MODEL: ATC-3000

TCP/IP TO RS232/422/485 CONVERTER

(Serial Device Server)

User Manual

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Important Announcement

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1 Introduction

The Embedded Serial Server ATC-3000 is a gateway between Ethernet (TCP/IP) and serial signal communications. It can be built into any facilities or equipments, and converts any serial port to Ethernet network.

By encapsulating serial data and transporting it over Ethernet, ATC-3000 allows bi-directional data transmission to be transparent between serial port and Ethernet.

By using this unit, limited distance, point-to-point, direct serial connections can now be extended to the facility or equipment.

In the industrial and manufacturing automation, ATC- 3000 can be embedded into most field devices, including PLCs, HMIs, Barcode Scanners, Data Terminals, Electronic Kanbans, UPS, Electronic Meters and Controller Automation Devices. These devices will soon be linked to the network.

Existing Windows-based applications can access Serial-Ethernet devices by using Virtual COM software which creates virtual serial ports on the host computer mapping to the remote Serial Server over Ethernet.

Flexible configuration options allow the unit to be setup remotely over Ethernet by Telnet, web browser, or other windows utilities. It is not only a transparent, cost-effective, network-enabled serial device, but also it is easy to install..

1.1 Packaging

Please check one package contains the following items:

- ATC-3000 Module x 1
- Power Adapter 9 VDC x 1
- Product CD contains configuration utility x1
- Quick Start Guide x 1

1.2 Main features

- 3-in-1 RS-232/422/485 interface Max.115.2Kbps.
- Serial interface and 10/100 Mbps Ethernet.
- Supports 4- and 2-wire RS485 with AUTO-SEND and built-in terminator.
- Terminal block accessories for easy RS-422/485 serial wiring.
- Support TCP/UDP Client/Server, Virtual COM mode.
- Monitor, manage and control industrial field devices remotely.
- Configuration: Web Server page, Device Manager, Telnet Console.
- Monitor IP configuration utility for Windows.
- Supports industrial 24 VDC power input and optional Power over Serial.
- PWR / ACT / SPEED / LINK indication Leds.

1.3 Specification

Serial Interface	
Data Rates	300 bps to 230,400 bps
Characters	5, 6, 7 or 8 data bits
Parity	Odd, Even, None, Space, Mark
Stop Bits	1 or 2
Flow Control	None, Software: Xon/Xoff, Hardware: RTS/CTS
Connector	DB9-DTE (Male), Removable 6 bit Terminal Block
Network Interface	
Interface	Ethernet 10Base-T or 100Base-TX (Auto-Sensing)
Connector	RJ45
Protocol	ARP, UDP/IP, TCP/IP, PING/ICMP, DHCP, BOOTP, Auto IP, TFTP, SNTP, TELNET, HTTP, DNS, SMTP, PPP, LCP, PAP, CHAP, IPCP, PPPoE, HTTPS.
Software	

Configuration	Web Page,Telnet
Virtual Com	Windows port redirection software
OS support	Windows XP, Seven, Server 2003, Server 2008
System	
CPU	Embedded high-performance 32-bit network processor, 32-bit RISC (NP7/9 series)
Memory	32MB RAM, 16MB/32MB Code + 32KB Boot.
Watchdog	ASIC Hardware built-in.
Power	
Input Voltage	9-24 VDC@500mA
Power consumption	100mA max
Physical Specifications	
Dimensions	95 x 66 x 26 mm
Weight	0.4 kg
Installation	Panel/Wall, DIN-Rail mounting
Operating temperature	-40° to 70° C

1.4 Application example

Serial Turnneling (Peer connection)

Using a method called serial tunneling, the ATC-3000 encapsulates serial data into packets and transports them over Ethernet. Using two ATC-3000 units, connected by a network, virtual serial connections can extend across a facility or around the world.

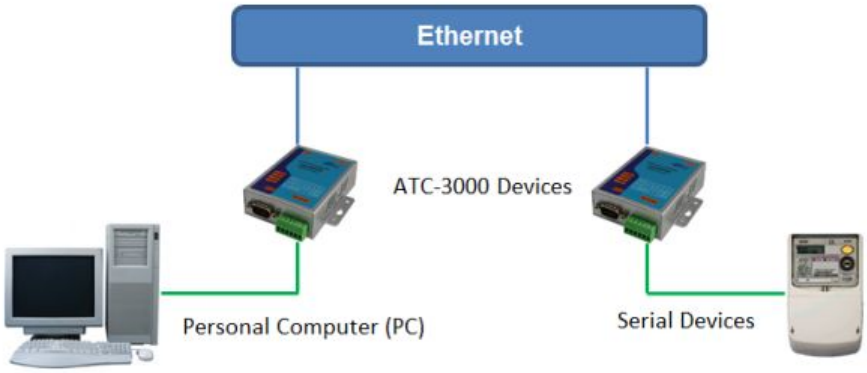

Figure 1 - Serial Turnneling (Peer connection) application

Direct UDP-TCP/IP or Redirector Configuration

The Virtual COM Port software (VCOM) can be found in the CD in the package or download at www.szatc.com simplifies the integration process by extending the functionality of COM-port-based Windows applications. Virtual COM ports, mapped to remote device servers on the network, can replace direct serial connections.

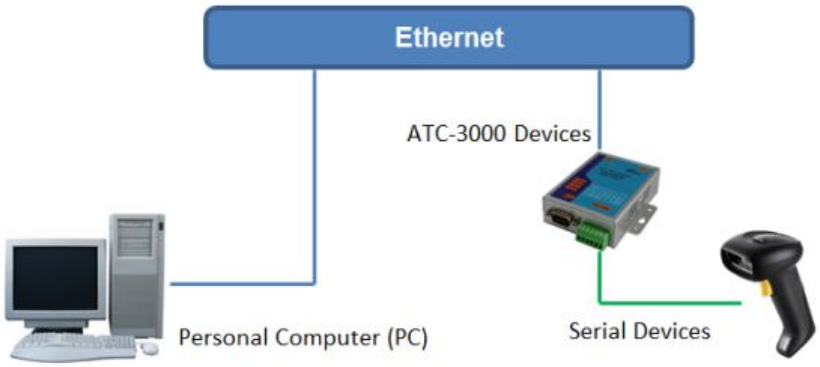

Figure 2 - Direct UDP-TCP/IP or Redirector Configuration application

1.5 Hardware view

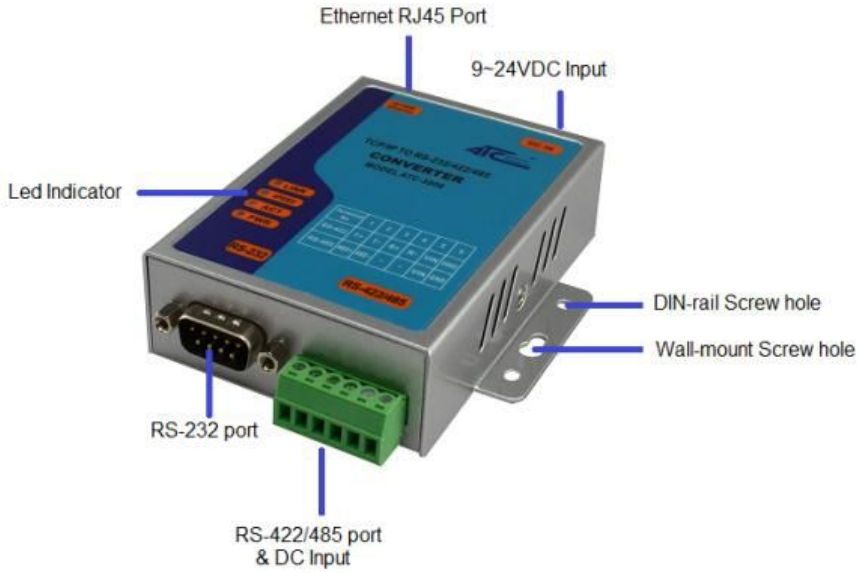

Figure 3 – Hardware view.

1.6 Serial Connector Pinout

1.6.1 RS-232 Pinout

RS-232 connector is DB9 DTE Male

PIN	SIGNAL	SIGNAL NAME	I/O
1	No connect	---	---
2	RXD	Receive Data	In
3	TXD	Transmit Data	Out
4	No connect	---	---
5	GND	Ground	---
6	No connect	---	---
7	RTS	Request To Send	Out
8	CTS	Clear To Send	In

9	No connect	---	---

1.6.2 RS-422/485 Pinout

RS-422/485 Connector is removable 6-bit terminal block. From left of The terminal. RS-422/485 is described as following:

Terminal No.	1	2	3	4	5	6
RS-422	T+	T-	R+	R-	Vin	GND
RS-485	485+	485-	---	---	Vin	GND

1.7 LED Indicator

- **LINK LED**: OFF – Ethernet disconnected.
  ON – Ethernet connected.
- **SPEED LED**: OFF – Ethernet working in 10Mbps.
  ON – Ethernet working in 100Mbps.
- **ACT LED**: Flashes immediately when data is transmitting between Ethernet and Serial port.
- **PWR LED**: ON – Power on.
  OFF – Power off.

1.8 Hardware Installation

There are four basic steps to install one ATC-3000

1. Connect ATC-3000's serial port to a serial device.
2. Connect ATC-3000 to Ethernet network. Use a standard straight-through Ethernet cable when one connect it to a Hub/Switch, one also can connect it to ones PC's Ethernet port via a cross-over Ethernet cable for easy set up. However, in this case one need to make sure one PC is in the same network Sub-net as ATC-3000.
3. Connect ATC-3000 to power source using 9~24V DC Jack.
4. Supply the power.

Placement options. One can mount ATC-3000 to a Wall/Panel or Din-Rail mounting.

1.9 Factory default settings

ATC-3000 is shipped with main default settings shown in the following:

IP address:	192.168.0.250
Subnet:	255.255.255.0
Gateway:	192.168.0.1
Preferred DNS Server:	192.168.0.1
Alternate DNS Server:	192.168.0.1
Username:	admin
Password:	admin
Serial port:	9600 bps, None, 8, 1; None Flow control; Pack Control disabled; All of Buffer disabled.
Link:	Type: TCP Server ; Local port : 27010 ; Remote Host : 0.0.0.0 ; Remote Port: 0.

1.10 Configuration Methods

After installation, the ATC-3000 requires configuration. For the unit to operate correctly on a network, it must have a unique IP address on the network. There are three basic methods for logging into the ATC-3000 and assigning IP addresses and other configurable settings:

By Device Web Console: Through a web browser (**Google Chrome recommended**), configure the ATC-3000 settings by enter the IP address of ATC-3000 in the URL.

(Refer to ***2. Configuration using Device Web Console***)

By Device Manager: Search IP, Configure the IP address and other network settings on the ATC-3000 using a Graphical User Interface (GUI) on a PC attached to a network.

(Refer to **3. Configuration using Device Manager**)

By Telnet: Using Telnet utility from Ms-DOS command prompt window to change configuration settings of ATC-3000

(Refer to **4. Configuration using Telnet**)

2 Configuration using Device Web Console

To access to the ATC-3000 unit's web page, you have to know its IP address.

- If the unit is in factory default setting, the IP address will be 192.168.0.250. You need set up your computer to assign it a static IP address of the 192.168.0.X (X must be different 250) with a subnet mask of 255.255.255.0. This is necessary to ensure that your computer can communicate with your ATC-3000.
- If you forgot IP address of ATC-3000, please run **Device Manager** software in the CD then click **Search** button. **Device Manager** will show all ATC-3000 unit with IP address.

From Web browser, enter IP address of the ATC-3000 in URL. A dialog box appears to prompt for a **User Name** and **Password.**

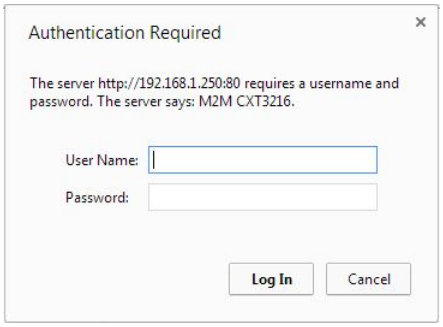

Figure 4. Web Console login window

Type in correct **User name** and **Password** then click Log In. **Username**: admin (default) / **Password**: admin (default). The Device Web Console displays.

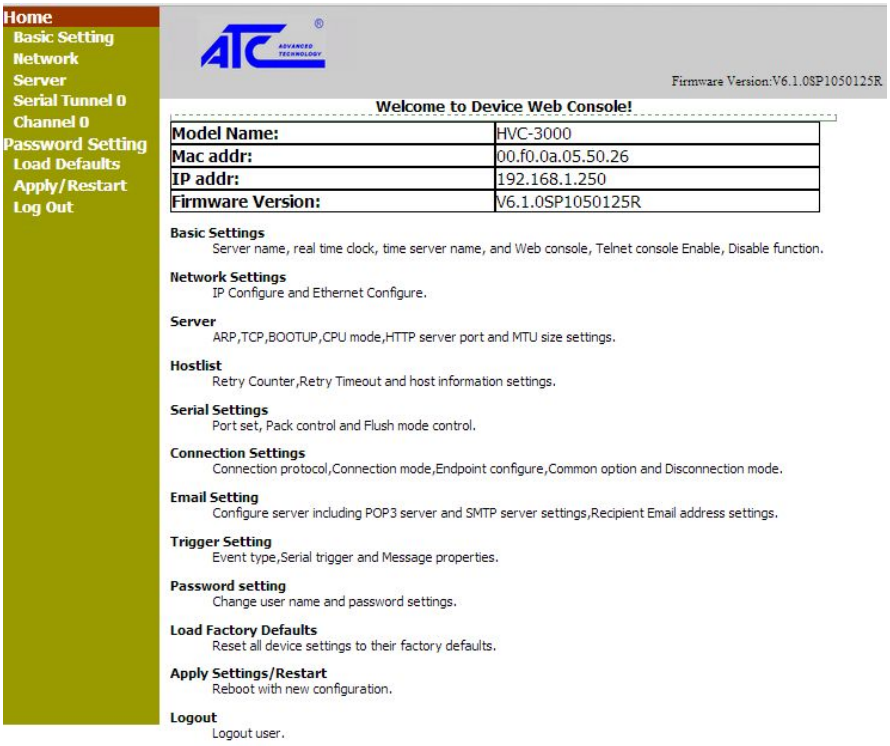

Figure 5 - Home Web page

The main menu is in the left pane of the Web page window

2.1 Basic Setting

The unit's network values display when you select **Basic Setting** from the main menu. The following sections describe the configurable parameters on the Basic Setting page.

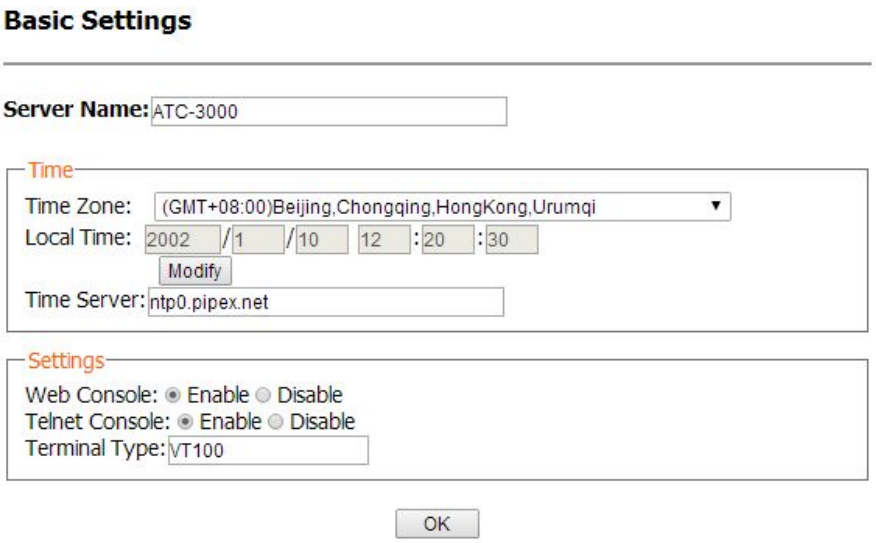

Figure 6 – Basic settings

From this page, you can set following parameters:

Server name	Name of ATC-3000 unit. It can be renamed by user with maximum length of 13 characters
Time	Include setting for Time Zone, Local Time and Time Sever.
Web Console	Select **Enable** to permit configuration the ATC-3000 by Web browser.

	Enable is the default.
Telnet Console	Select **Enable** to permit configuration the ATC-3000 by Telnet. **Enable** is the default.
Terminal Type	Do not change If you are not necessary. **VT100** is the default.

2.2 Network Setting

The unit's network values display when you select **Network** from the Main menu. The following sections describe the configurable parameters on the Network Settings page.

IP configuration

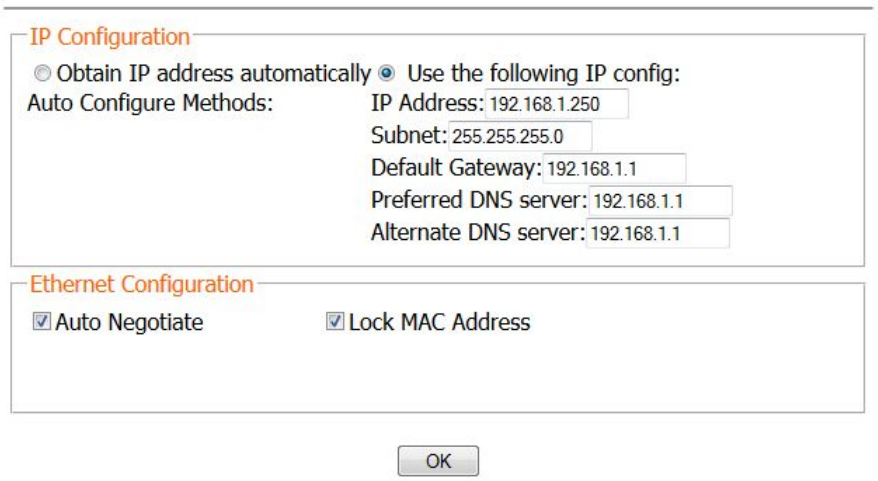

Figure 7 – IP configuration, Use the following IP config

The **IP configuration** default setting is **Use the following IP config**

Use the following IP config (Static IP address)

You can manually assign an IP address to the unit and enter related network settings.

To assign an IP address manually:

1. On the main menu click **Network**.
2. Select **Use the following IP config**.
3. Enter the following (as necessary):

IP Address	If DHCP is not used to assign IP addresses, enter it manually in decimal-dot notation. The IP address must be set to a unique value in the network.
Subnet Mask	A subnet mask defines the number of bits taken from the IP address that are assigned for the host part.
Default Gateway	The gateway address, or router, allows communication to other LAN segments. The gateway address should be the IP address of the router connected to the same LAN segment as the unit. The gateway address must be within the local network.
Preferred DNS Server	The DNS server allows the name of a remote machine to be resolved automatically. Enter the IP address of the DNS server. If the device is DHCP enabled, the DHCP server provides the DNS server IP address, which will override this configured value.
Alternate DNS Server	As a backup of Preferred DNS Server

4. When you are finished, click the **OK** button.
5. On the main menu, click **Apply Settings.**

Obtain IP address automatically (Automatic IP address Configuration)

An IP address can be assigned automatically. You then enter related network settings.

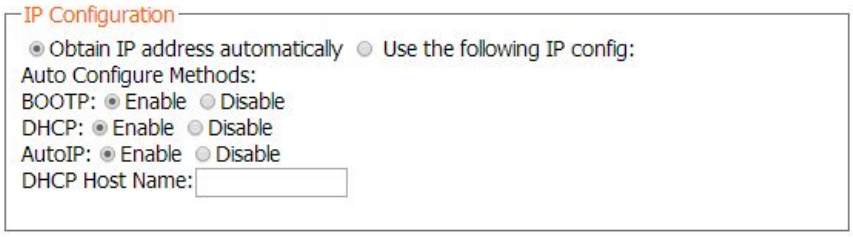

Figure 8 – IP Configuration, Obtain IP address automatically

To assign an IP address automatically:

1. On the main menu, click **Network.**
2. Select **Obtain IP address automatically.**
3. Enter the following (as necessary):

BOOTP	Select **Enable** to permit the Bootstrap Protocol (BOOTP) server to assign the IP address from a pool of addresses automatically. **Enable** is the default.
DHCP	Select **Enable** to permit the Dynamic Host Configuration Protocol (DHCP) to assign a leased IP address to the ATC-3000 unit automatically. **Enable** is the default.
AutoIP	Select **Enable** to permit the ATC-3000 to generate an IP in the 169.254.x.x address range with a Class B subnet. **Enable** is the default.
DHCP Host Name	Enter the name of the host on the network providing the IP address.

4. When you are finished, click the **OK** button.
5. On the main menu, click **Apply Settings.**

Ethernet Configuration

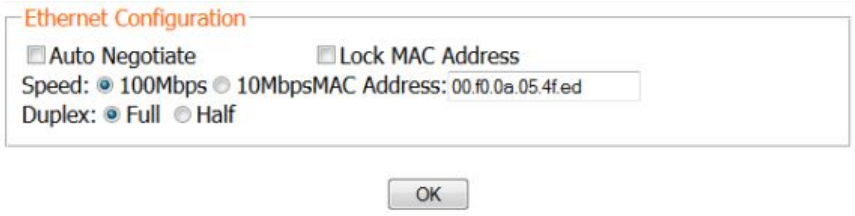

Figure 9 – Ethernet Configuration

To specify how data will be transmitted:

1. On the main menu, click **Network**.
2. Enter the following (as necessary):

Auto Negotiate	With this option, the Ethernet port auto-negotiates the speed and duplex with the hardware endpoint to which it is connected. **Select** is the default.

	If this option is not selected, complete the fields that become available: • **Speed:** The speed of data transmission 10Mbps or 100Mbps. The default setting is **100Mbps**. • **Duplex:** The direction of data transmission. The default setting is **Full.**
Lock MAC Address	You can select to lock MAC address or unselect to modify it. **Select** is the default.

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings.**

2.3 Server Setting

The unit's server values display when you select **Server** from the main menu. The following sections describe the configurable parameters on the Server Settings page.

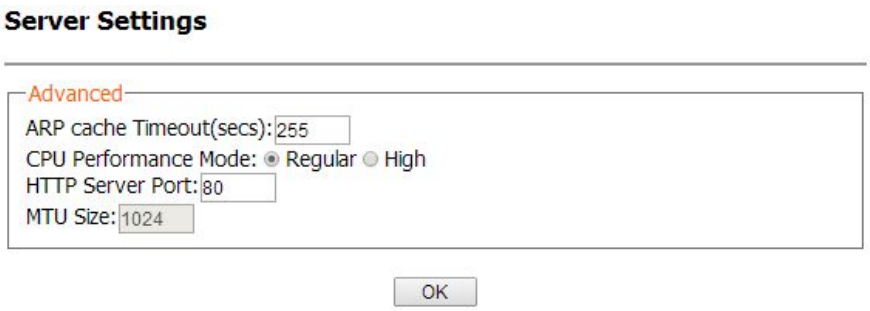

Figure 10 – Server Settings

To configure the ATC-3000 device server settings:

1. On the main menu, click **Server.**
2. Configure or modify the following fields:

ARP Cache Timeout (secs)	When the unit communicates with another device on the network, it adds an entry into its ARP table. ARP Cache timeout defines the number of seconds (60-255s) before it refreshes this table. The default setting is **255**.
CPU Performance Mode	You can select **Regular** mode or **High** mode. The fault setting is **Regular**.
HTTP Server Port	This option allows the configuration of the web server port number. The valid range is **1-65535.** The default setting is **80.**
MTU Size	The Maximum Transmission Unit (MTU) is the largest physical packet size a network can transmit for TCP and UDP. The default setting is **1024** bytes and you can not change.

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings.**

2.4 HostList Setting

The Hostlist only be used when ATC-3000 operate as a TCP Client. That means **Acception InComing** have to set to **NO**. Please refer to **2.6 Connection Setting – TCP** for **Acception InComing** function.

The ATC-3000 support up to three connections in the hostlist. The unit scrolls through the Hostlist until it connects to a device listed in the host list table and get three connections. After three connections established, the unit

stops trying to connect to any others. If this connection fails, the unit continues to scroll through the table until the next successful connection.

The host list supports a minimum of 1 and a maximum of 12 entries. Each entry contains an IP address and a port number.

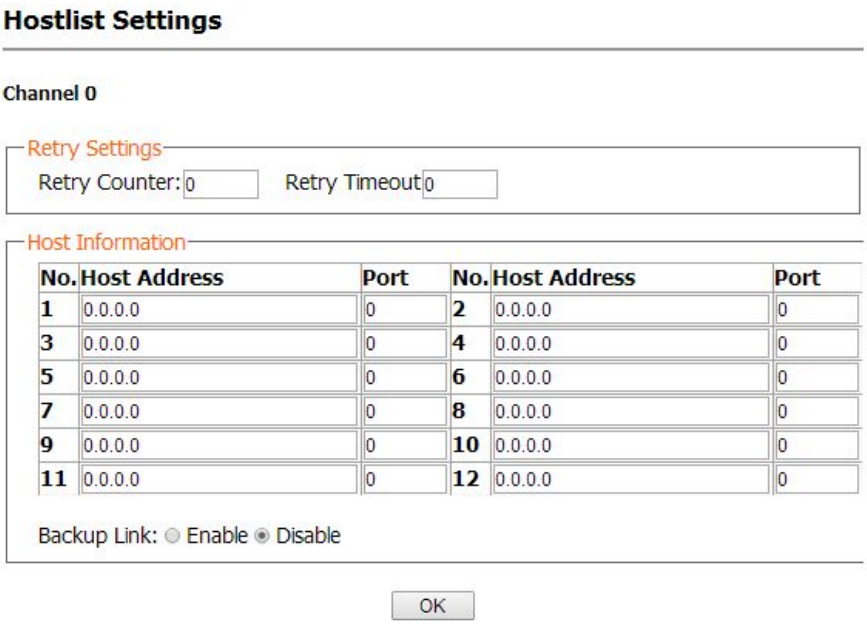

Figure 11 – Hostlist Settings

To Setting the Hostlist:

1. On the main menu, click **Hostlist.**
2. Enter or modify the following fields:

Retry Setting

Retry Counter	Enter the value for the number of times the ATC-3000 should attempt to retry connecting to the host list. Valid values are from 0 to 999. The default setting is **0.**
Retry Timeout	Enter the duration (in milliseconds) the ATC-3000 should abandon attempting a connection to the host list. Valid values are from 0 to 999.The default setting is **0.**

Host Information

Host Address	Enter or modify the host's IP address.
Port	Enter the target port number.
Backup Link	Select **Enable** to enable multi-connection (Maximum is 3). Select **Disable** to enable single connection only. The default setting is **Disable**.

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings.**

2.5 Serial Turnnel 0 Setting

The Channel 0 configuration defines how the serial port responds to network and serial communication.

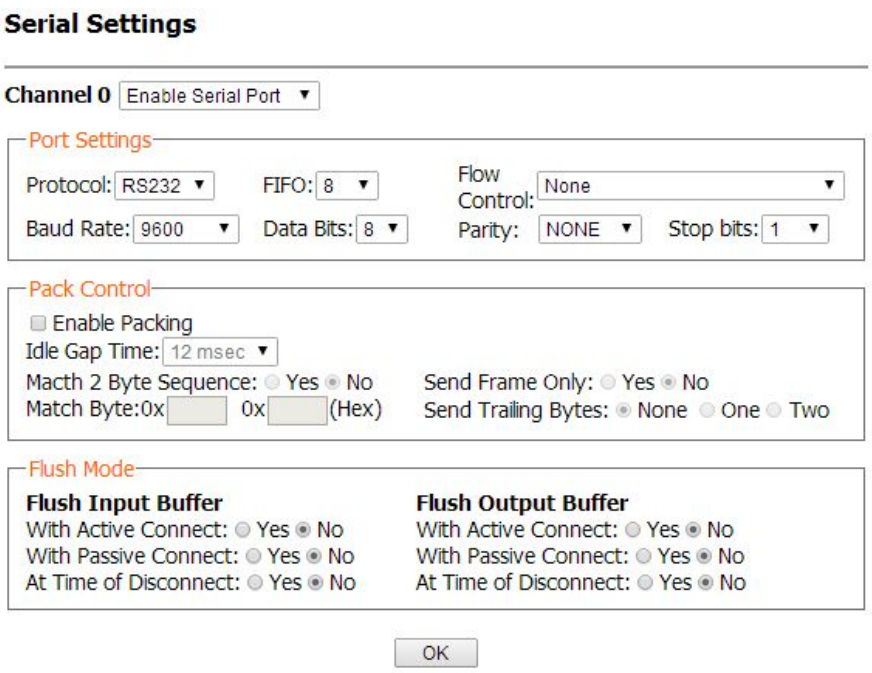

Figure 12 – Serial Settings

Serial Setting

To configure the channel's serial settings:

1. On the main menu, click **Serial Settings** (under **Channel 0)** to display the Serial Settings window.
2. In the available fields, enter the following information:

Channel 0

Enable / Disable Serial Port	When selected, enables / disables communication through the serial port. The default is **Enabled**.

Port Setting

Protocol	From the drop-down menu, select the protocol type for the selected channel such as RS232, RS422, RS485. The default setting is **RS232.**
FIFO	A FIFO (**First In First Out**) is a type of buffer, where the first byte to arrive is the first to leave. This drop-down menu can select 14, 8 or 4. The default setting is **8 bytes**
Flow Control	Flow control manages data flow between devices in a network to ensure it is processed efficiently. Too much data arriving before a device is prepared to manage it causes lost or retransmitted data. This drop-down menu can select None, Software, Hardware. The default setting is **None**.
Baud Rate	The unit and attached serial device, such as a modem, must agree on a speed or baud rate to use for the serial connection. This drop-down menu can select valid baud rate from 300 to 230,400 bps. The default setting is **9600.**
Data Bits	Indicates the number of bits in a transmitted data package. This drop-down menu can select valid values 5, 6, 7, 8 bits. The default setting is **8.**
Parity	Checks for the parity bit. This drop-down menu can select

	NONE, ODD, EVEN, MARK, SPACE. The default setting is **None.**
Stop Bits	The stop bit follows the data and parity bits in serial communication. It indicates the end of transmission. This drop-down menu can select 1, 1.5, 2. The default setting is **1.**

Package Control

Enable Packing	Select to enable packing on the ATC-3000. Two firmware-selectable packing algorithms define how and when packets are sent to the network. The standard algorithm is optimized for applications in which the unit is used in a local environment, allowing for very small delays for single characters, while keeping the packet count low. The alternate packing algorithm minimizes the packet count on the network and is especially useful in applications in a routed Wide Area Network (WAN). Adjusting parameters in this mode can economize the network data stream. The default setting is **Disabled**.
Idle Gap Time	It is gap time between the bytes of a message. Select the maximum time for inactivity. This drop-down menu can select 10, 11, 12ms. The default setting is **12** milliseconds.
Match 2 Byte Sequence	Use to indicate the end of a series of data to be sent as one group. The sequence must occur sequentially to indicate end of the data collection to the ATC-3000. The default setting is **No.**
Match Byte	Use to indicate the end of a series of data to be sent as one group. Set this value to **00** if specific functions are not needed or leave **blank**.
Send Frame Only	After the detection of the byte sequence, indicates whether to send the data frame or the entire buffer. Select **Yes** to send only the data frame. The default setting is **No.**
Send Trailing Bytes	Select the number of bytes to send after the end-of-sequence characters. The default setting is **None.**

Flush Input Buffer (Serial to Network)

With Active Connect	Select Yes to clear the input buffer with a connection that is initiated from the device to the network. The default setting is **No**.
With Passive Connect	Select Yes to clear the input buffer with a connection initiated from the network to the device. The default setting is **No**.
At Time of Disconnect	Select Yes to clear the input buffer when the network connection to or from the device is disconnected. The default setting is **No**.

Flush Output Buffer (Network to Serial)

With Active Connect	Select Yes to clear the output buffer with a connection that is initiated from the device to the network.

	The default setting is **No**.
With Passive Connect	Select Yes to clear the output buffer with a connection initiated from the network to the device. The default setting is **No**.
At Time of Disconnect	Select Yes to clear the output buffer when the network connection to or from the device is disconnected. The default setting is **No**.

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings**.

2.6 Connection Setting - TCP

To configure a channel's TCP settings:

1. On the main menu, click **Channel 0 / Connection.** The Connection Settings window for the channel displays.

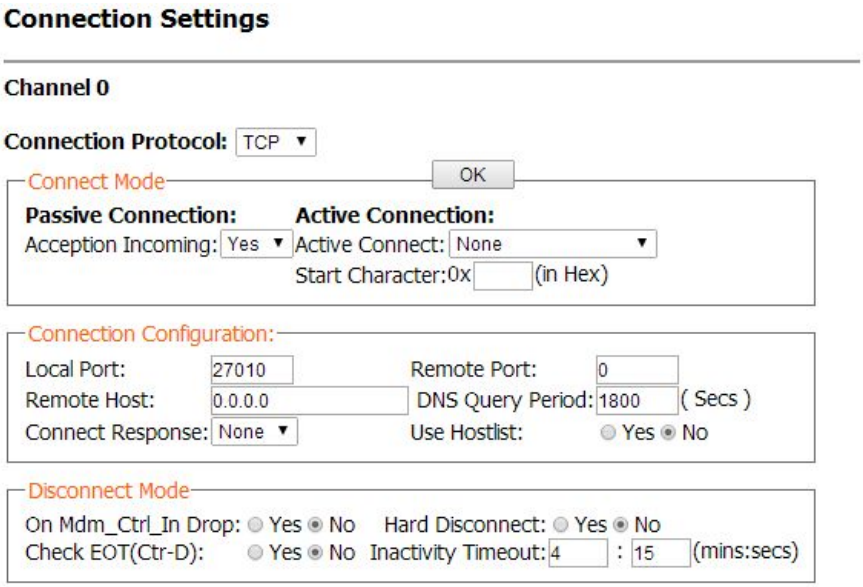

Figure 13 – Connection Setting - TCP

2. In the available fields, enter or modify the following information:

Connection protocol	From the drop-down menu, select TCP

Connection mode

Passive Connection: **Acception Incoming**	Select **Yes** to accept incoming connections. ATC-3000 work as a TCP/Server. Select **No** to don't accept incoming connection. ATC-3000 work as a TCP/Client. The default setting is **Yes.**
Active Connection: **Active Connect**	Select **None** (default) to disable **Active Connect.** Otherwise, indicate the connection type from the drop-down list: • **With Any Character:** Attempts to connect when any character is received from the serial port.

	• **With Start Character:** Attempts to connect when it receives a specific start character from the serial port. The default start character is carriage return (CR in character or 0x0D in Hex). • **Auto Start:** Automatically connects to the remote IP address and port after booting up. • **CTS Trigger:** Attempts to connect when CTS pin is triggered from serial port. The default setting is **NONE**
Start Character	If Active Connect is set to **With Start Character,** enter the start character in this field (from 00 to FF). The default setting is **Blank.**

Connection Configuration

Local Port	Enter the local port number, from 1-65535. The fault setting is **27010**
Remote Port	Enter the remote port number, from 1-65535. The fault setting is **0**
Remote Host	Enter the IP address of the remote device.
DNS Query Period	Limit time to queries DNS servers to lookup the name. The default setting is 1800 seconds.
Connect Respond	A single 'C' character is transmitted to the serial port when there is a change in connection state (TCP connection established). The default setting is **None.**
Use Hostlist	When **Use Hostlist** is set to YES, it only works if **Acception Incoming** is set to YES Please refer to **2.4 Hostlist Setting** Select Yes to use Hostlist, select No to not use Hostlist. The default setting is **No**.

Disconnect mode

On Mdm_Ctrl_In Drop	Set to **Yes** for the network connection to or from the serial port to disconnect (drop) when **Modem Control In** transitions from an asserted state to not asserted state. A single 'D' character is transmitted to the serial port when there is a change in disconnect state. The default setting is **No.**
Hard Disconnect	When set to **Yes,** the TCP connection closes even if the remote site does not acknowledge the disconnect request.
Check EOT (Ctrl-D)	Select **Yes** to drop the connection when **Ctrl-D** or **Hex 04** is only detected going from the serial port to the network.**Ctrl-D** can be sent by Hyper Terminal The default setting is **No.**
Inactivity Timeout	Use this parameter to set an inactivity timeout. The unit drops the connection if there is no activity on the serial line before the set time expires. Enter time in the format mm:ss, where 'm' is the number of minutes and 's' is the number of seconds. To disable the inactivity timeout, enter **00:00.** The default setting is **4 minutes and 15 seconds**

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings.**

2.7 Connection Setting - UDP

To configure a channel's UDP settings:

1. On the main menu, click **Channel 0 / Connection.** The Connection Settings window for the channel displays.
2. In the available fields, enter or modify the following information:

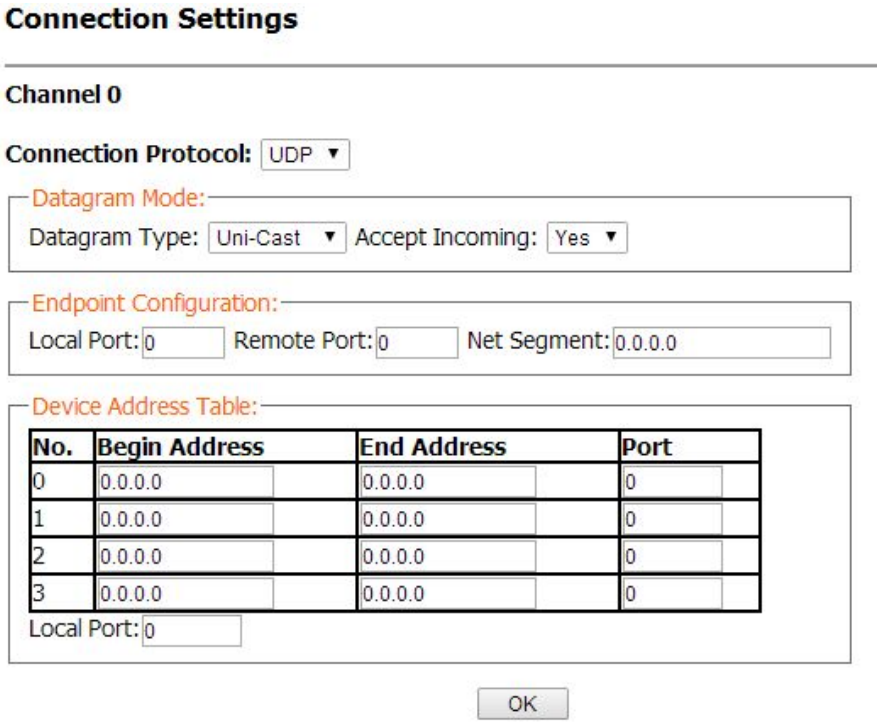

Figure 14 – Connection Setting - UDP

Connection protocol	From the drop-down menu, select UDP

Datagram mode

Datagram type	Select **Uni-Cast** to communicate directly from one point to another point. When selected Uni-Cast, you have to enter or modify parameters in **Device Adress Table**. Select **Multi-Cast** to communicate from one or more points to a set of other points as Broadcast UDP. When selected Multi-Cast, you have to enter or modify parameters in **Endpoint Configuration**. The default setting is **Uni-Cast**.
Accept Incoming	Select **Yes** to accept incoming connections. ATC-3000 work as a UDP/Server. Select No to don't accept incoming connection. ATC-3000 work as a UDP/Client. The default setting is **Yes.**

Endpoint Configuration

These parameters use for Multi-Cast type only.

Local Port	Enter the local port number, from 1-65535. The fault setting is **0**
Remote Port	Enter the port number of the remote device, from 1-65535.

	The fault setting is **0**
Net Segment	Enter the IP address of Net segment. The fault setting is **0.0.0.0**

Device Address Table

These parameters use for Uni-Cast type only. This table uses similar to Use Hostlist.

No	ATC-3000 support four ranges of IP address of device servers on the network
Begin Address	Begin IP address of a range of device servers
End Address	End IP address of a range of device servers
Port	Enter the port for each range
Local port	It is UDP Uni-Cast local port.

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings.**

2.8 Password Setting

To set the password for ATC-3000 when access by Telnet or Web Console:

1. On the main menu, click **Password Setting**.

Figure 15 – Password Settings

2. If you want to change **User name**, please type in new User name. The default is **admin**.
3. If you want to change **Password**, please type in correct Old Password then type in New Password anf Retype Password.
4. When you are finished, click the **OK** button.
5. On the main menu, click **Apply Settings.**

2.9 Load Default Setting

To Load Factory Default setting for ATC-3000:

1. On the main menu, click **Load Defaults**.

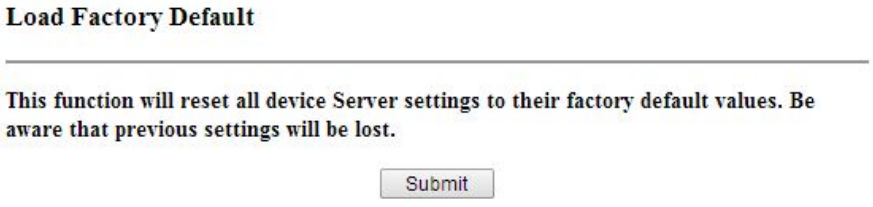

Figure 16 – Load Factory default.

2. Click submit. Note: this function will rest all ATC-3000 settings to the factory default values. Be aware that previous setting will be lost.
3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings.**

2.10 Apply Setting

To save and apply the configuration changes to the ATC-3000, from main menu, click the **Apply Settings** button then click **Submit**.

Note: Clicking **OK** on each page does not change the configuration on the device. Clicking the **OK** button tells the ATC-3000 what changes to use; the **Apply Settings** button makes the changes permanent and reboots the ATC-3000.

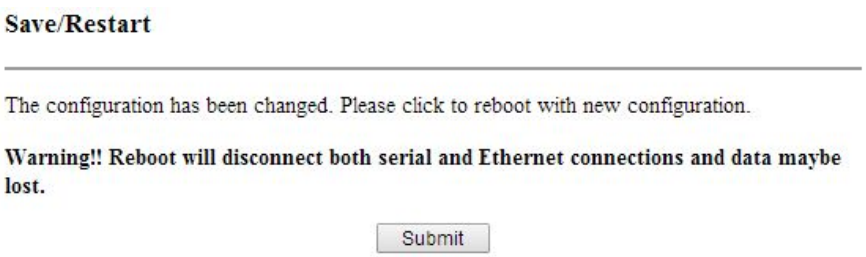

Figure 17 – Apply Setting

2.11 Log Out

From main menu, click **Log Out** to log out user

3 Configuration using Device Manager

Device manager is an utility to search IP address of ATC-3000 modules in the network. Open **Device manager** in the CD then click Search button  , it will show all ATC-3000 modules in network with IP Address and physical Address.

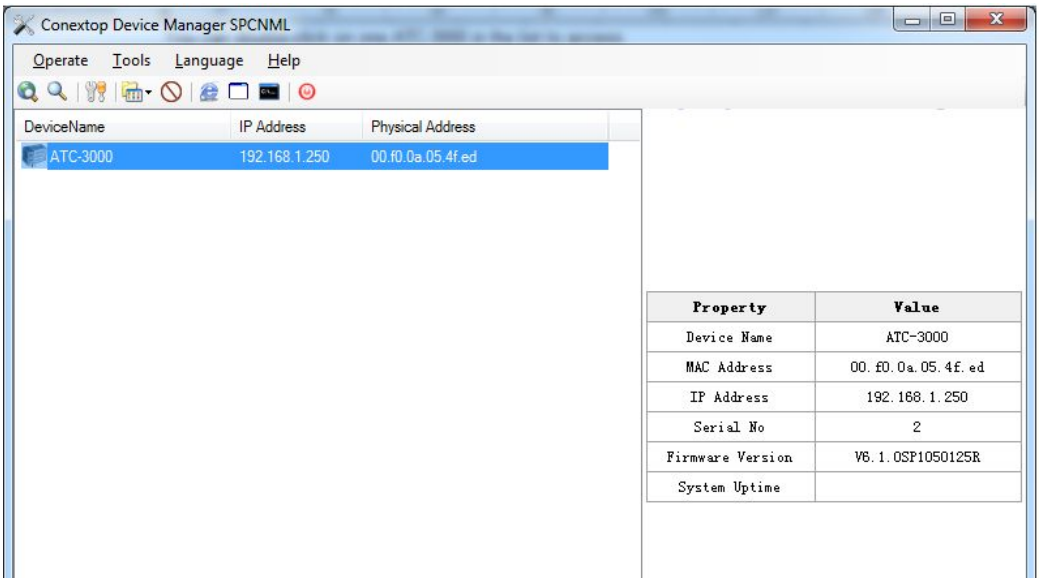

Figure 18 – Device manager window

You can double-click on one ATC-3000 in the list to access. A dialog box appears to prompt for a **User Name** and **Password.**

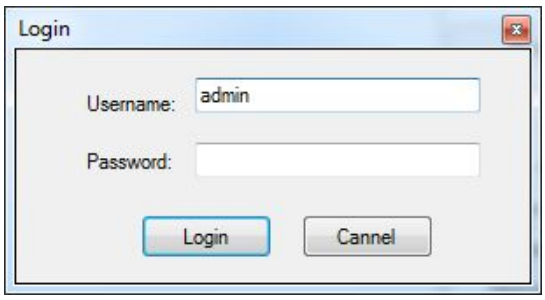

Figure 19 - Login

After log-in to the ATC-3000, you can configure the ATC-3000 same as Web Console. Refer to **2 Configuration using Device Web Console**

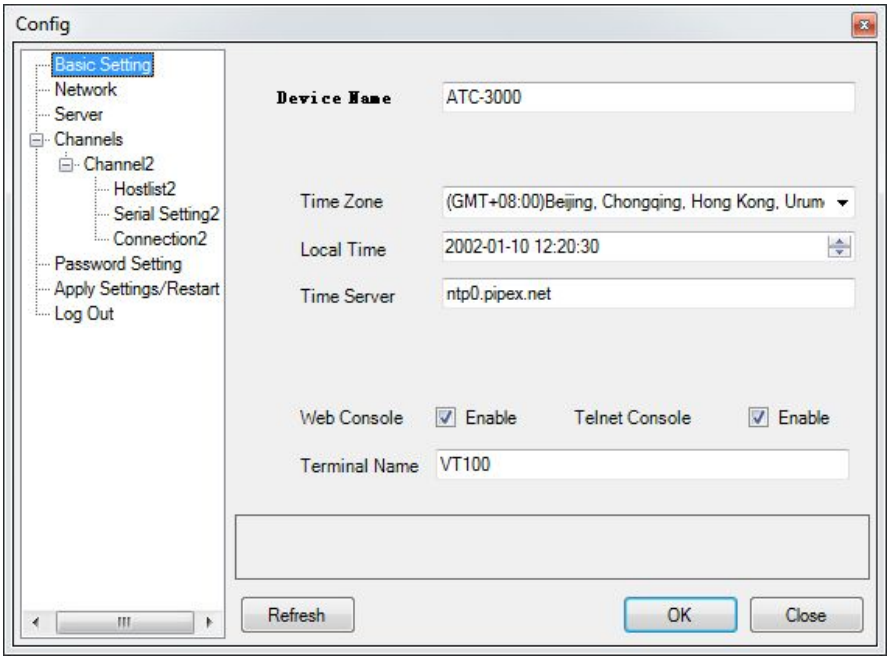

Figure 20 - Config

4 Configuration using Telnet

You can use Telnet utility to change configuration settings of ATC-3000.

Before using telnet, you need to make sure that the Telnet Client on your computer are enabled

How to enable Telnet Client in Windows XP?

Start (button) > Control Panel > Add / Remove Programs > Turn Windows features on and off > check Telnet Client then press OK.

How to enable Telnet Client in Windows 7?

Start (button) > Control Panel > Programs and Features > Turn Windows features on or off > check Telnet Client then press OK.

Note: *You can refer to **2. Configuration by Device Web Console** for description of every function of ATC-3000.*

4.1 Login the system

Open Ms-DOS command prompt window (press **Windows key + r**, type in “cmd” in the dialog appear then OK).

Telnet to ATC-3000 using command **"Telnet IP_address".** With IP_address is IP address of ATC-3000. For example : Input **Telnet 192.168.1.250** in Ms-DOS command prompt window. After telnet to ATC-3000, system prompts for a Username and password. The default Name is **admin,** Password is **admin**.

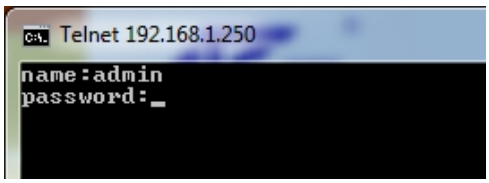

Figure 21 - Login menu

Note: *if you forgot the password, please use Device Manager to find the IP.*

After verifying the password, the following terminal screen appears.

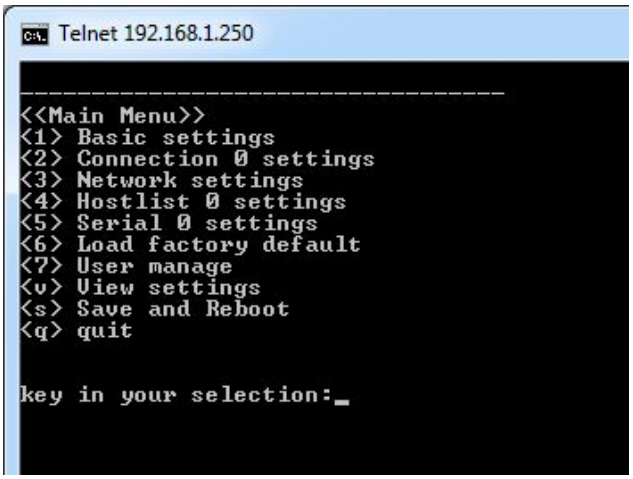

Figure 22 - Main menu

Note: *Changes to networking parameters will take effect only when one save and reboot the ATC-3000.*

4.2 Basic Settings

From **Main Menu**, select “**1**” and Enter to visit **Basic settings** page.

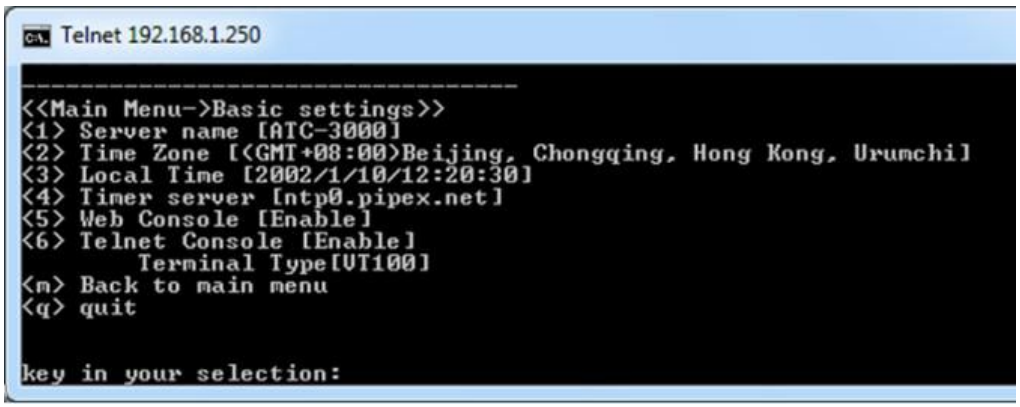

Figure 23 – Basic Settings

This page gives you the general information of ATC-3000.

4.3 Connection 0 settings

From **Main Menu**, select "**2**" and Enter to visit **Connection 0 settings** page.

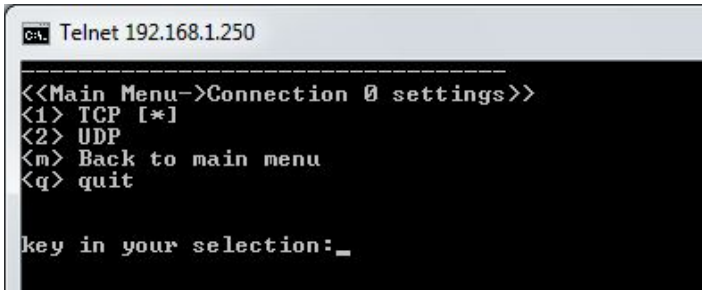

Figure 24 – Connection 0 Settings

In this page you can change the network mode of ATC-3000. And then you can configuration the parameters of the mode which you choice.

4.3.1 TCP Setting

From Connection 0 Setting page, select '1' and enter to configure TCP for ATC-3000.

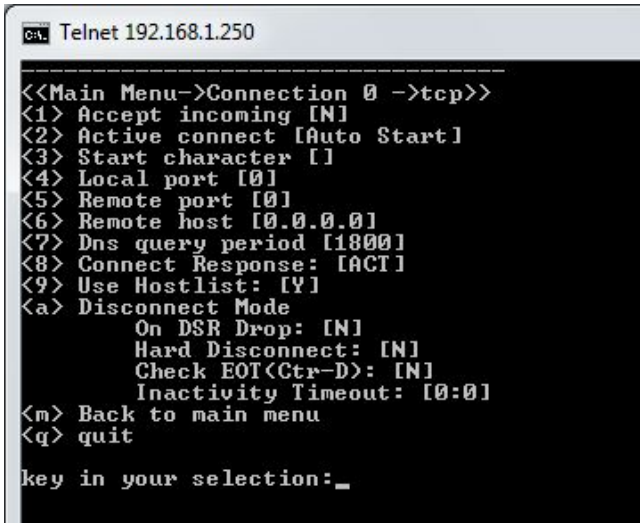

Figure 25 – TCP Settings

4.3.2 UDP Setting

From **Connection 0 Setting** page, select '2' and enter to configure UCP for ATC-3000.

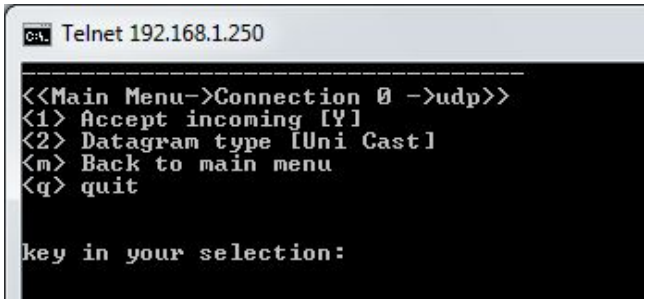

Figure 26 – UDP Settings

4.4 Network settings

From **Main Menu**, select "**3**" and Enter to visit **Network settings** page.

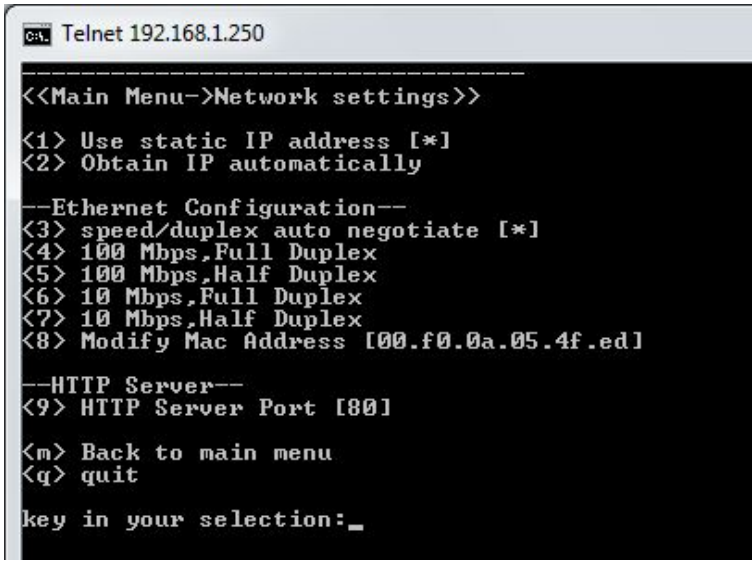

Figure 27 – Network Settings

4.4.1 Use static IP address

From **Network Settings** menu, select "**1**" and Enter to visit **Use static IP address** page.

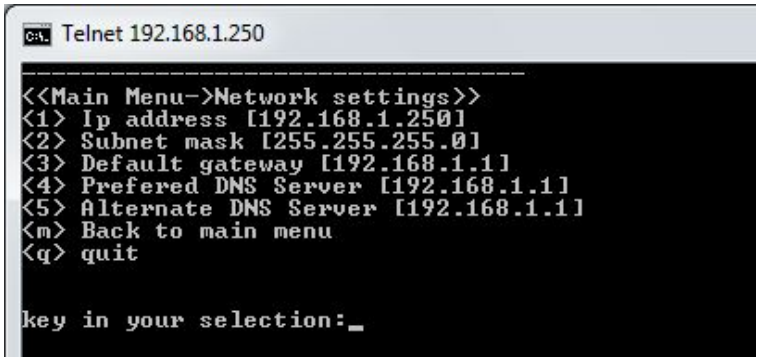

Figure 28 – Use static IP address

4.4.2 Obtain IP Automatically

From **Network Settings** nenu, select "**2**" and Enter to visit **Obtain IP Automatically** page.

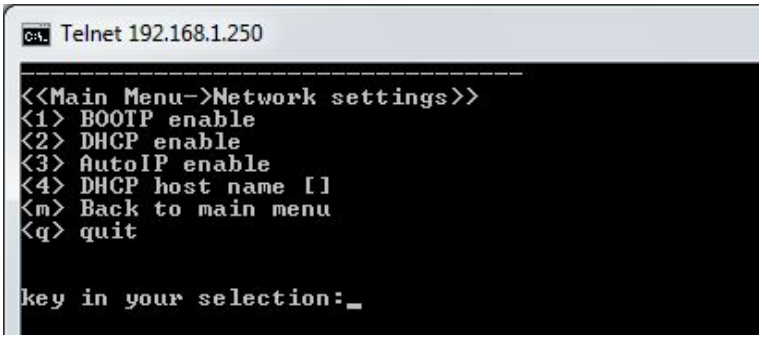

Figure 29 – Obtain IP automatically

4.4.3 Ethernet Configuration

From Network Settings menu, you can configure network parameters at Ethernet Configuration by select from '3' to '8'.

4.5 Hostlist 0 settings

From **Main Menu**, select "**4**" and Enter to visit **Hostlist 0 settings** page.

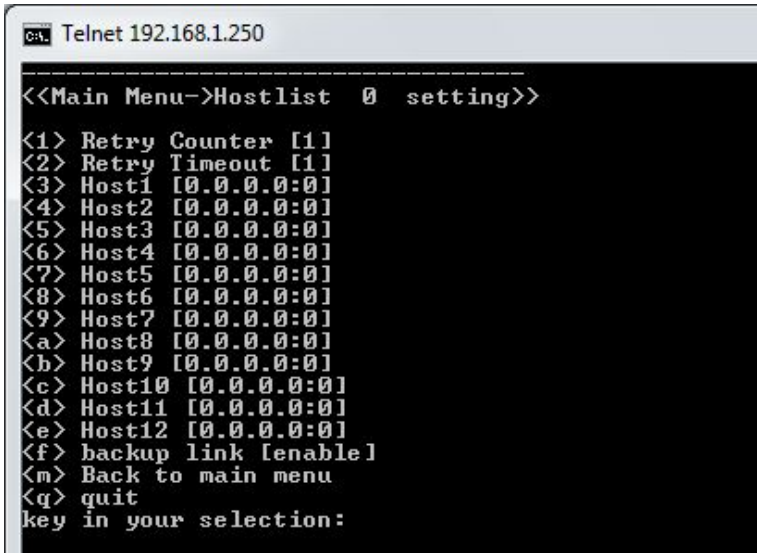

Figure 30 – Hostlist Settings

4.6 Serial 0 settings

From **Main Menu**, select "**5**" and Enter to visit **Hostlist 0 settings** page.

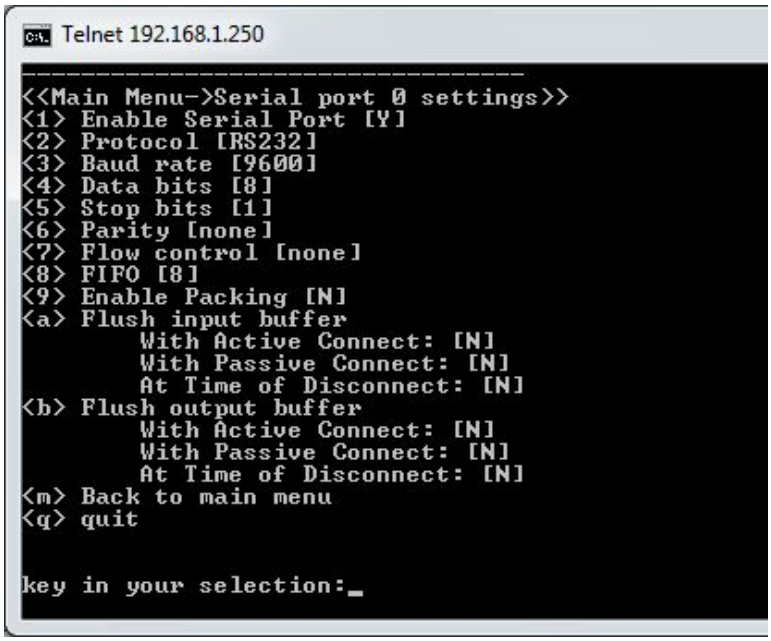

Figure 31 – Serial 0 Settings

4.7 Load factory default

From **Main Menu**, select "**6**" and Enter to visit **Load factory default** page. Select 'y' or 'n' to confirm Yes or No.

4.8 User manager

From **Main Menu**, select “7” and Enter to visit **User manager** page.

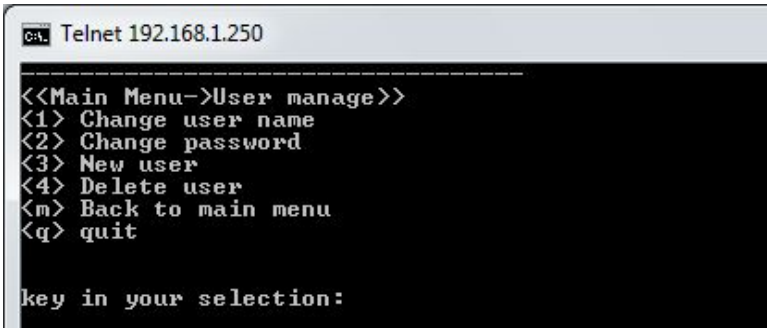

Figure 32 – User manage

4.9 View settings

From **Main Menu**, select “8” and Enter to view all your settings for ATC-3000.

4.10 Save and Reboot

From **Main Menu**, select “9” and Enter to save setting parameters and reboot the ATC-3000. After select **Save and Reboot**, connection to ATC-3000 lose and exit Telnet configuration.

4.11 Quit

From **Main Menu**, select “10” and Enter to exit Telnet configuration.

5 How to reset ATC-3000 to default factory

5.1 Reset by software

By Web brower

Input ATC-3000’s IP address In URL and login device. And execute following steps:

1. From Main menu, Select **Load Defaults**
2. Select **Submit.**

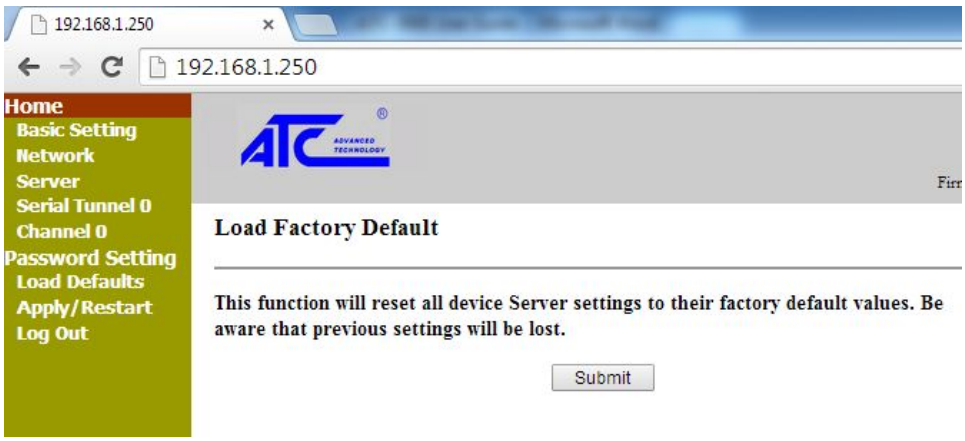

Figure 33 – Load factory default by Web Console

3. From new page appears, select **Save/Restart** to take affect. ATC-3000 will reset to default factory.

Figure 34 – Save/Restart

By Telnet

Input **Telnet IP_address** with IP_address is IP address of ATC-3000 in Ms-DOS command prompt window and login. And execute following steps:

1. From Main Menu, select '6' and press Enter key.
2. Type in '2' and press Enter key.
3. Press any key to back Main menu.

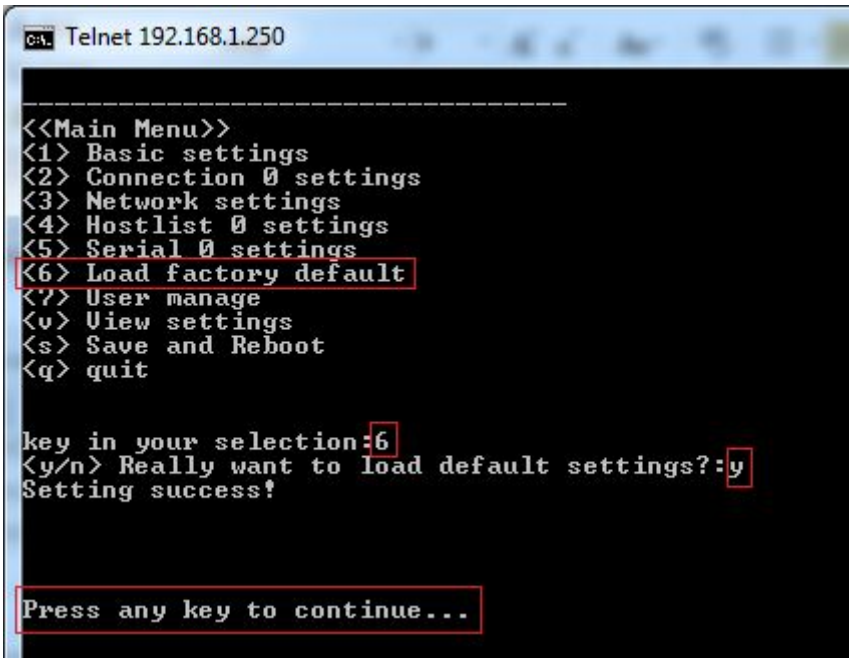

Figure 35 – Load factory default by Telnet

4. From Main menu, type 's' and press Enter key to select Save and Reboot device to take effect. ATC-3000 will reset to default factory.

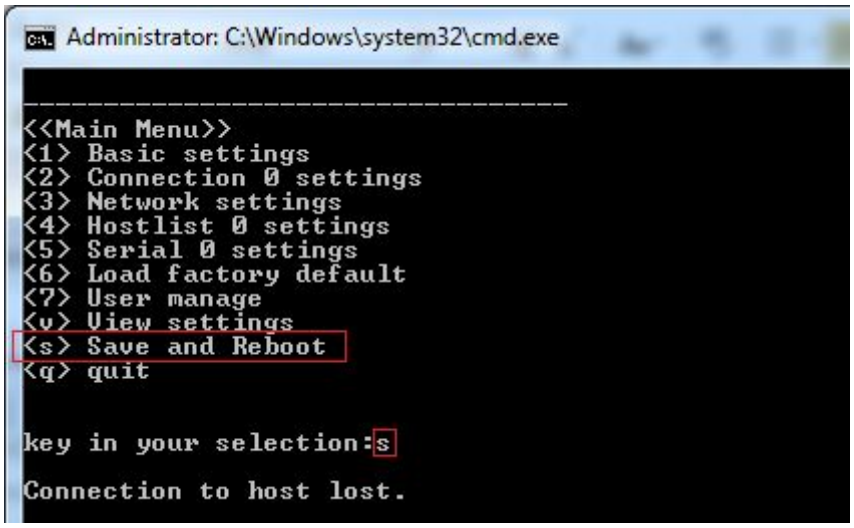

Figure 36 – Save and Reboot

5.2 Reset by hardware

If you forgot IP address of ATC-3000 and want to reset ATC-3000 to default factory, you can execute following steps:

1. Turn of the power supply.
2. Open the casing of ATC-3000 by removing two screws at side of ATC-3000.
3. Turn on the power supply.
4. Find the Reset button on the board (refer to below image).

Figure 37 – ATC-3000 main board

5. Press and hold the Reset button until Link, Speed, ACT Leds are off (about 5 seconds).
6. Release the Reset button. ATC-3000 will reset to default factory.

Warning: When you reset the device by this way, please contact the provider because this can tear warranty stamp is pasted on the ATC-3000.