phone 3

Access user phone 4

Access user phone 5

---

Inform  Enable

Connected Inform

Disconnect Inform

Access  Enable

Access Dial

Access Hangup

Access Reboot

---

Message

## 6. Admin

### 6.1 Equipment Function

Windows ME, 2000, XP use UPnP Protocols. These systems can find router automatically by this Protocols

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if we start this function.

UPnP (Universal Plug and Play, namely is use immediately when you plug ) is mainly used for realizing intelligent connection and communication for equipment, There is no need tat tending and using main server for users to find automatically and control from different types web equipment of different suppliers.

Use UPnP function, Router can realize NAT order came cross: when the computer in the LAN came through.

Wireless Router can add, delete NAT mapped table automatically based on requirement when Wireless router communicate with Internet .And the nit can solve some traditional businesses (such as MSN voice, video ) can't come cross NAT problems.



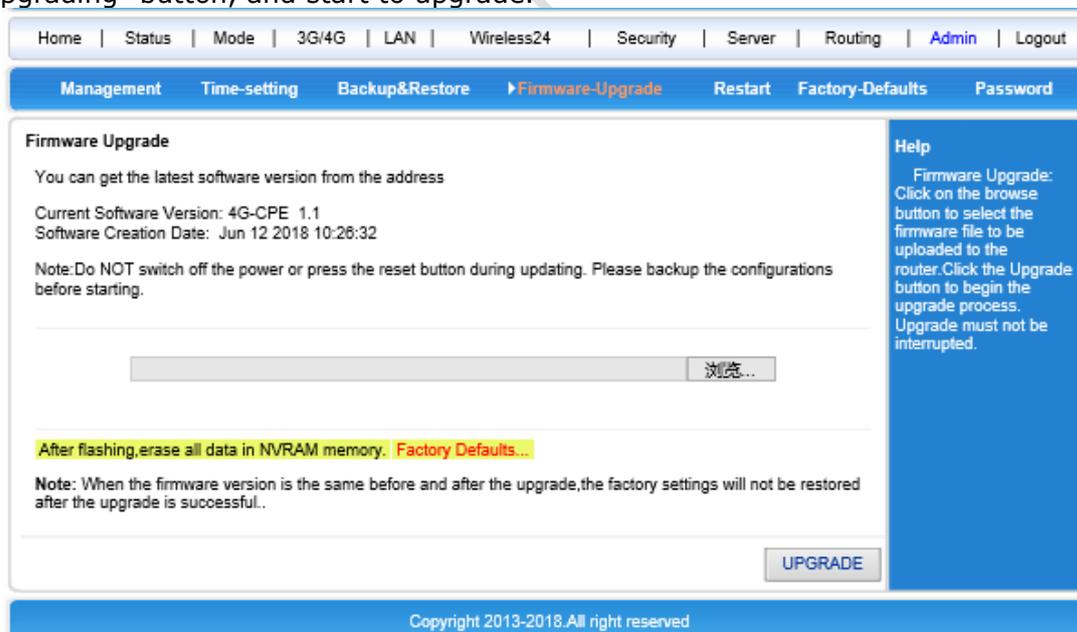
Tick radio box, press "apply" button, and completed setting.

## 6.2 Software Updating

You can download the newest software router to get more and more functions and stable parameters by updating software.

The procedure for updating software listed as below:

- (1): Store the updating files to your computer.
- (2): Click "scan" button to choose the software your need to upgrade.
- (3): Click "upgrading" button, and start to upgrade.



## 6.3 Default to Factory Value



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---

The Wireless router will restart automatically when is in the process of recovery setting.

Default to factory value setting will clear all wireless Router setting information, and back to the first use status. This function is widely used for transforming equipment from on internet environment to the other internet environment. Set the equipment default to factory value. Then it can reset setting. It will be suitable for current internet.

Click<default to factory value>button, Confirm it and then Default to factory setting.

## 6.4 Password Management

Blank wireless router user name/password is admin, User name can't be revised, Password can be revised. In order to be more safe, advise revise password and keep password information.

The process listed as below :

- (1) fill the original password in the< original password>radio box;Fill the new password in the<new password>text box, Refill the new password in the<confirm password>and confirm edit .
- (2) Click<confirm>button, completed the password revision.

**Please e-mail us at [info@istartek.com](mailto:info@istartek.com) if any question or feedback.**

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