CYT-133SC

User Manual

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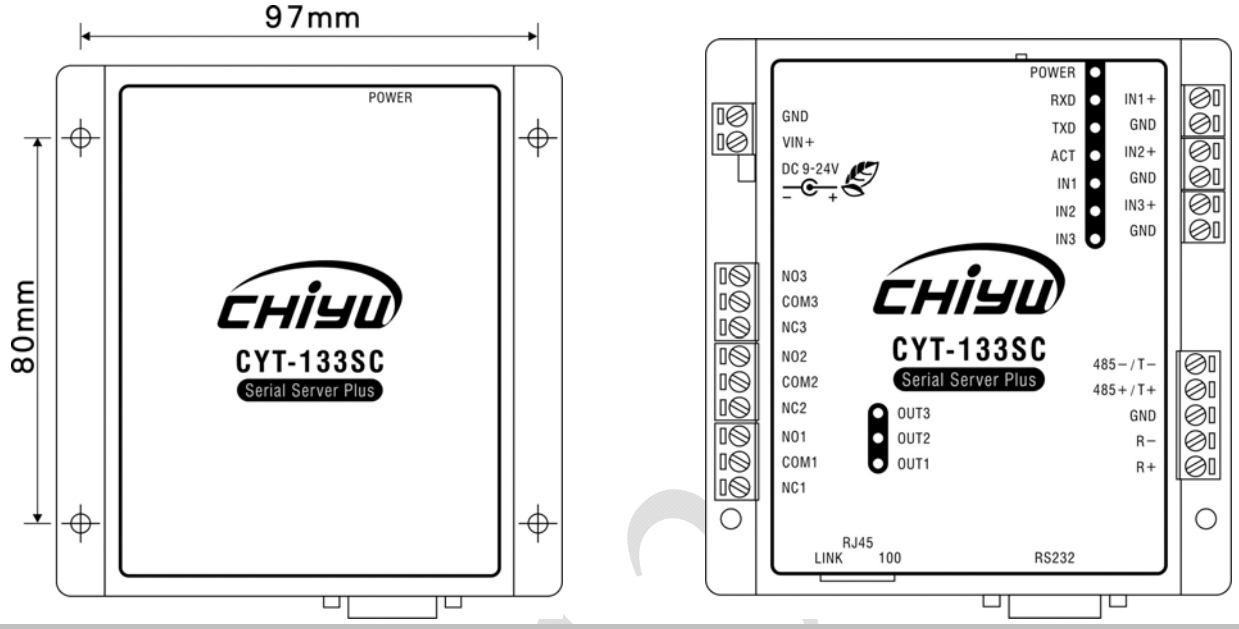
【Index】

—CYT-133SC—

Ⅰ、Hardware Introduction

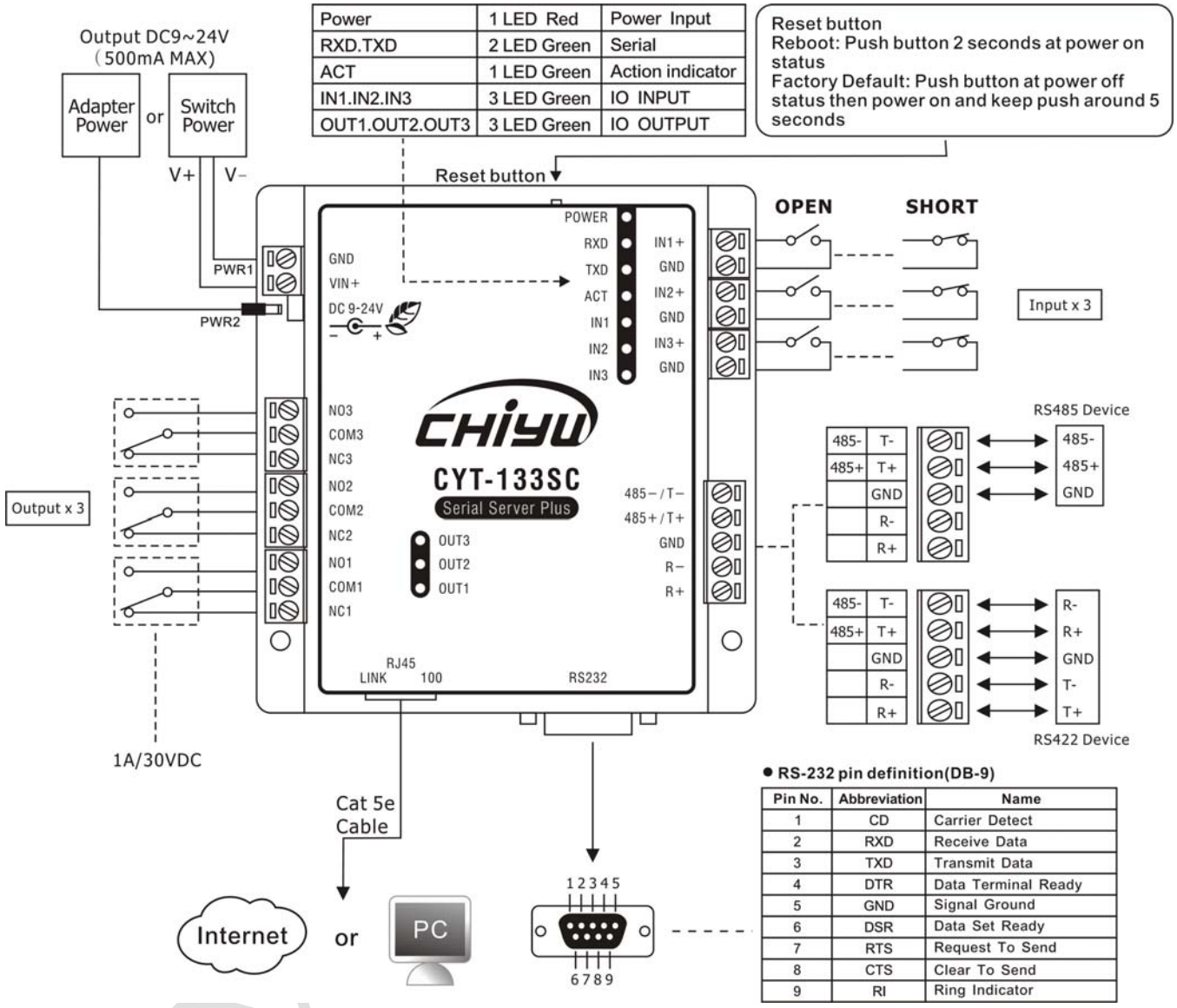
◆ Appearance



◆ Specification

Item	Specification
CPU	16 Bits, 100MHZ
Memory	256KB Flash & 2MB SDRAM
Watchdog	System never halt
Ethernet	10/100 Base-T/Tx/, Automatic MSI/MDI-x port
Communication Port	RS232, RS 422, RS 485
Connectors	DB9(MALE)/RJ-45
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD,RI,GND
RS-422	Tx+,Tx-, Rx+, Rx-,GND (1200M for the longest distance)
RS-485	Data+, Data-,GND (1200M for the longest distance)
I/O Control	3 Input (short)，3 Output – Relay Mode (Maximum Voltage DC30V,1A)
Power Input	Choose one： PWR1: DC9~24V(500MA MAX) 2-pin Separate terminal PWR2: DC9~24V(500MA MAX) DC power to DC socket
Operating Temperature	0℃ ~ 55℃
Operating Humidity	5 ~ 95%RH
Storage Temperature	-20℃ ~ 85℃
Surge Protection	Serial port 15KV ESD
Electromagnetic protection	Ethernet port 1.5KV
LED Indicator	Power / RXD / TXD / ACT / IN1 / IN2 /IN3 /OUT 1/ OUT2 / OUT3
Weight	340g
Dimensions (L x W x H)	106.5(86.5 without ear loop)*115(110 without RS232)*28 mm

◆ End point



Power	1 LED Red	Power Input
RXD.TXD	2 LED Green	Serial
ACT	1 LED Green	Action indicator
IN1.IN2.IN3	3 LED Green	IO INPUT
OUT1.OUT2.OUT3	3 LED Green	IO OUTPUT

Reset button
Reboot: Push button 2 seconds at power on status
Factory Default: Push button at power off status then power on and keep push around 5 seconds

● **RS-232 pin definition(DB-9)**

Pin No.	Abbreviation	Name
1	CD	Carrier Detect
2	RXD	Receive Data
3	TXD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicator

Ⅱ、Product Overview

CYT-133SC is a RS232/RS485/RS422 converter for the integration of system and Ethernet management, designed and applied to enable traditional industrial serial devices to access data and control devices through Ethernet (intranet or internet)

Real time operation system and complete TCP/IP protocol enable CHIYU's CYT-133SC powerful converter not only providing complete system with highly efficiency but also able to link with network. Easy to install and wire. The Web interface of CYT-133SC is simple, easily to operate, and without operation system limitation.

Beside of signal conversion function, CYT-133SC also provides 3 sets of DI and DO to reach the DIO remote control function.

◆ Features

- CYT-133SC support 5 kinds of connection: TCP server, TCP client ,UDP , Real com and Extend I/O ,Users can select suitable connecting way
- Support DHCP Client, when activate this function, CYT-133SC can get TCP/IP default from DHCP Server when the system activates, Includes IP address, default getaway IP and DNS server.
- Support PPPoE, PPPoE is an internet protocol for the link simulation of dial-up connection and remote host.
- Support Dynamic DNS, this enable CYT-133SC connect with dynamic IP by fixed Domain Name, enable hosts situated in different location to get access to CYT-133SC through internet.
- Auto detecting 10/100 M Ethernet.
- Enable users to conduct data access or management on CYT-133SC through various operation system of IE , Netscape browser.
- Allows users to back up and store file system parameter and restore it, for security reasons the backup file will be stored encrypted.
- The CYT-133SC supports 3 DI/3 DO totally; 3 DI with any combination rule can trigger each DO. By providing a smart and easily setup way via Web, user doesn't need to have any programmer background.
- CYT-133SCsupport I/O expansion and can expend to 30 sets of DIO with additional BF-51(DIO BOX).
- Support Heart Beat function. When CYT-133SC set the Serial Server Mode Setup into UDP, the Heart Beat function will be enabled. Every 30 seconds will send a UDP to server to prove the connection is still enabled.
- Support Peer to Peer function: Add Peer To Peer function to make the data connection between CYT-133SC.
- With SMTP client support, you can set system to trigger alarm message via e-mail or SMS (Short Message System) to your mobile phone.
- Support remote reset command (Command & CGI) and I/O Control CGI command.

Ⅲ、WEB Login

CYT-133SC contains a HTTP server, thus CYT-133SC can link and connect through Web browser, and then conduct setting.

◆ Preparation

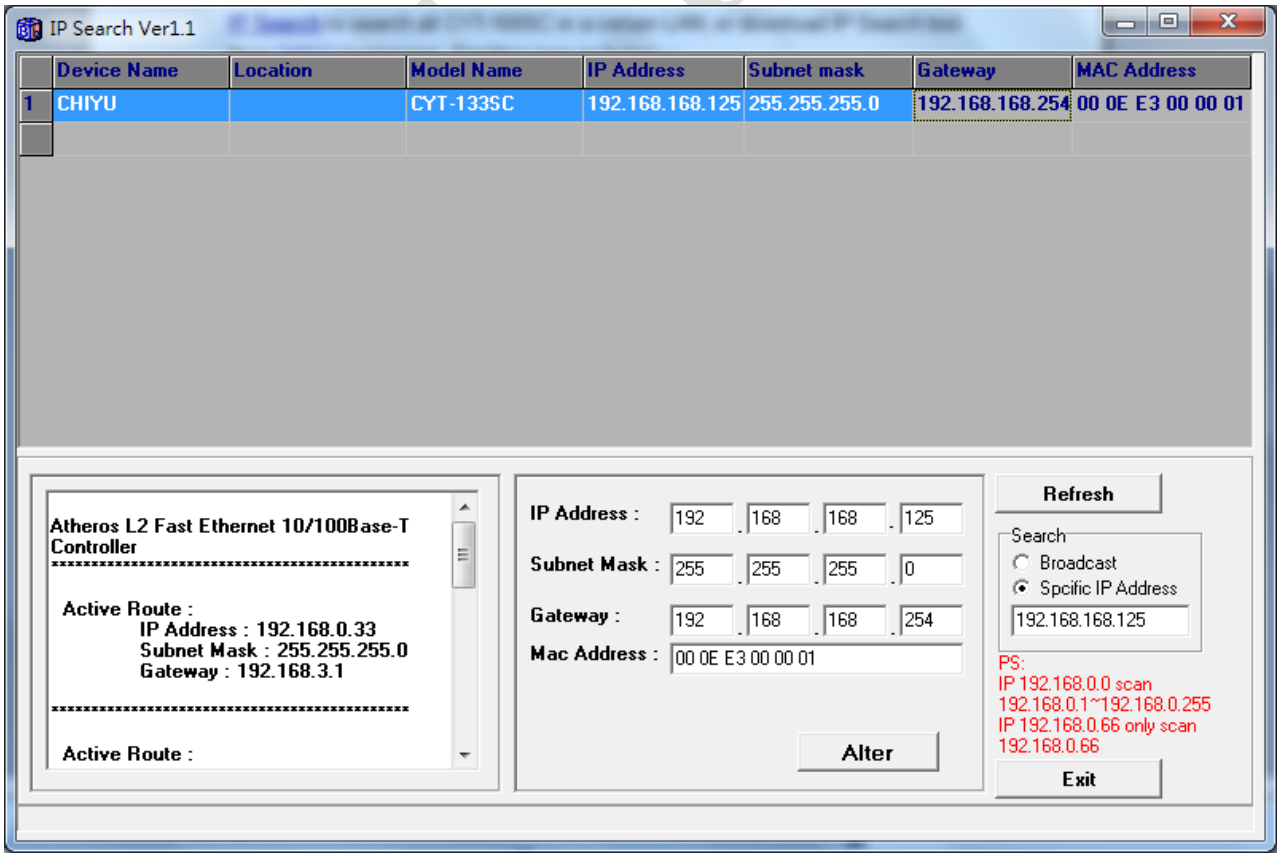
Before conducting CYT-133SC setting, please assure the following:

- PC has connected to CYT-133SC, and PC and CYT-133SC are situated in the same WAN with power supplied.
- If the default IP address (192.168.168.125) is occupied by else device, then it is a must to shut down that device first till the setting is over, and then allocate new IP address to CYT-133SC.

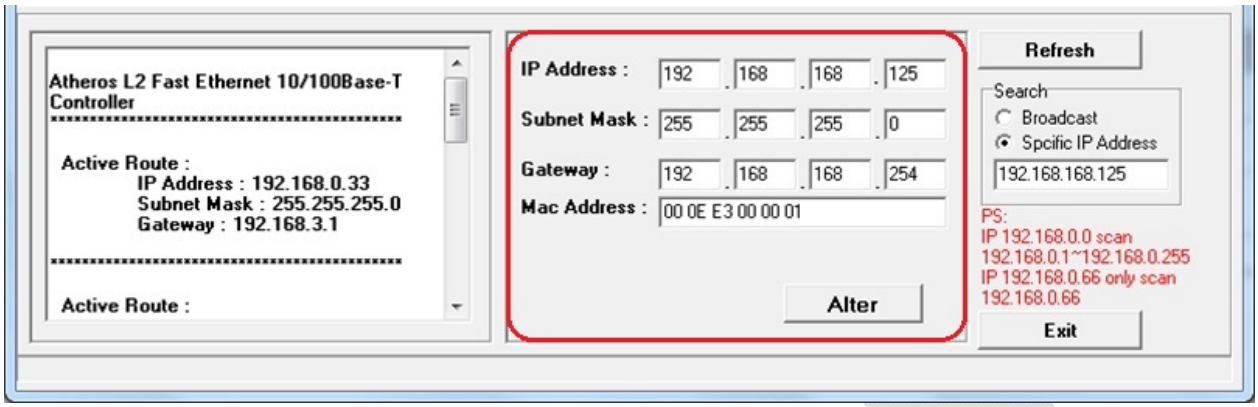
◆ How to search CYT-133SC

1、After installation of CYT-133SC and network cable is completed, use CYT-133SC's **IP Search** to search all CYT-100SC in a certain LAN, or download IP Search tool from CHIYU homepage. Desktop icon as below:

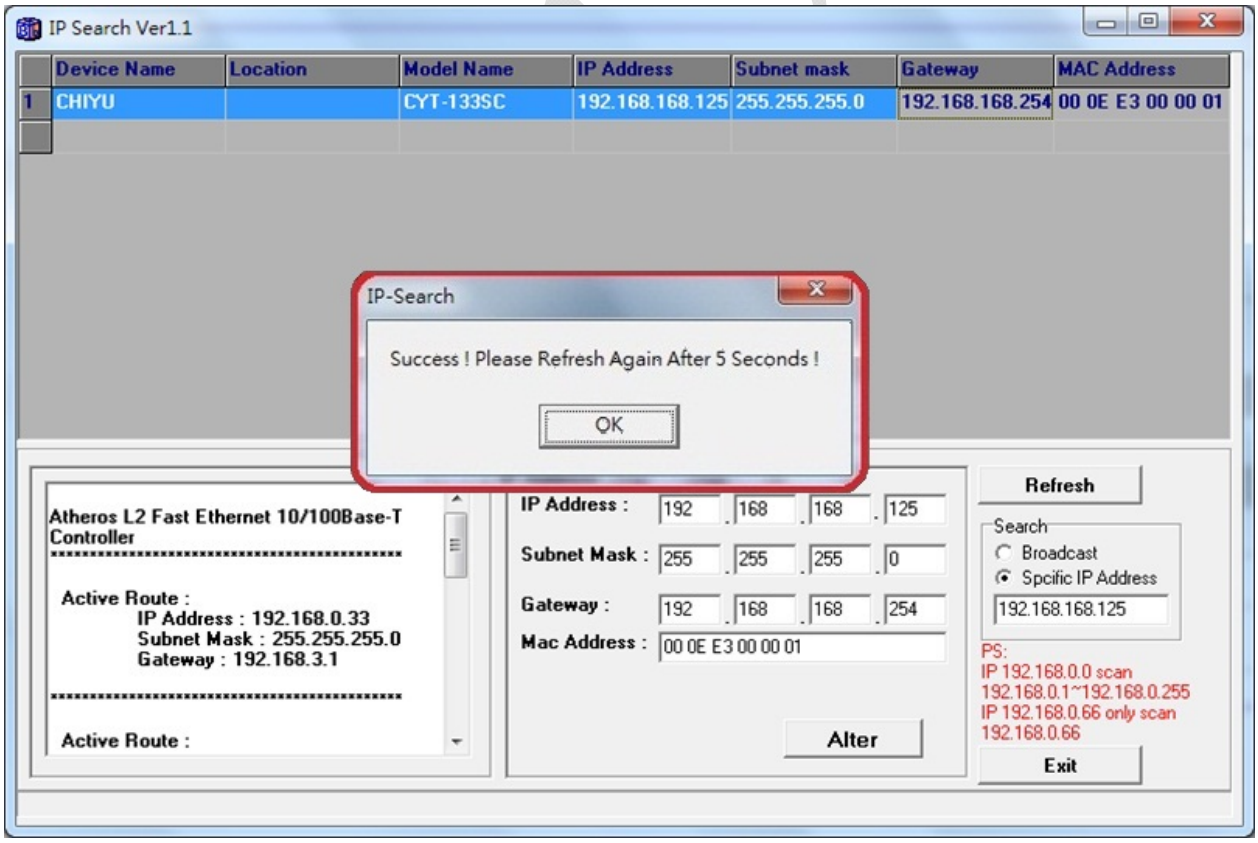
2、Click IP Search icon, will display a window, as shown:



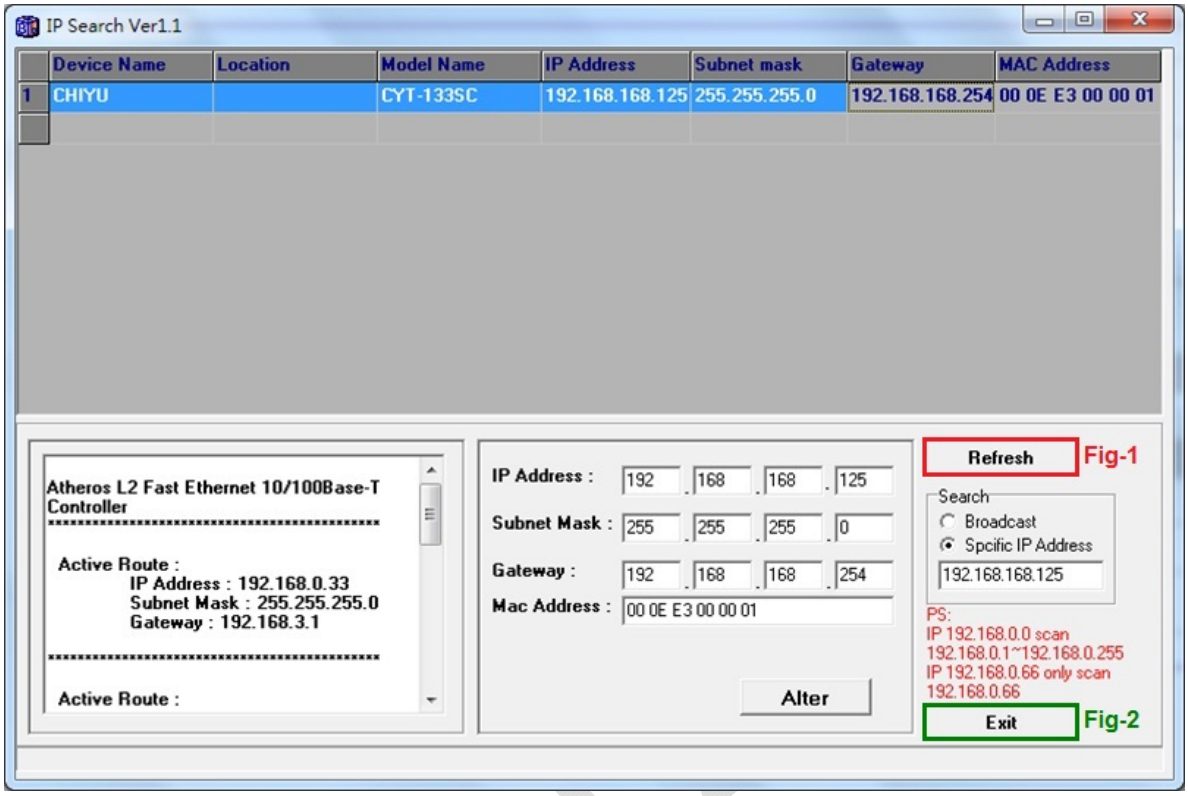
3、While the IP Search window shows up, it will display all CYT-133SC in LAN, and show its Device name, Location, Model Name, IP Address, Subnet Mark, Gateway, Mac Address. Select particular CYT-133SC, then its related information will appear below the window, as shown:



4、The showed information of CYT-133SC can be revised directly in the window, the part can be modified: IP Address, Subnet Mask, Gateway. After modification completed (MAC Address can not modify),click **Alter** then it will display the modified information, as shown:



5、After modification, if want to confirm whether the modification is correct or not, click Refresh button to refresh and check information (Fig-1), click Exit button to leave.(Fig-2)



6、After modification, the IP address of CYT-133SC has matched with its WAN, if want to get access into the Web of CYT-133SC, has two methods:

(1)Open IP Search, select and double click particular CTY-133SC, then to enter its webpage.

(2)While the internet explorer opened, input CYT-133SC IP address to enter its webpage

Remark：

WINDOWS XP：

《Step 1》

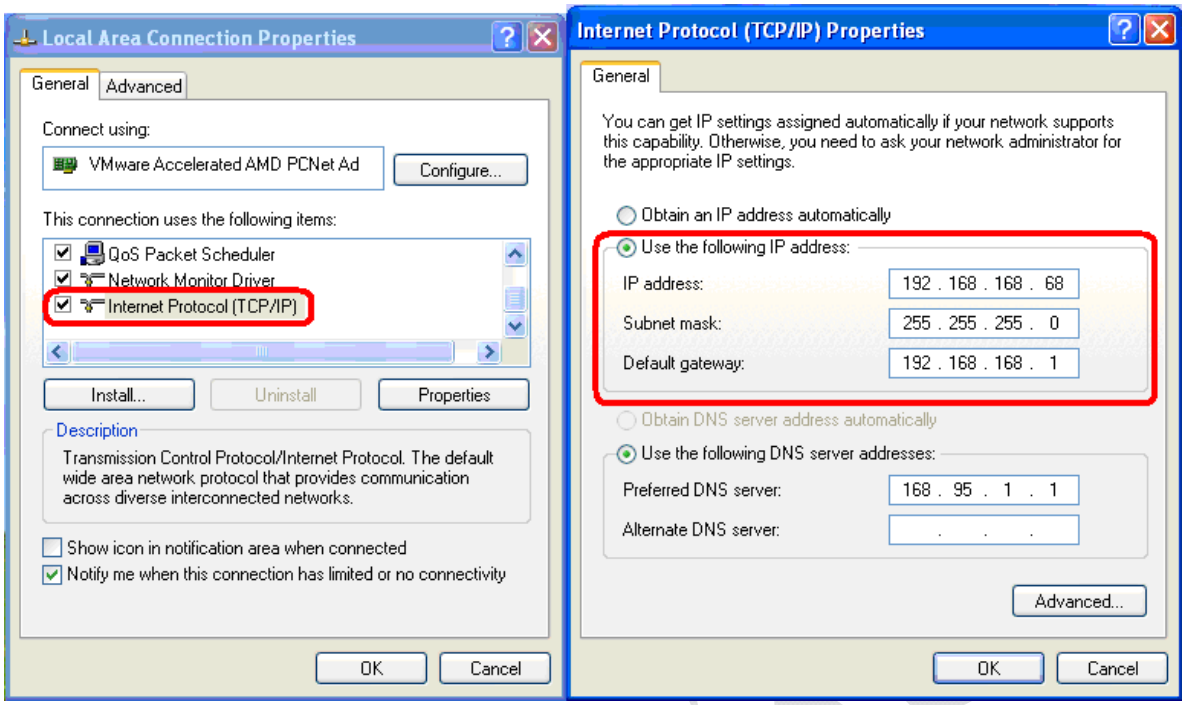
Click WINDOWS XP my computer 

, Open Control Pan 

on the left side, please turn to traditional overview and select network link

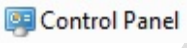
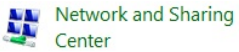
《Step 2》

Click LAN, then select content, the link configuration will be shown, click Internet Protocol (TCP/IP) then input the same setting as CYT-133SC, as below figure:



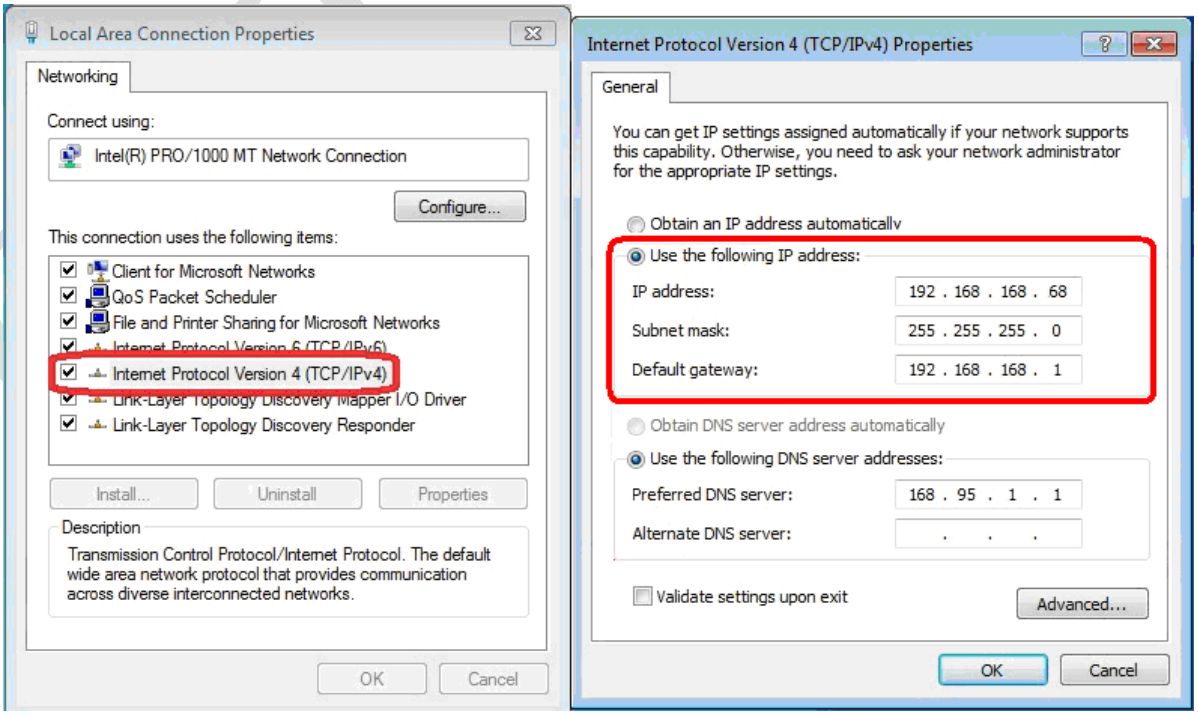
WINDOWS 7：

《Step 1》

Click Windows 7 icon,  select  , open and search for ,  click Alter Interface Card on the upper-left side.

《Step 2》

Click LAN link, select content, then the LAN settings will be shown, click Internet Protocol(TCP/IPv4), click and input same setting as CYT-133SC, as below figure.



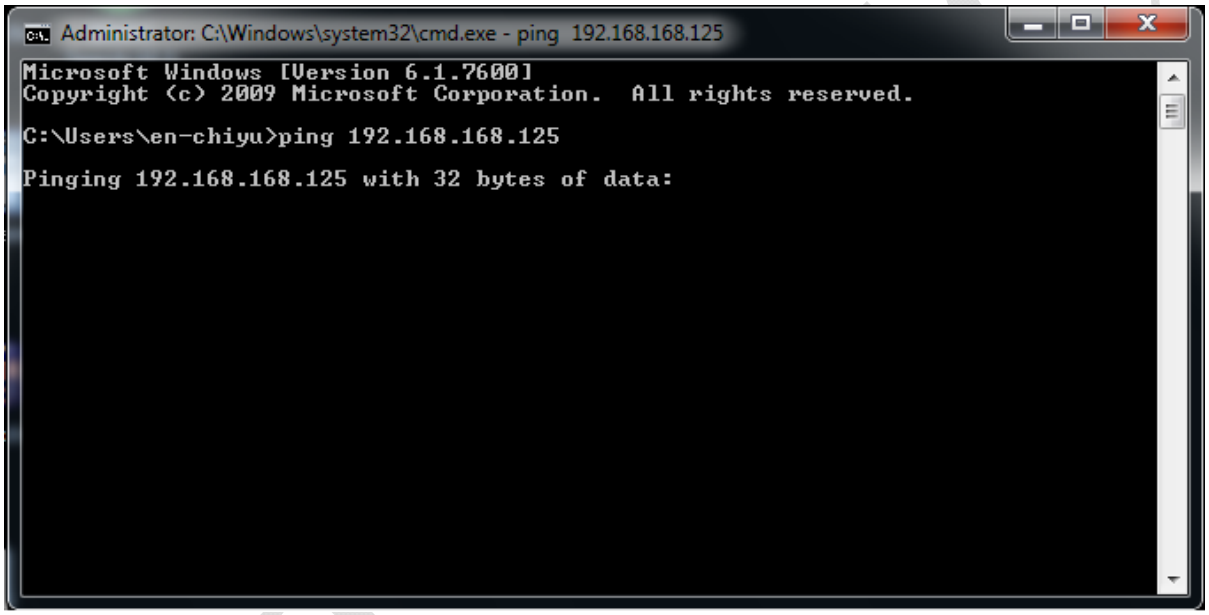
◆ How to login to CYT-133SC Web via web browser

1、Start Web browser (ig: WIN 7 IE), input CYT-133SC's IP Address, for example: use the default CYT-133SC IP Address: http://192.168.168.125

2、If connection failed, should check:

- If CYT-133SC installed and its power supplied properly

- To examine the LAN connection, can use start tools→Execute→Input cmd open MS-DOS, Input " ping" to test CYT-133SC connection, input command: ping 192.168.168.125, as shown below:

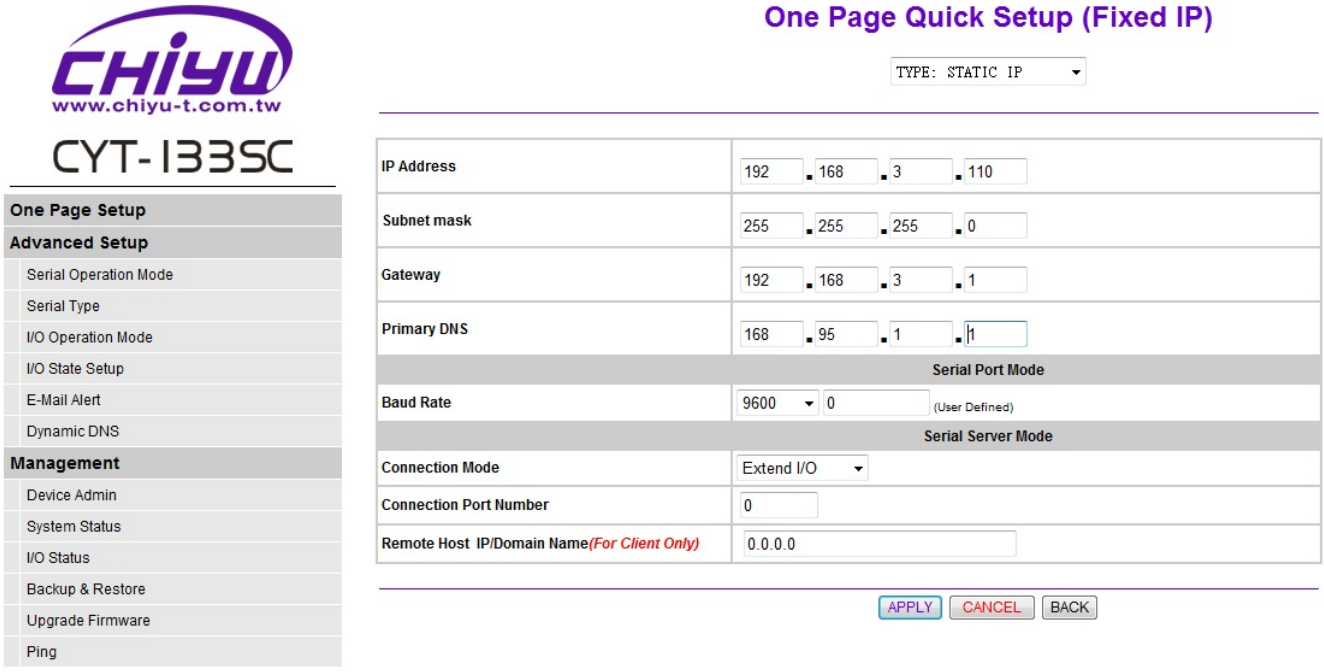


- If no response received, it explains the link has troubles either the connection is not proper or the PC's IP address can not match with CYT-133SC's IP address

- Set the PC's IP address with CYT-133SC's IP address with same segment, if the PC uses fixed IP address, the address must be ranged in: 192.168.168.1 ~ 192.168.168.65 or 192.168.168.67 ~ 192.168.168.254 , thus it can be compatible with CYT-133SC's default IP address: 192.168.168.125, the **Subnet Mask**'s setting must be: 255.255.255.0，please refer to page 6 ~ 7

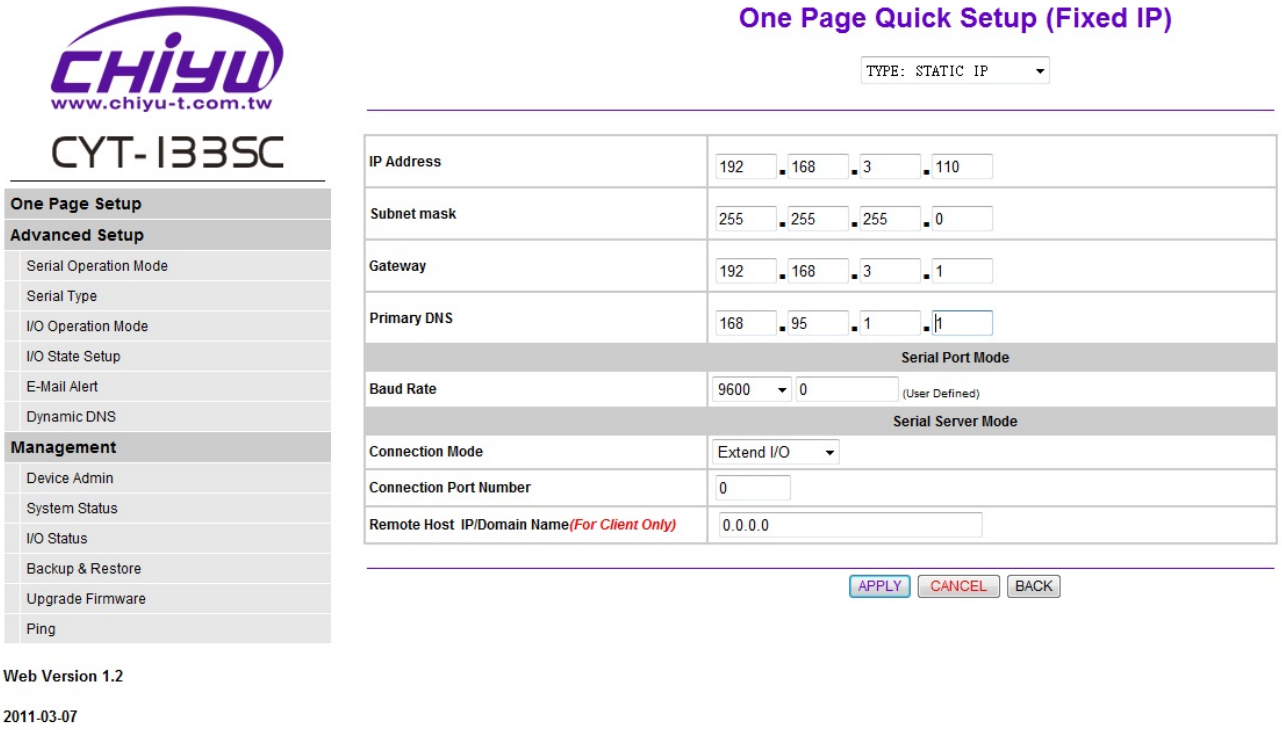
3、If the connection with CYT-133SC is successful, then it will display a message window for User name and Password, the default for user name and Password is: admin/admin, as shown below:

4、While the user name and password entered, a Web setting interface of CTY-133SC will be showed, enter it will then display a " One Page Quick Setup " page.



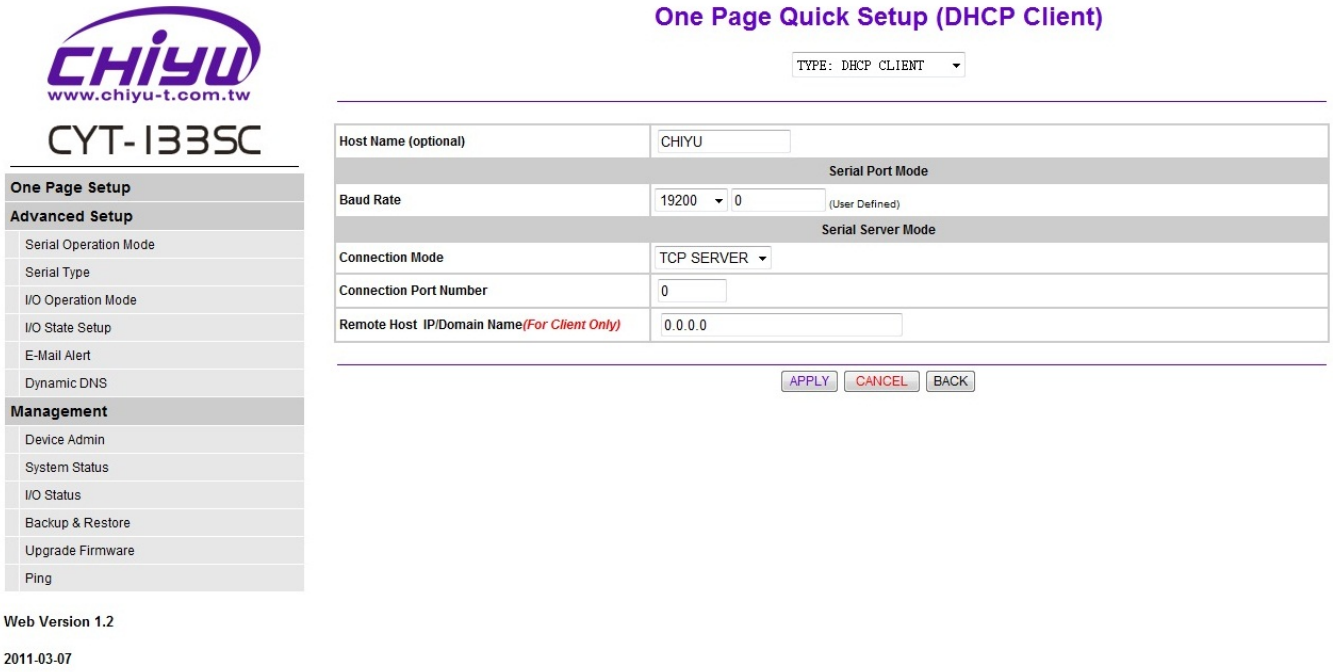
Ⅳ、Web Function Instruction

◆ One Page Quick Setup



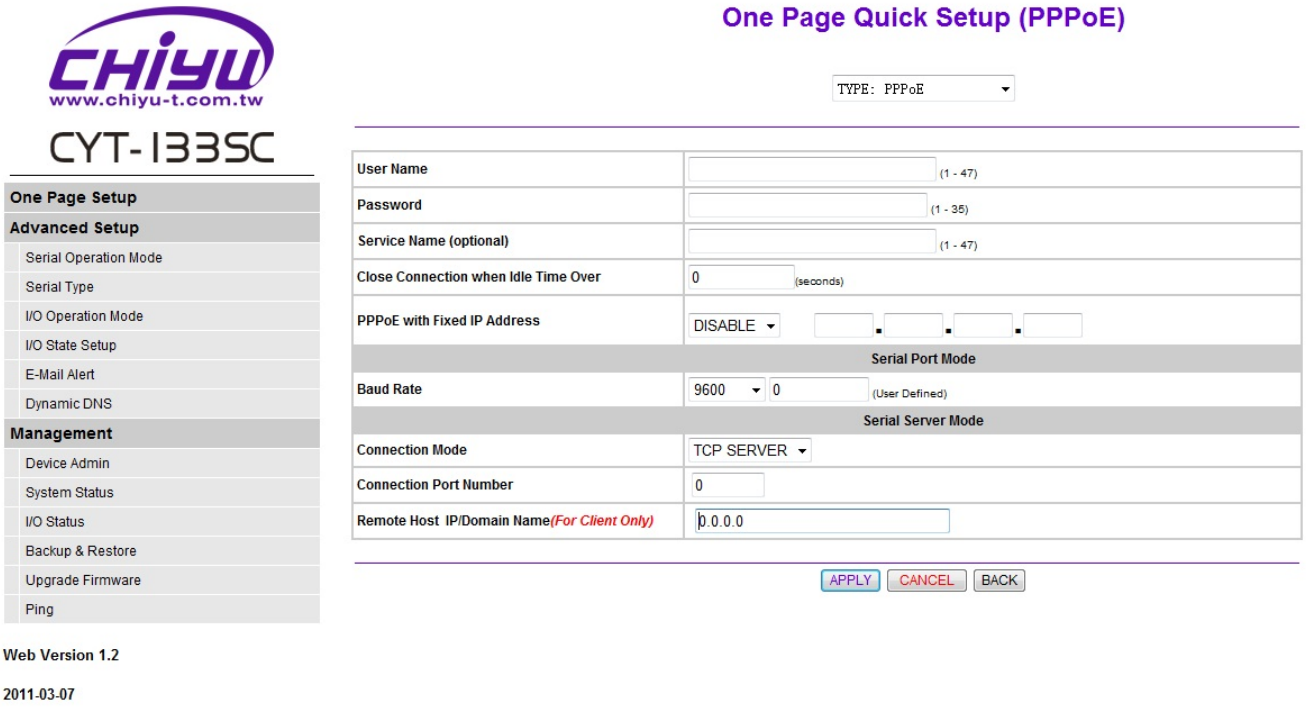
- **Function instruction of STATIC IP**

Function	Description
IP Address	Set the IP address of the CYT-133SC，default setting is **192.168.168.125**
Subnet mask	Set the subnet mask of the CYT-133SC，default setting is **255.255.255.0**
Gateway	Set the gateway of the CYT-133SC，default setting is **192.168.168.254**
Primary DNS	Set the DNS of the CYT-133SC，default setting is **168.95.1.1**
Serial Port Mode	
Baud Rate	1. Set serial port baud rate, the parameters can be selected：**1200、2400、4800、9600、19200、38400、57600、115200、230400 and Others** 2. After selecting **Others** , fill custom baud rate into the user defined 3. Default setting is **19200**
Serial Server Mode	
Connection Mode	There are 5 modes to set into connection mode, such as： ● **Real Com** ● **TCP SERVER** ● **TCP CLIENT** ● **UDP** ● **Extend I/O**(no data conversion)
Connection Port Number	Set CYT-133SC connection port number, default setting is **50000**
Remote Host IP Address	1.Set the remote host IP or domain name，default setting is **0.0.0.0** 2.For Client Only



- **Function instruction of DHCP CLIENT**

Function	Description
Host Name (optional)	Fill in the host name , default setting is **CHIYU** (optional)
Serial Port Mode	
Baud Rate	1.Set serial port baud rate, the parameters can be selected : **1200、2400、4800、9600、19200、38400、57600、115200、230400 and Others** 2.After selecting **Others** , fill custom baud rate into the user defined 3.Default setting is **19200**
Serial Server Mode	
Connection Mode	There are 5 modes to set into connection mode, such as : ● **Real Com** ● **TCP SERVER** ● **TCP CLIENT** ● **UDP** ● **Extend I/O**(no data conversion)
Connection Port Number	Set CYT-133SC connection port number, default setting is **50000**
Remote Host IP Address	1.Set the remote host IP or domain name，default setting is **0.0.0.0** 2.For Client Only



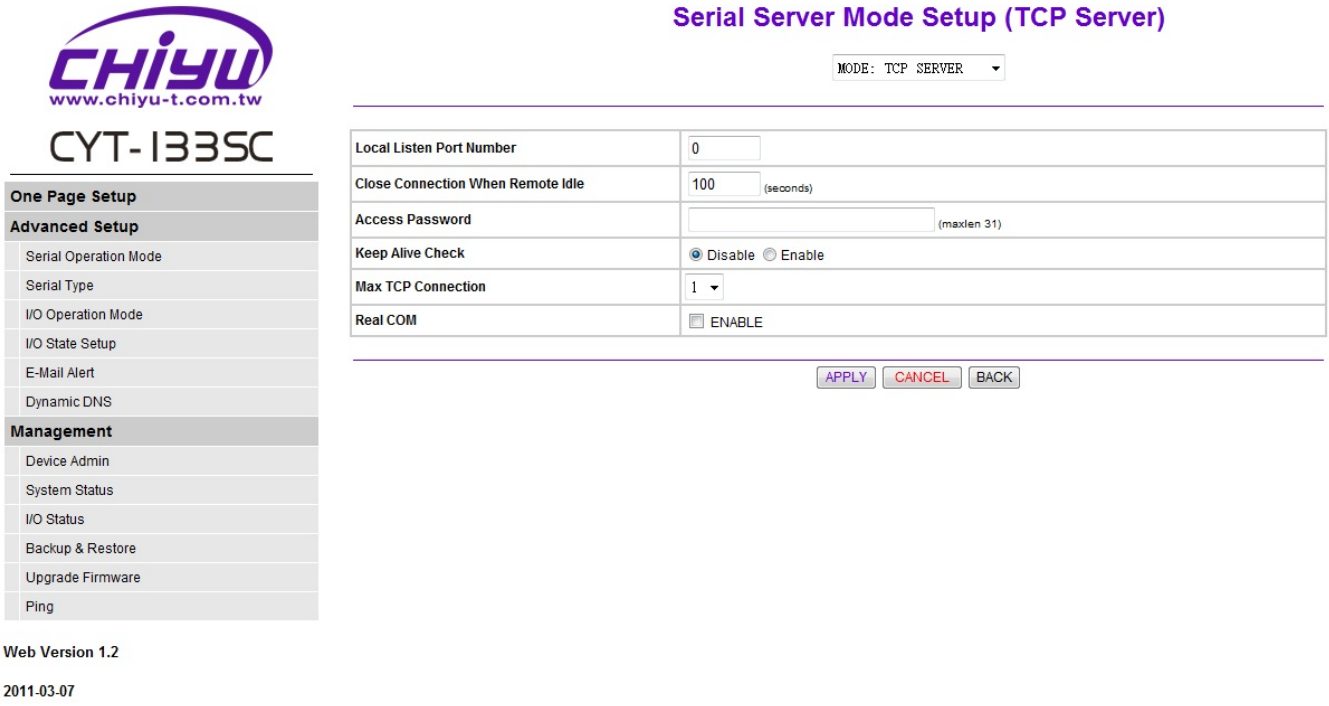
- **Function instruction of PPPoE**

Function	Description
User Name	Fill in the user name, up to **47** characters
Password	Fill in the password, up to **35** characters
Service Name (optional)	Fill in the service name (optional), up to **47** characters
Close Connection when Idle Time Over	● Default setting is **0** second, the range is from 0 ~ 4294967295 ● Keep the connection of CYT-133SC and ISP always must set the no into 0 or the connection with PPPoE will be disabled when Idle time over.
PPPoE with Fixed IP Address	● After selecting ENABLE , fill in fixed IP ● Default setting is **DISABLE** ● optional
Serial Port Mode	
Baud Rate	1.Set serial port baud rate, the parameters can be set：**1200**、**2400**、**4800**、**9600**、**19200**、**38400**、**57600**、**115200**、**230400**及**Others** 2.After selecting Others , fill custom baud rate into the user defined 3.Default setting is **19200**
Serial Server Mode	
Connection Mode	There are 5 modes to set into connection mode, such as： ● **Real Com** ● **TCP SERVER** ● **TCP CLIENT** ● **UDP** ● **Extend I/O**(no data conversion)
Connection Port Number	Set CYT-133SC connection port number, default setting is **50000**
Remote Host IP Address	1.Set the remote host IP or domain name，default setting is **0.0.0.0** 2.For Client Only

◆ Advanced Setup

1、Serial Operation Mode Setup

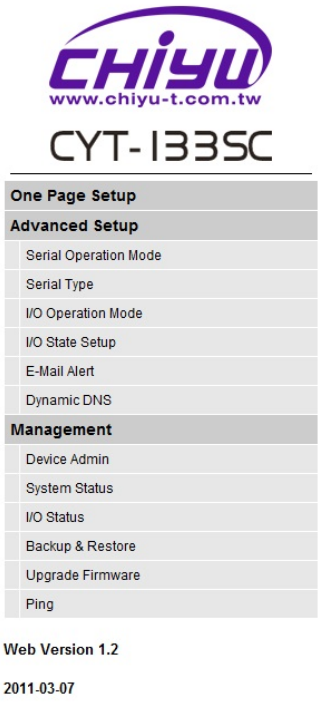
(1)TCP Server

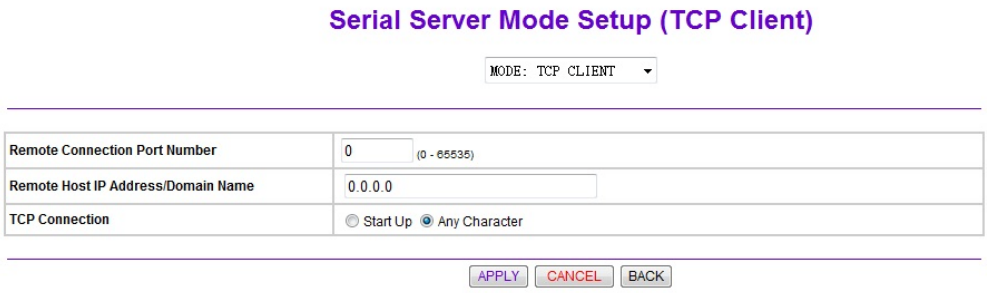


- **Function instruction**

Function	Description
Local Listen Port Number	● If data transmit thru TCP/IP remote command, must select Serial Server Mode into TCP SERVER and set LISTEN PORT NUMBER into the same value with monitoring side. ● Default setting is **50000**
Close Connection When Remote Idle	● The default setting of close connection time is **100** seconds and the range is from 0 ~ 32768 ● The value must set to be 0 if you want to keep CYT-133SC connect with monitoring side or the connection will be off automatically when remote idle.
Access Password	● Make sure the data secure, user must set the code for management. User must inset the correct password and process the further procedure after authority. ● up to **31** characters
Keep Alive Check	● Set Enable or Disable keep alive check function，default setting is **Disable** ● While keep alive check enable, the pin packet will be send to Gateway every 30 seconds to make cure the connection.
Max TCP Connection	The maximum TCP connection is 4 sets , default setting is **1**
Real COM	When using the **Virtual COM**, if you need CYT-133SC with VCOM to send each other RTS / CTS, DTR / DSR signal, this option must be checked

(2) TCP Client

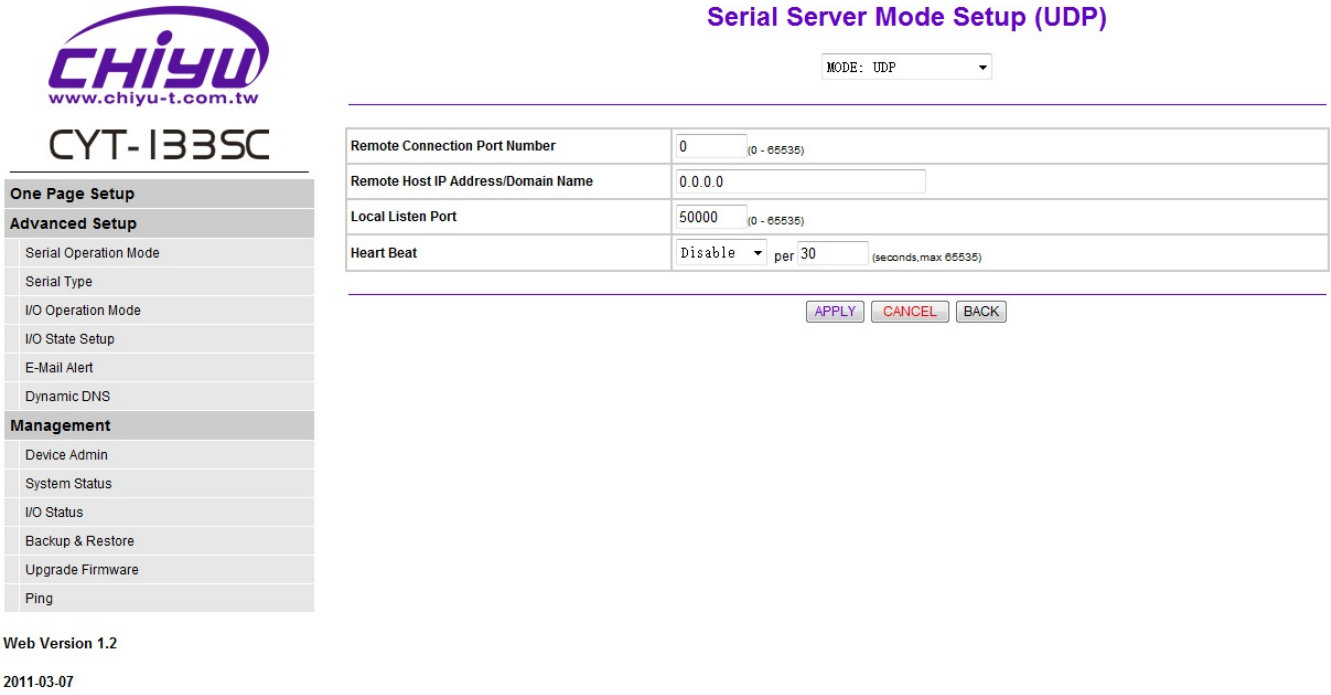




- **Function instruction**

Function	Description
Remote Connection Port Number	Set the remote connection port number，the range is 0 ~ 65535，default setting is **50000**
Remote Host IP Address	Set remote host IP address or domain name，default setting is **0.0.0.0**
TCP Connection	● There are 2 modes to set TCP connection to server： 1.**Start Up**：This mode means when CYT-133SC enable, it will build the TCP connection with SERVER immediately. It will automatically build the TCP connection after disable and then re-connect again. 2.**Any Character**：This mode means only when CYT-133SC receives data from RS232/422/485, it will build TCP connection with SERVER. TCP connection will be disable if not receiving the data from RS232/422/485.

(3)UDP

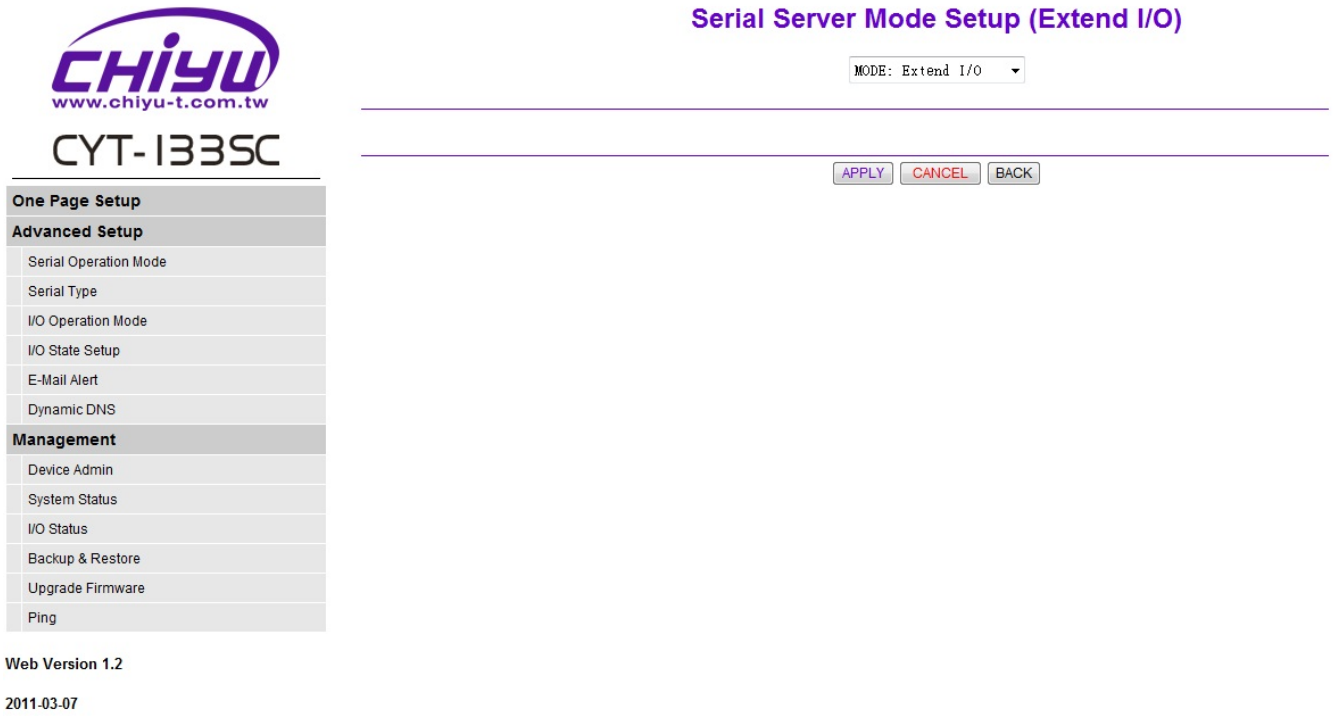


- **Function instruction**

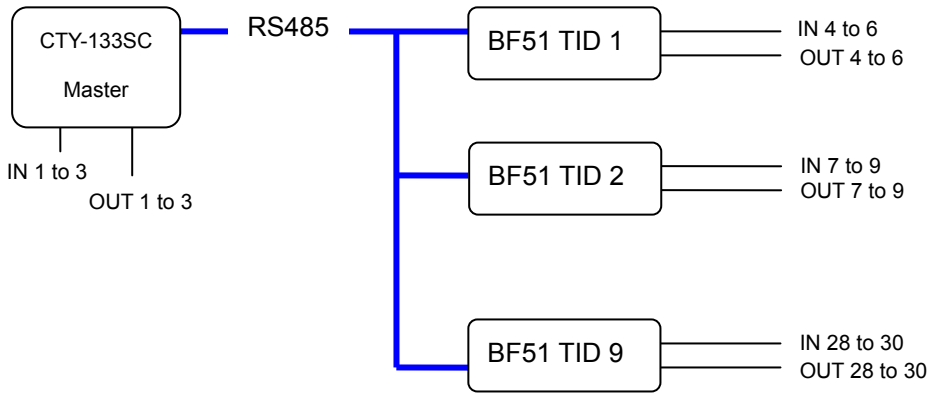
Function	Description
Remote Connection Port Number	Set the remote connection port number，the range is 0 ~ 65535，default setting is **50000**
Remote Host IP Address	Set remote host IP address or domain name，default setting is **0.0.0.0**
Local Listen Port	Set the local listen port，default setting is **50000**
Heart Beat	How many seconds to transmit a UDP heart beat to server can be selected. It's helpful to know the connection with SERVER enabled. Default setting is **Disabled,** and the maximum setting is 65535 seconds.

(4)Extend I/O

When set CYT-133SC into Extend I/O mode, it won't have the data conversion function. It can expend I/O by connect with BF-51.

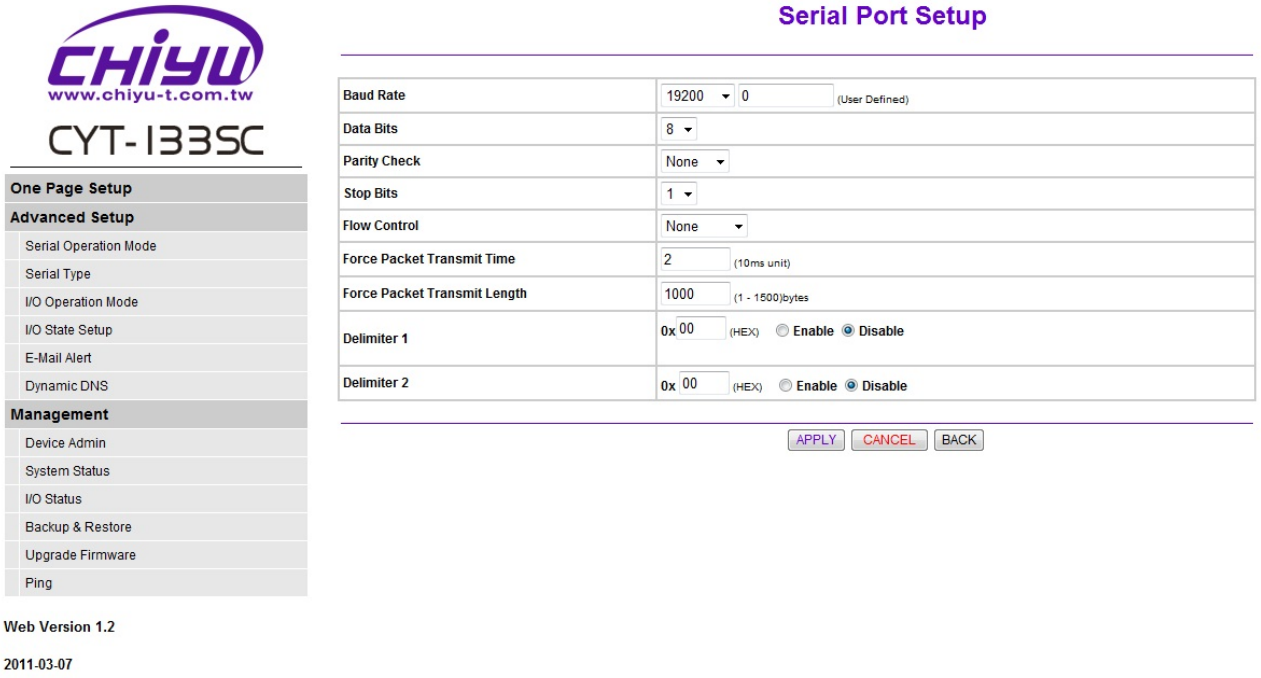


Structure：



PS：BF-51 is the I/O box with 3 sets of DI / DO. TID set by DIP switch and maximum can connect with BF-51 * 9.

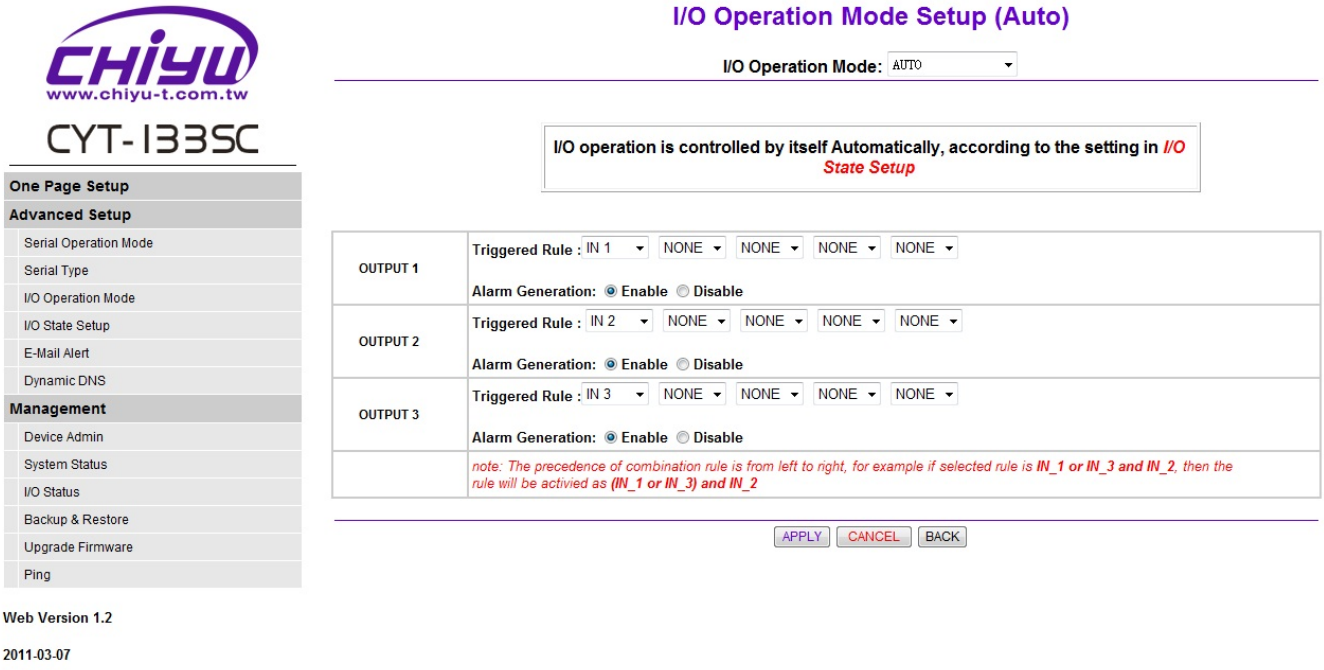
2、Serial Port Setup



- **Function instruction**

Function	Description
Baud Rate	1.Set serial port baud rate, the parameters can be selected：**1200、2400、4800、9600、19200、38400、57600、115200、230400及Others** 2.After selecting **Others** , fill custom baud rate into the user defined 3.Default setting is **19200**
Data Bits	Set the data bits， 5,6,7,8 parameters can be selected, default setting is **8**
Parity Check	● Set the parity check，4 parameters can be selected： 1.odd 2.Even 3.Mark 4.Space ● Default setting is **None**
Stop Bits	Set the stop bits， 1,2 parameters can be selected, default setting is **1**
Flow Control	Set the flow control，2 parameters can be selected： ● Xon/Xoff：Software flow control ● CTS/RTS：Hardware flow control ● Default setting is **None**
Force Packet Transmit Time (10ms)	● **Force packet transmit time** ● The minimum setting is 10ms of setting serial interval between data. Default setting is **20ms**.
Force Packet Transmit Length (bytes)	● **Force packet transmit length.** ● The serial set length of data transmission range is from 1 ~ 1500bytes. Default setting is **1000**
Delimiter 1	● Set the transmission data end by identified delimiter and if your transmission data includes the identified delimiter, CYT-133SC will send out packet at once. ● Default setting is **disabled**. The range is from 0x00 ~ 0xFF
Delimiter 2	● Set the transmission data end by identified delimiter and if your transmission data includes the identified delimiter, CYT-133SC will send out packet at once. ● Default setting is **disabled**. The range is from 0x00 ~ 0xFF

3、I/O Operation Mode



(1)Auto

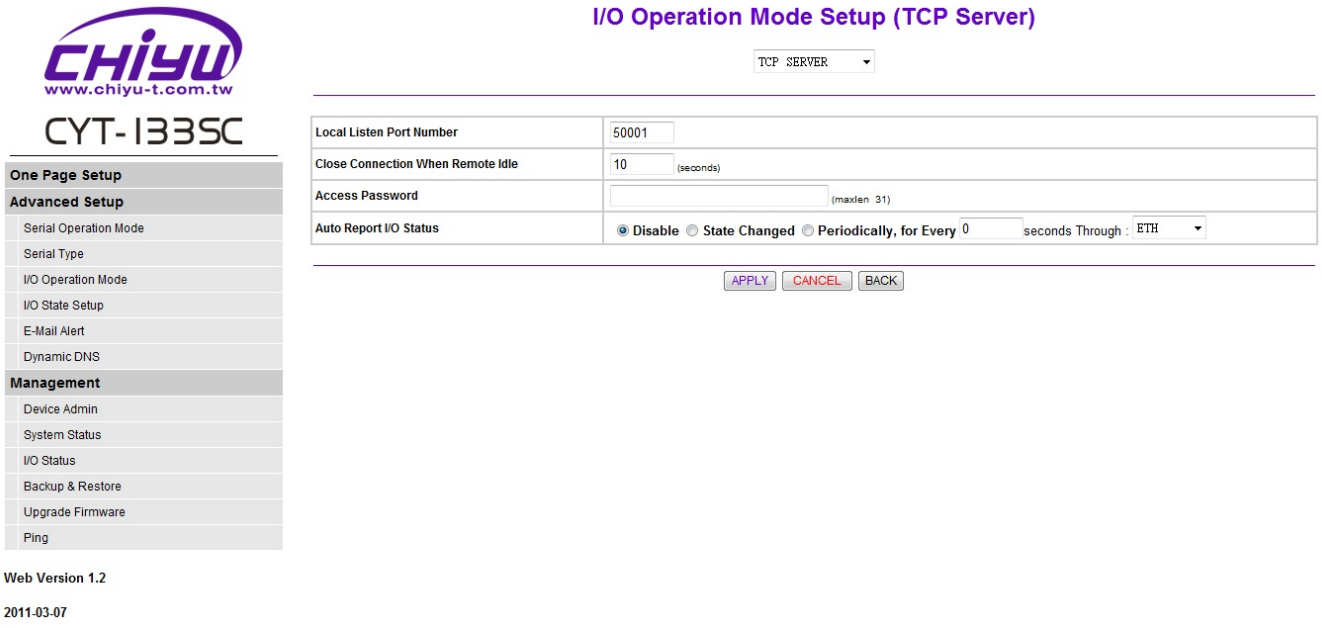
This page provides smart I/O control. No need to have any programming background, only set the connection of each I/O via this page, and can make the linked connection of each I/O. For instance, there are 2 devices to connect with IN1 /IN2 and OUTPUT1. The trigger mode is IN1/IN2 trigger OUTPUT1 at the same time. The OUTPUT1 configuration is IN1 and IN2.

- Through alarm output setting, it can send alarm mail to user when OUTPUT 1~3 has been triggered.
- When select AUTO mode, command mode connection will be disabled.

- **Function instruction**

Function	Description
OUTPUT 1	● **Triggered Rule** Set trigger OUTPUT 1 condition, use IN1~3 ,**AND** and **OR** these conditions to set. For instance: When IN1、IN2 and IN3 enable at the same time, meanwhile OUTPUT1 will be triggered. The setting condition must be IN1 AND IN2 AND IN3. ● **Alarm Generation** Enable or disable alarm output function, the default setting is Enable. When OUTPUT1 has been triggered, alarm mail will send to user automatically.
OUTPUT 2	● **Triggered Rule** Set trigger OUTPUT 2 condition, use IN1~3 ,**AND** and **OR** these conditions to set. For instance: When IN1、IN2 and IN3 enable at the same time, meanwhile OUTPUT1 will be triggered. The setting condition must be IN1 AND IN2 AND IN3. ● **Alarm Generation** Enable or disable alarm output function, the default setting is Enable. When OUTPUT2 has been triggered, alarm mail will send to user automatically.
OUTPUT 3	● **Triggered Rule** Set trigger OUTPUT 3 condition, use IN1~3 ,**AND** and **OR** these conditions to set. For instance: When IN1、IN2 and IN3 enable at the same time, meanwhile OUTPUT1 will be triggered. The setting condition must be IN1 AND IN2 AND IN3. ● **Alarm Generation** Enable or disable alarm output function, the default setting is Enable. When OUTPUT3 has been triggered, alarm mail will send to user automatically.

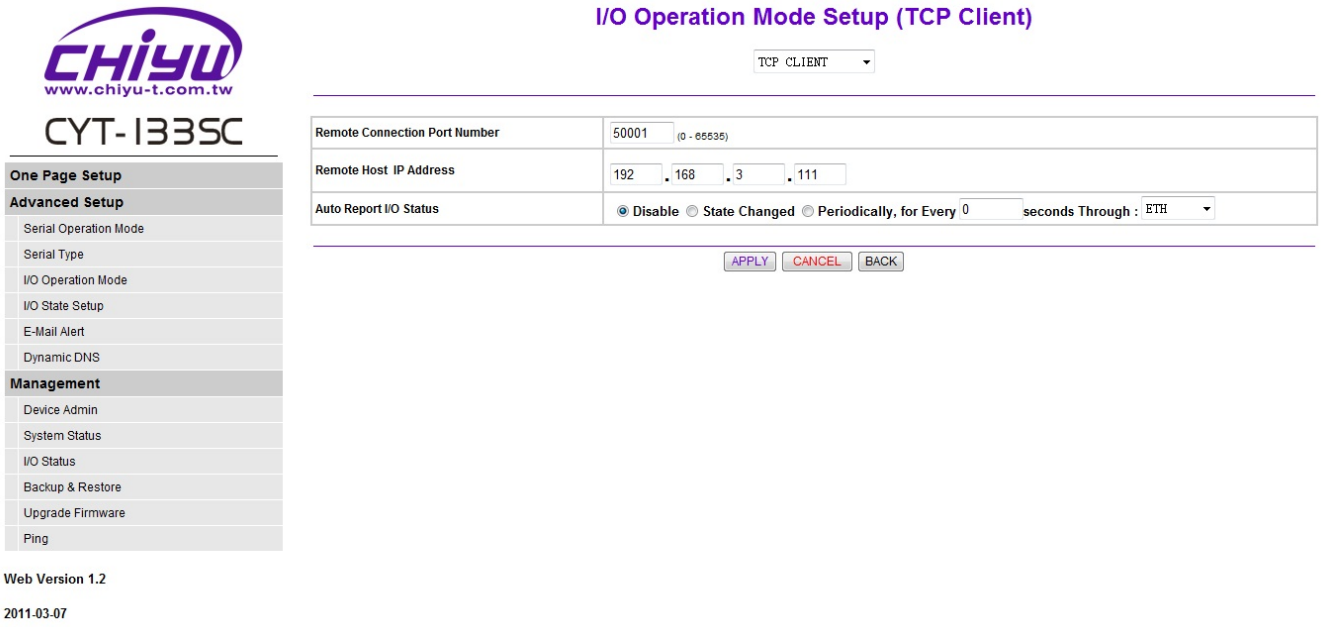
(2) TCP Server



- **Function instruction**

Function	Description
Local Listen Port Number	● Set local I/O port, the range is from0 ~ 65535. ● Default setting is **50001**
Close Connection When Remote Idle	● The default setting of close connection time is **10** seconds and the range is from 0 ~ 32768 ● The value must set to be 0 if you want to keep CYT-133SC connect with monitoring side or the connection will be off automatically when remote idle.
Access Password	● Make sure the data secure, user must set the code for management. User must inset the correct password and process the further procedure after authority. ● up to **31** characters
Auto Report I/O Status	● Automatically return I/O status ● Disable：No automatically return I/O Status ● State Changed：I/O status will be returned automatically when INPUT changes. ● Periodically：Set I/O status return automatically every few seconds. ● Through：I/O status will be returned thru Serial and ETH.

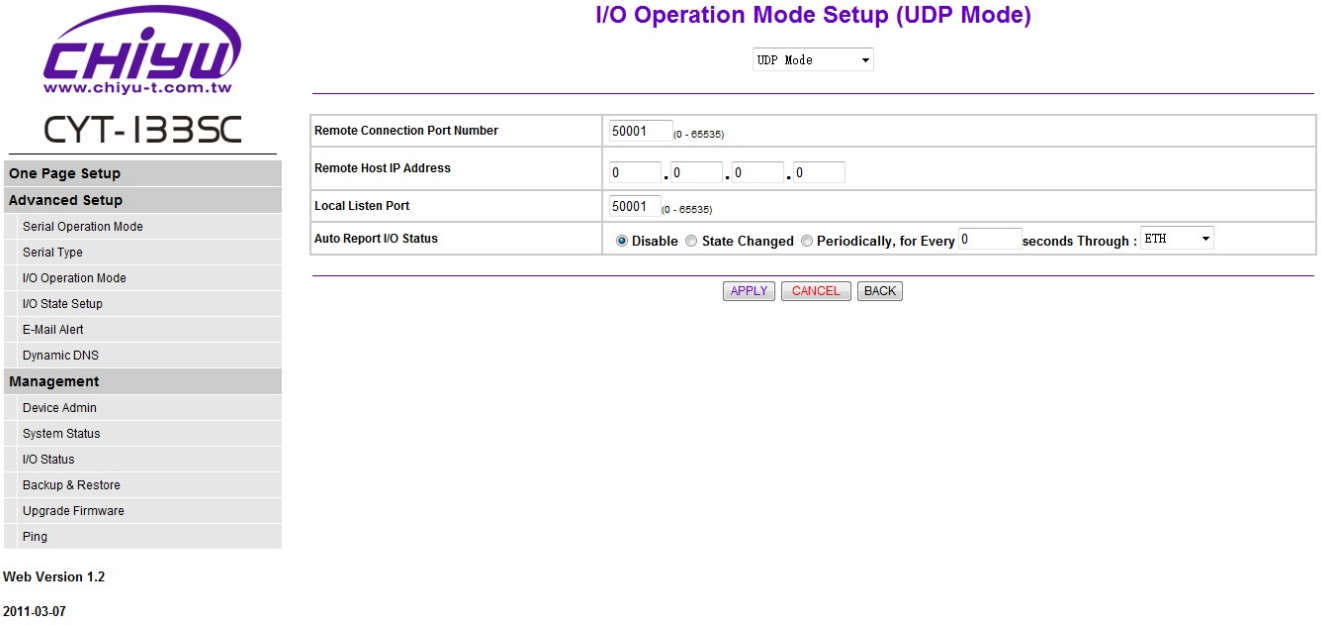
(3)TCP Client



- **Function instruction**

Function	Description
Remote Connection Port Number	● Set local I/O port, the range is from0 ~ 65535. ● Default setting is **50001**
Remote Host IP Address	Default setting of remote host IP address is **0.0.0.0**
Auto Report I/O Status	● Automatically return I/O status ● Disable：No automatically return I/O Status ● State Changed：I/O status will be returned automatically when INPUT changes. ● Periodically：Set I/O status return automatically every few seconds. ● Through：I/O status will be returned thru Serial and ETH.

(4) UDP Mode



- **Function instruction**

Function	Description
Remote Connection Port Number	● Set local I/O port, the range is from0 ~ 65535. ● Default setting is **50001**
Remote Host IP Address	Default setting of remote host IP address is **0.0.0.0**
Local Listen Port	Default setting of local I/O port is **50001**
Auto Report I/O Status	● Automatically return I/O status ● Disable：No automatically return I/O Status ● State Changed：I/O status will be returned automatically when INPUT changes. ● Periodically：Set I/O status return automatically every few seconds. ● Through：I/O status will be returned thru Serial and ETH.

(5) Peer to Peer

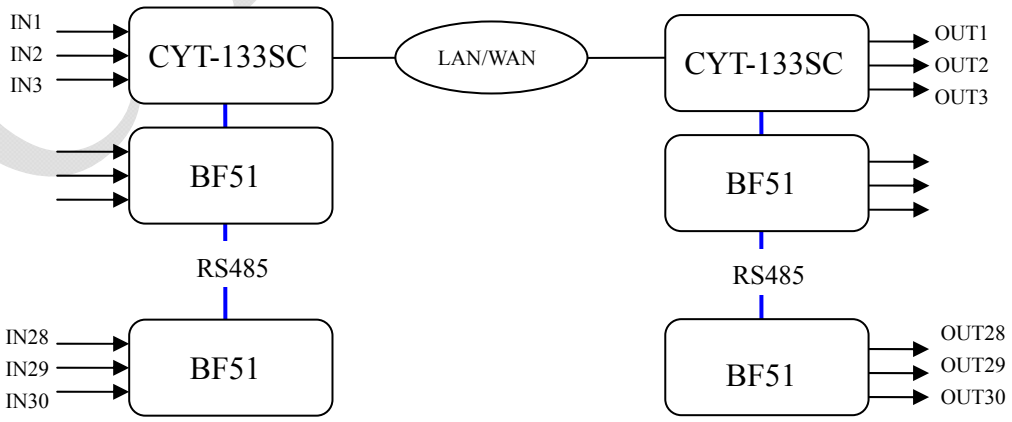
- **Function instruction**

Function	Description
Remote Peer IP	Default setting of remote peer IP address is **0.0.0.0.**

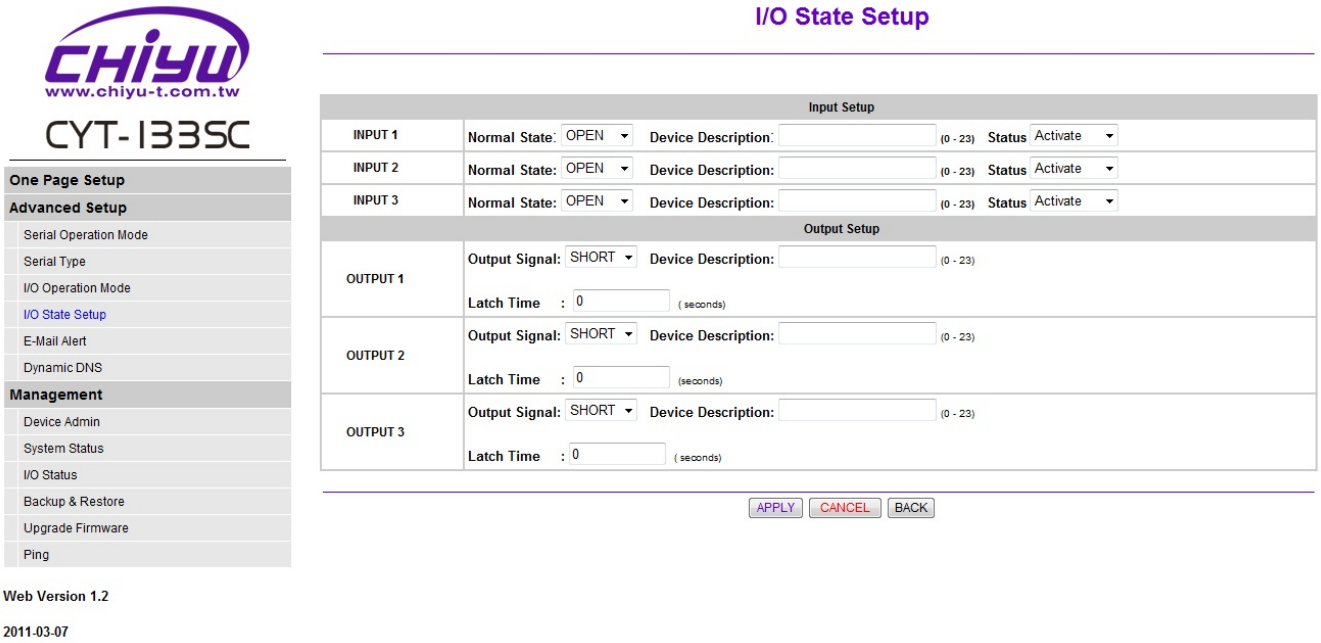
Structure 1：

Structure 2：

Extend I/O Mode



4、I/O State Setup

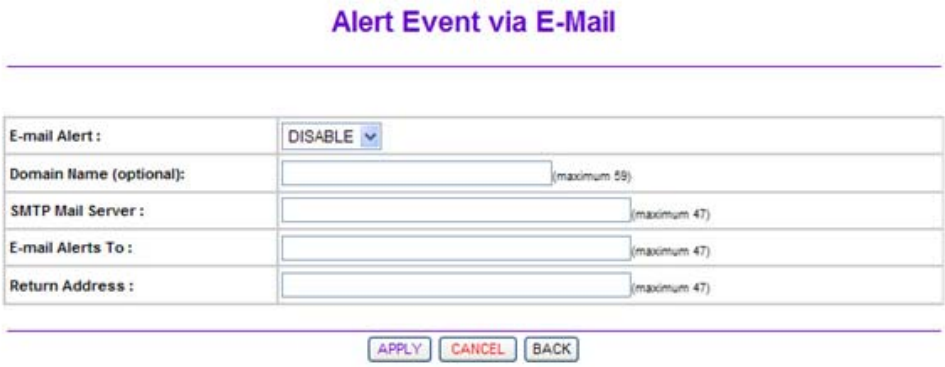


This page is for I/O operation setting when selecting I/O Operation Mode Setup (Auto). According to the INOUT signal changes can control OUTPUT external driver device. You can insert device name in **Device Description** for identification. You can also set up OUTPUT Latch Time for output time length. If the setting is 0 then OPTPUT can only be removed when INPUT status back to normal.

- **Function instruction**

Function	Description
INPUT 1	● INPUT 1 status can set OPEN or SHORT, default setting is **OPEN.** ● Can set device name in Device Description for identification, up to 23 characters. ● STATUS：Set Enable or Disable INPUT1 detection
INPUT 2	● INPUT 2 status can set OPEN or SHORT, default setting is **OPEN.** ● Can set device name in Device Description for identification, up to 23 characters. ● STATUS：Set Enable or Disable INPUT2 detection
INPUT 3	● INPUT 3 status can set OPEN or SHORT, default setting is **OPEN.** ● Can set device name in Device Description for identification, up to 23 characters. ● STATUS：Set Enable or Disable INPUT3 detection
OUTPUT 1	● OUTPUT 1 setting, when INPUT signal changes can set OUTPUT into OPEN or SHORT, default setting is **SHORT.** ● Can set device name in Device Description for identification, up to 23 characters. ● Set OUTPUT 1 duration, default setting is **0.**
OUTPUT 2	● OUTPUT 2 setting, when INPUT signal changes can set OUTPUT into OPEN or SHORT, default setting is **SHORT.** ● Can set device name in Device Description for identification, up to 23 characters. ● Set OUTPUT 2 duration, default setting is **0.**
OUTPUT 3	● OUTPUT 3 setting, when INPUT signal changes can set OUTPUT into OPEN or SHORT, default setting is **SHORT.** ● Can set device name in Device Description for identification, up to 23 characters. ● Set OUTPUT 3 duration, default setting is **0.**

5、Alert Event E-Mail

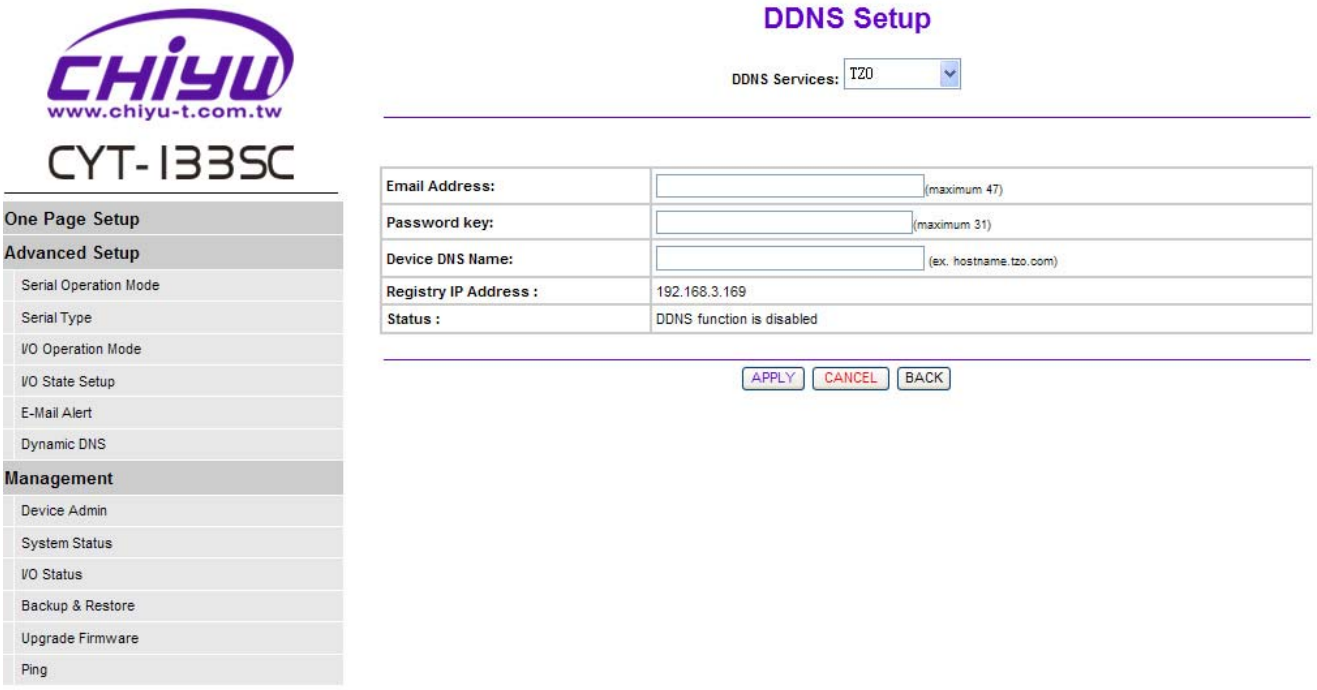


- **Function instruction**

Function	Description
E-mail Alert	Enable or Disable event alert mail setting, default setting is **Disable.**
Domain Name (optional)	Domain name setting up to **59** characters, default setting is **blank**. (Non-required)
SMTP Mail Server	SMTP server setting, take msa.hinet.net for instance, the setting is up to **47** characters.
E-mail Alerts To	Receiver mail setting up to **47** characters.
Return Address	Sender mail setting up to **47** characters.

6、DDNS Setup

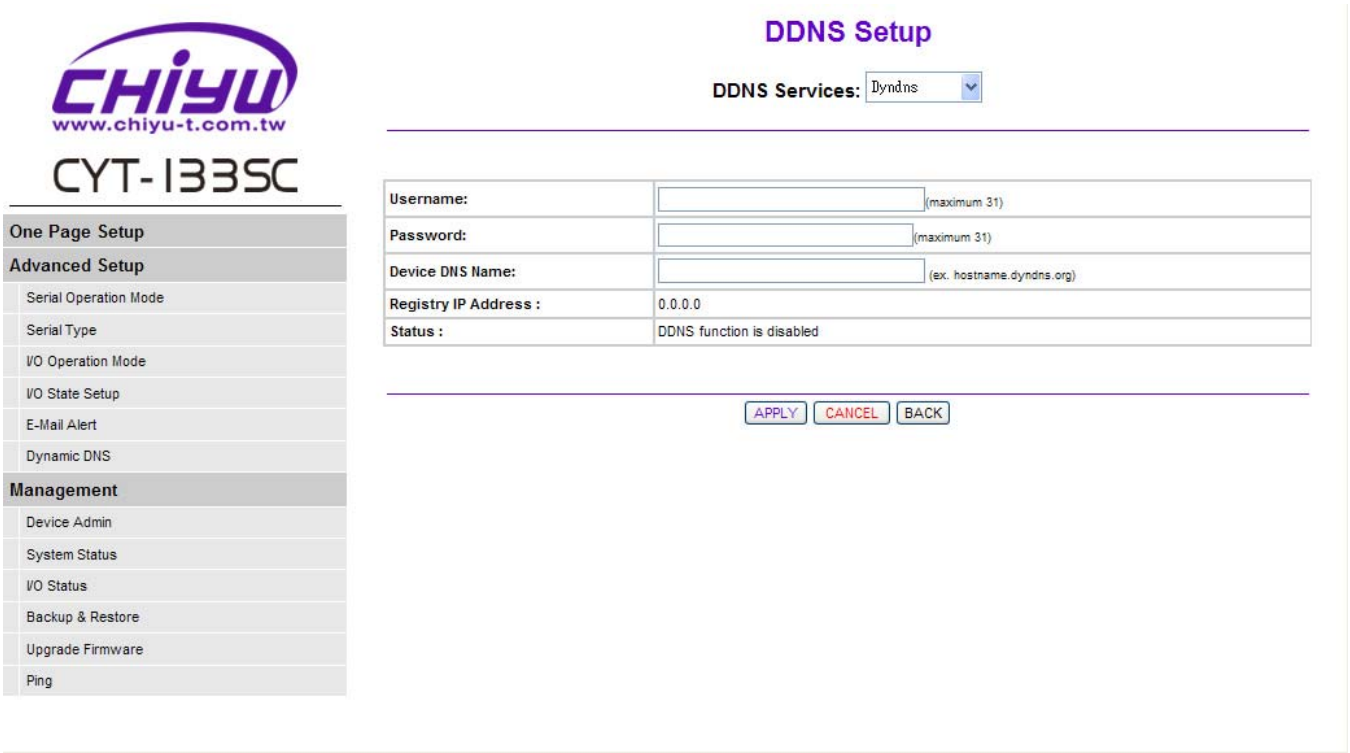
(1)TZ0



- **Function instruction**

Function	Description
E-mail Address	Fill in the E-mail address for DDNS , up to **47** characters
Password key	Fill in the password key for DDNS，up to **31** characters
Device DNS Name	Fill in the device DNS name，for example：hostname.tzo.com
Registry IP Address	Display the registry IP address，when DDNS is enabled, It will show the registry IP address
Status	Display DNS Serve status，when DDNS server does not enable ,it will show “**DDNS function is disabled**”

(2) Dyndns

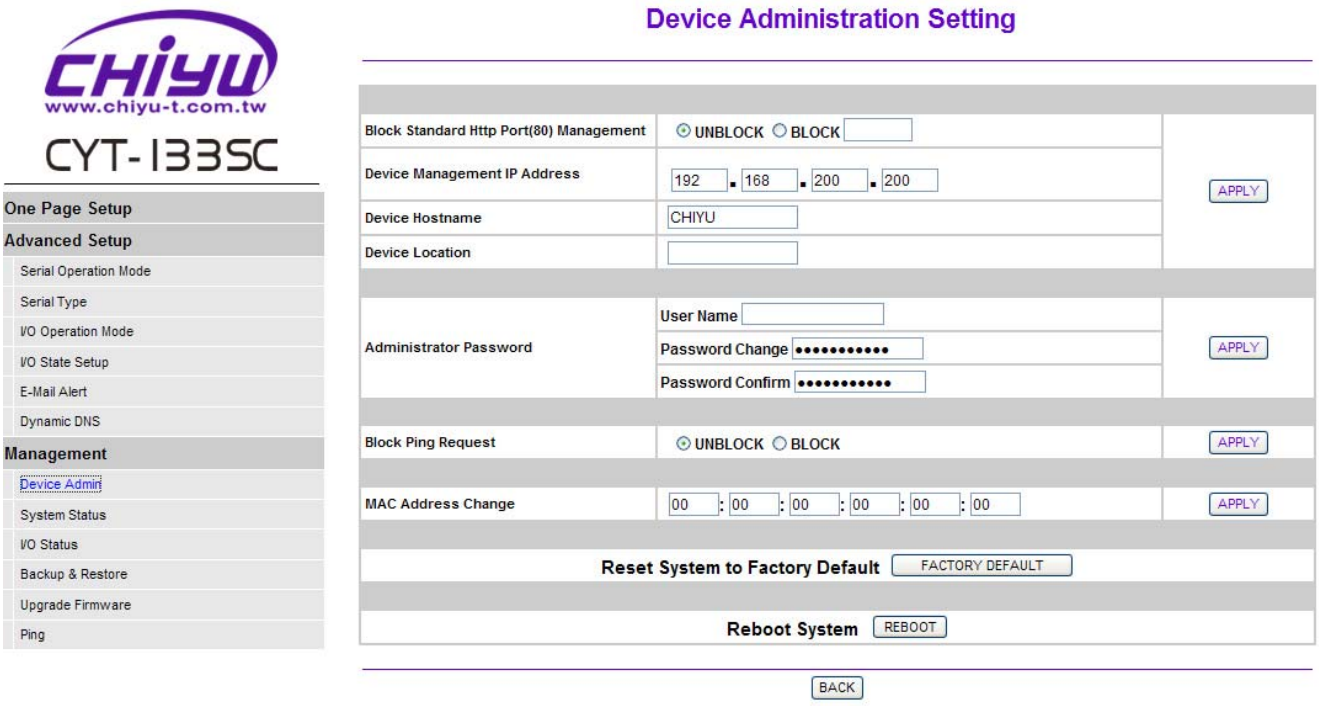


- **Function instruction**

Function	Description
Username	Fill in the username for DDNS，up to **31** characters
Password	Fill in the password for DDNS，up to **31** characters
Device DNS Name	Fill in the device DNS name，for example：hostname.dyndns.org
Registry IP Address	Display the registry IP address，when DDNS is enabled, It will show the registry IP address
Status	Display DNS Serve status，when DDNS server does not enable ,it will show “**DDNS function is disabled**”

◆ Management

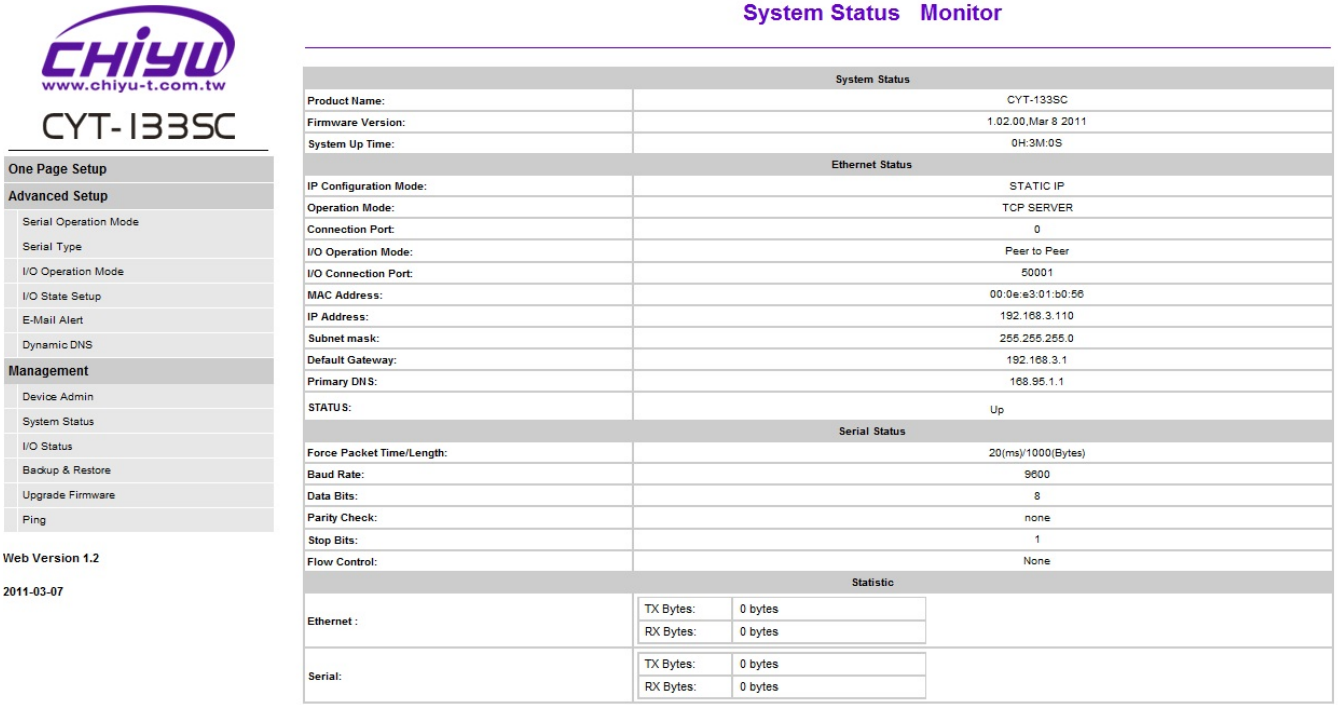
1、Device Administration Setting



- **Function instruction**

Function	Description
Block Standard Http Port(80) Management	● Select unblock or block standard http port，default setting is **UNBLOCK(80)** ● If other port sequence has to be set, select BLOCK, and then fill in the port sequence.
Device Management IP Address	Display and set the device management IP address , default setting is **192.168.200.200**
Device Hostname	Fill in the device hostname, default setting is **CHIYU**
Device Location	Fill in the device location , default setting is **blank**
Administrator Password	● User Name：Fill in the user name ● Password Change：Change the password, for security reasons, please fill in a new password to replace the default management ● Password Confirm：Confirm the new password
Block Ping Request	Select unblock or block ping request function , default setting is unblock
MAC Address Change	If you want to change the MAC address, fill in the new MAC address
Reset System to Factory Default	Execute this function will reset system to factory default
Reboot System	Execute this function will reboot system

2、System Status Monitor

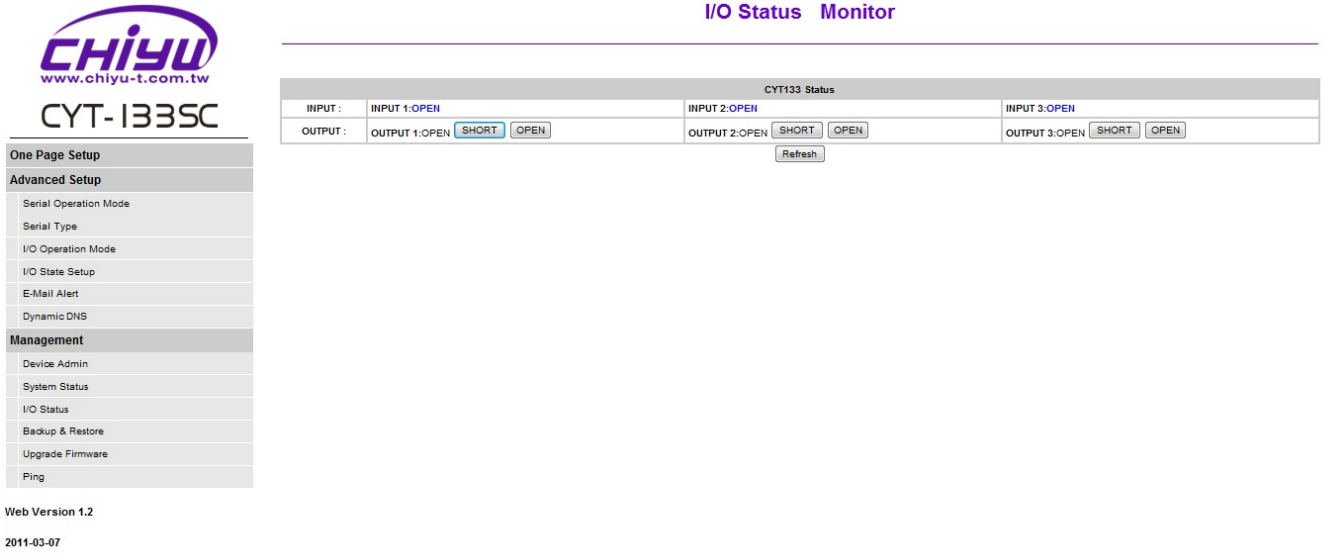


- **Function instruction**

Function	Description
Product Name	Display the product name：**CYT-133SC**
Firmware Version	Display the firmware version：**1.02.00,Mar 8 2011**
System Up Time	Display system up time，the sequence is **hour/minute/second**
IP Configuration Mode	Display the IP configuration，default setting is **STATIC IP**
Operation Mode	Display the operation mode，default setting is **TCP SERVER**
Connection Port	Display the connection port，default setting is **50000**
I/O Operation Mode	Display the I/O operation mode，default setting is **AUTO**
I/O Connection Port	Display the I/O connection port，default setting is **blank**
MAC Address	Display the MAC address of CYT-133SC
IP Address	Display CYT-133SC address, default setting is **192.168.168.125**
Subnet mask:	Display CYT-133SC Subnet mask, default setting is **255.255.255.0**
Default Gateway	Display CYT-133SC Default Gateway, default setting is **192.168.168.254**
Primary DNS:	Display CYT-133SC Primary DNS address, default setting is **168.95.1.1**
STATUS	Display CYT-133SC internet status
Force Packet Time/Length:	Display Force Packet Time/Length, default setting is **20ms/1000bytes**
Baud Rate	Display Baud Rate, default setting is **19200**
Data Bits	Display Data Bits, default setting is **8**
Parity Check	Display Parity Check, default setting is **None**
Stop Bits:	Display Stop Bits, default setting is **1**
Flow Control:	Display Flow Control, default setting is **None**
Ethernet	RX & TX display the total data amount of data receive and transmission of **Ethernet**.
Serial	RX & TX display the total data amount of data receive and transmission of **Serials.**

3、I/O Status

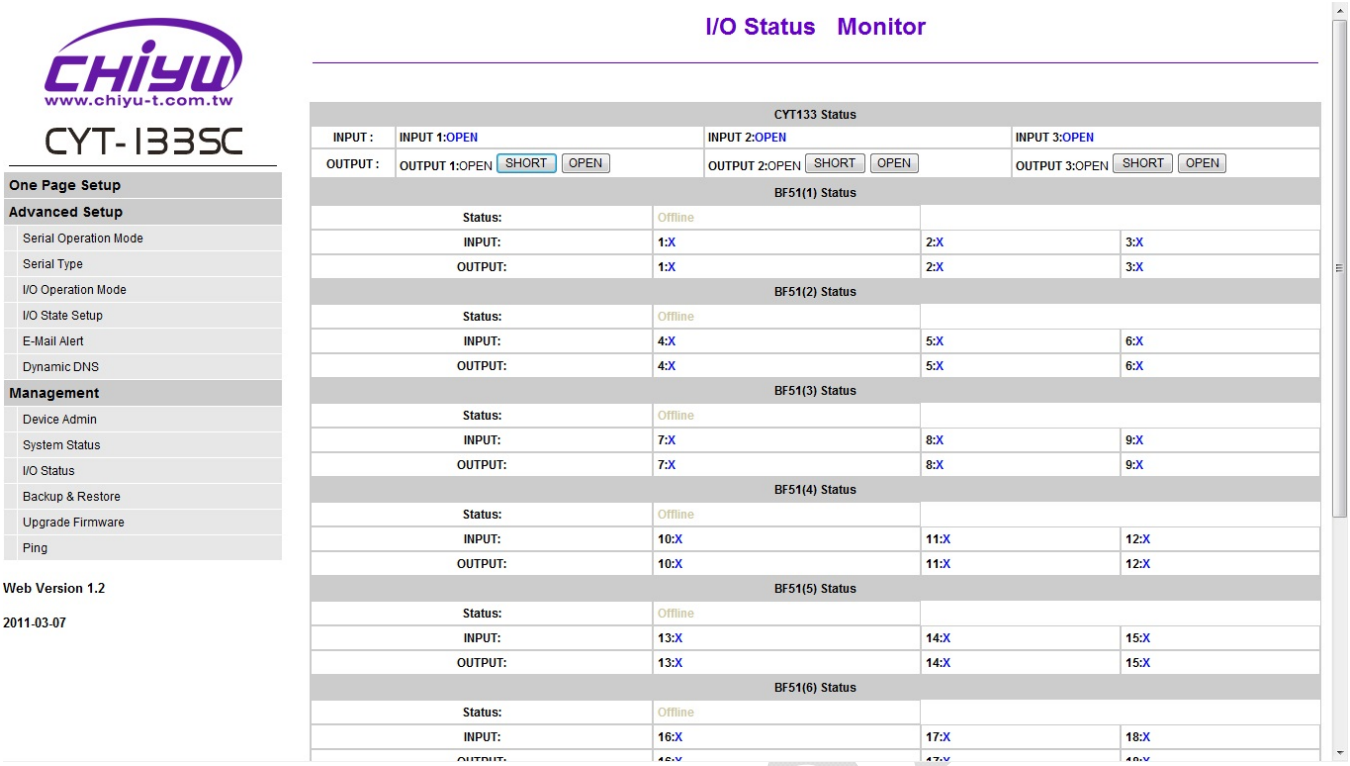
(1)Non Extend I/O Mode



- **Function instruction**

Function	Description
INPUT 1	CYT-133SC INPUT 1 status display
INPUT 2	CYT-133SC INPUT 2 status display
INPUT 3	CYT-133SC INPUT 3 status display
OUTPUT 1	● CYT-133SCOUTPUT 1 status display ● Click SHORT-1 or OPEN-1 manual control OUTPUT 1
OUTPUT 2	● CYT-133SCOUTPUT 2 status display ● Click SHORT-2 or OPEN-2 manual control OUTPUT 2
OUTPUT 3	● CYT-133SCOUTPUT 3 status display ● Click SHORT-3 or OPEN-3 manual control OUTPUT 3
Refresh	Click Refresh to get the I/O updated status.

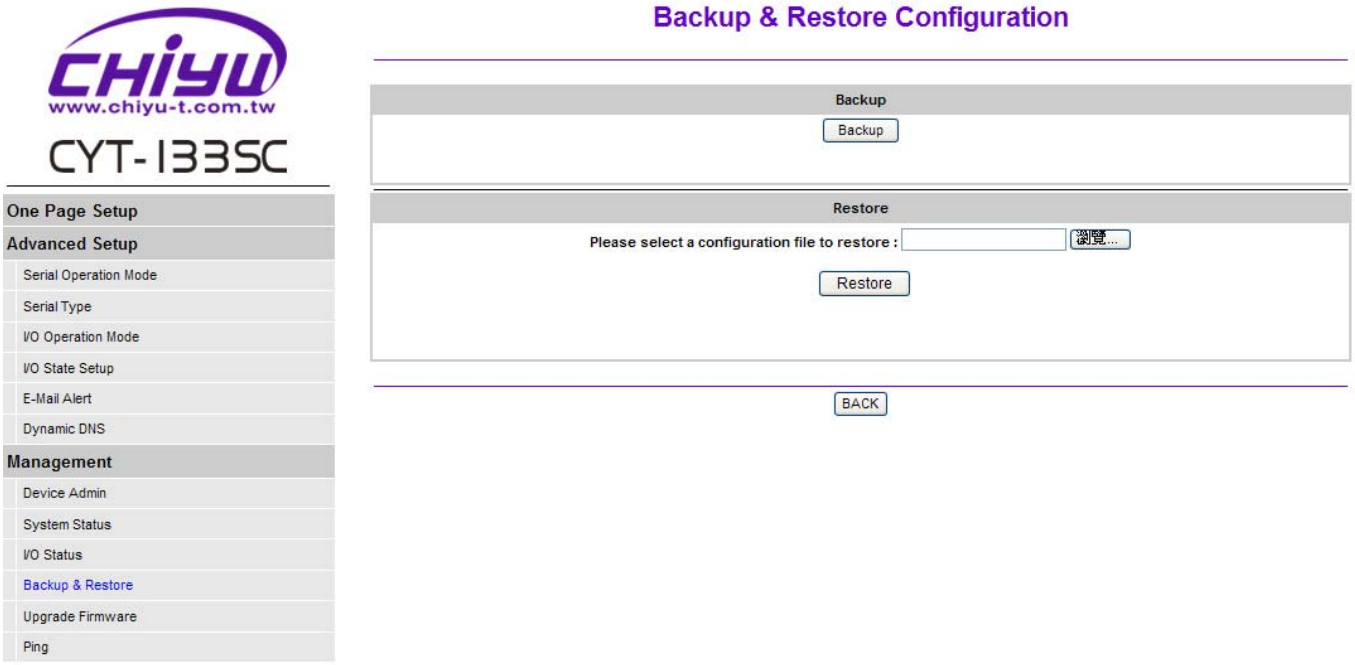
(2)Extend I/O Mode



- **Function instruction**

Function	Description
INPUT 1	CYT-133SC INPUT 1 status display
INPUT 2	CYT-133SC INPUT 2 status display
INPUT 3	CYT-133SC INPUT 3 status display
OUTPUT 1	● CYT-133SC OUTPUT 1 status display ● Click SHORT-1 or OPEN-1 manual control OUTPUT 1
OUTPUT 2	● CYT-133SCOUTPUT 2 status display ● Click SHORT-2 or OPEN-2 manual control OUTPUT 2
OUTPUT 3	● CYT-133SCOUTPUT 3 status display ● Click SHORT-3 or OPEN-3 manual control OUTPUT 3
Refresh	Click Refresh to get the I/O updated status.
BF-51 status	
BF51(1~9)Status	BF-51 status display, (1~9) indicates **TID** of BF-51.
Status	BF-51 status display，**Online** or **Offline**
INPUT	BF-51 INPUT status display, X means disconnect.
OUTPUT	● BF-51 OUTPUT status display, X means disconnection. ● Can click SHORT or OPEN manual control OUTPUT, X means disconnection.

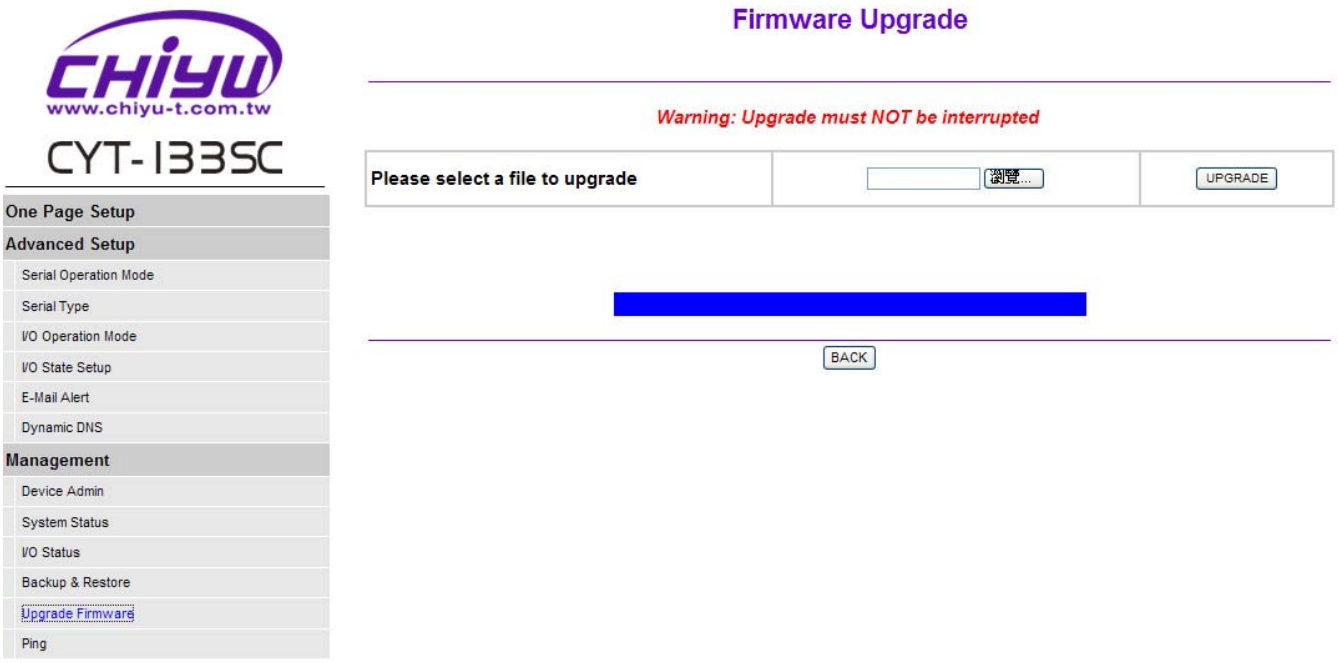
4、Backup & Restore Configuration



- **Function instruction**

Function	Description
Backup	After execution, can save the present system settings as a backup file, and save it in hardware, the sub-name of the saved file is .cfg
Restore	Browse and select saved file(.cfg), execute Restore to restore system settings

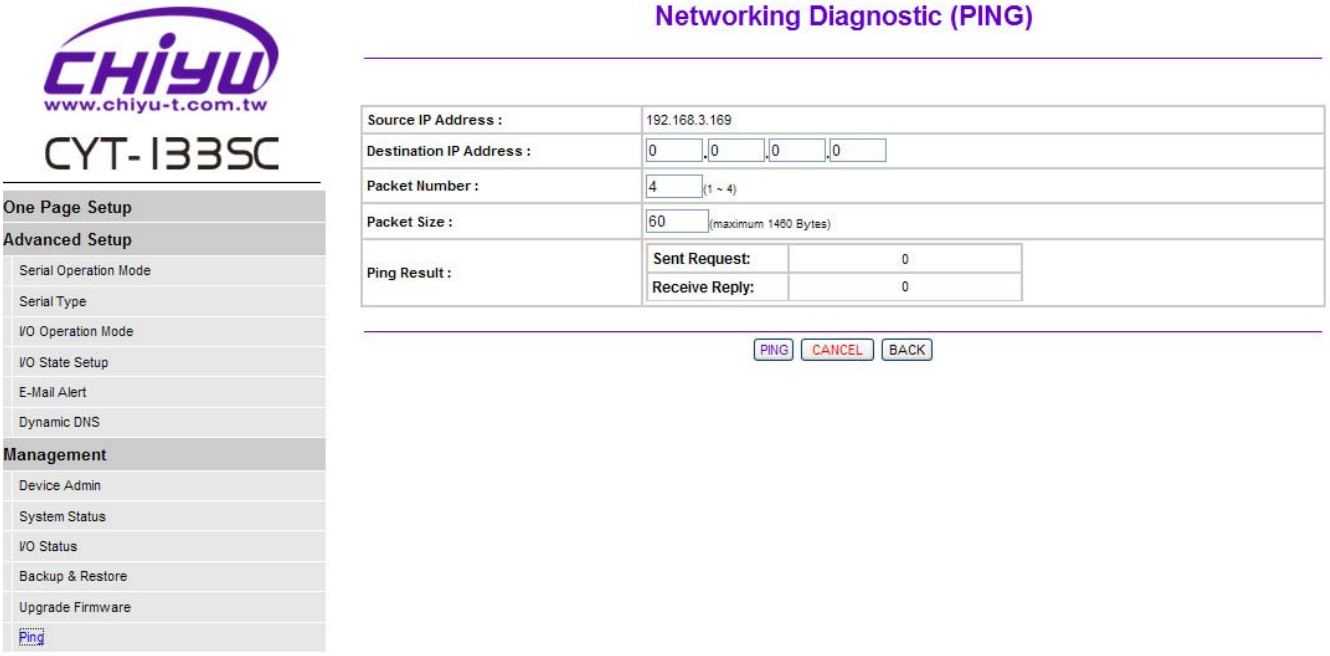
5、Firmware Upgrade



- **Function instruction**

Function	Description
Please select a file to upgrade	● Browse and select firmware, execute Upgrade to upgrade firmware ● Has to assure the possibility of power supply during the process of upgrading, or severe damage will be caused. What if upgrade different firmware to different products, and it will also cause severe damage.

6、PING



- **Function instruction**

Function	Description
Source IP Address	Display CYT-133SC IP address
Destination IP Address	Input IP address of Remote Host
Packet Number	Set up the number of PING package, ranged 1 ~4 , the default **4**
Ping Size	Set up the size of PING package, the utmost setting **1460** bytes.
Ping Result	● Display **Sent Request** data ● Display **Receive Reply** data

Appendix A- CYT-133SC DIO Command Protocol

This DIO command protocol is described here to let customer's remote management software to access Digital I/O state through Ethernet network by a specific TCP/UDP port.

Command Packet Format: (Host → CYT-133SC)

Length(Bytes)	2	2	32	32	2	1
	Start Flag	Command	Data1	Data2	End Flag	CRC

Command:

0x0001 - Read Digital I/O state

0x0003 - Trigger Digital I/O

0x0005 - Auto Report Current I/O State Packet

Return Packet Format: (CYT-133SC → Host)

Length(Bytes)	2	2	32	32	2	1
	Start Flag	Command Status	Data1	Data2	End Flag	CRC

The CYT-133SC returns by Return packet. You can get command status to know the result after sending command packet and from Data1 and Data2 to know current I/O state.

Note:

Start Flag: 0xF0F0

End Flag: 0xF0F0

Command Status: the definition of command code is as following

0x0002 – ACK of Read Digital I/O state

0x0004 – ACK of Trigger Digital I/O

0x0006 – ACK of E-mail Alarm Trigger

0x0010 – Report current Digital I/O state (If Auto Report I/O Status is enabled, you will receive this report packet from CYT-133SC)

0xFFFC – Flag error, incorrect Start Flag or End Flag received in command packet

0xFFFD – Length error, the length of command packet is invalid

0xFFFE – CRC error, incorrect CRC value

0xFFFF – Command error, no such command

CRC value = 0 – total sum from field of 'Start Flag" to "End Flag"

The format of each command code is as following:

1. Read Digital I/O state

Length(Bytes)	**2**	**2**	**32**	**32**	**2**	**1**
	0xF0F0	**0x0001**	**Xxx (don't care)**	**Xxx (don't care)**	**0xF0F0**	**CRC**

Return Successful Packet

Length(Bytes)	**2**	**2**	**32**	**32**	**2**	**1**
	0xF0F0	**0x0002**	**Data1**	**Data2**	**0xF0F0**	**CRC**

Data1

Data[0]	Data[1]					Data[28]	Data[29]	Data[30]	Data[31]
IN-1	IN-2					IN-29	IN-30	reserved	reserved

IN-1: state of IN1, 0 for SHORT, 1 for OPEN, 2 for Deactivated
IN-2: state of IN2, 0 for SHORT, 1 for OPEN, 2 for Deactivated
⋮
IN-30: state of IN30, 0 for SHORT, 1 for OPEN, 2 for Deactivated

Data2

Data[0]	Data[1]					Data[28]	Data[29]	Data[30]	Data[31]
OUT-1	OUT-2					OUT-29	OUT-30	reserved	reserved

OUT-1: state of OUT1, 0 for SHORT, 1 for OPEN, 2 for Deactivated
OUT-2: state of OUT2, 0 for SHORT, 1 for OPEN, 2 for Deactivated
⋮
OUT-30: state of OUT30, 0 for SHORT, 1 for OPEN, 2 for Deactivated

2. Trigger Digital I/O

Length(Bytes)	2	2	32	32	2	1
	0xF0F0	0x0003	Data1	Data2	0xF0F0	CRC

Data1

Data[0]	Data[1]					Data[28]	Data[29]	Data[30]	Data[31]
OUT-1	OUT-2					OUT-29	OUT-30	reserved	reserved

OUT-1: the value you want to write into OUT1, 0 for SHORT, 1 for OPEN
OUT-2: the value you want to write into OUT2, 0 for SHORT, 1 for OPEN

⋮

OUT-30: the value you want to write into OUT30, 0 for SHORT, 1 for OPEN

Data2 for Latch time in second

Data[0]	Data[1]					Data[28]	Data[29]	Data[30]	Data[31]
LT-1	LT-2					LT-29	LT-30	reserved	reserved

Return Successful Packet

Length(Bytes)	2	2	32	32	2	1
	0xF0F0	0x0004	Xxx (don't care)	Xxx (don't care)	0xF0F0	CRC

3. E-mail Alarm Trigger

Length(Bytes)	2	2	32	32	2	1
	0xF0F0	0x0005	Alarm Message Description		0xF0F0	CRC

Alarm Message Description: string of alarm message by customer attach and CYT-133SC send this content by e-mail

Return Successful Packet

Length(Bytes)	2	2	32	32	2	1
	0xF0F0	0x0006	Xxx (don't care)	Xxx (don't care)	0xF0F0	CRC

4. Auto Report Current I/O State Packet (CYT-133SC to Host)

Length(Bytes)	**2**	**2**	**32**	**32**	**2**	**1**
	0xF0F0	**0x0010**	**Data1**	**Data2**	**0xF0F0**	**CRC**

Data1

Data[0]	Data[1]	Data[2]	Data[3]					Data[30]	Data[31]
IN-1	IN-2	IN-3	IN4					reserved	reserved

IN-1: state of IN1, 0 for SHORT, 1 for OPEN, 2 for Deactivated
IN-2: state of IN2, 0 for SHORT, 1 for OPEN, 2 for Deactivated
IN-3: state of IN3, 0 for SHORT, 1 for OPEN, 2 for Deactivated

Data2

Data[0]	Data[1]	Data[2]	Data[3]					Data[30]	Data[31]
OUT-1	OUT-2	OUT-3	reserved					reserved	reserved

OUT-1: state of OUT1, 0 for SHORT, 1 for OPEN
OUT-2: state of OUT2, 0 for SHORT, 1 for OPEN
OUT-3: state of OUT3, 0 for SHORT, 1 for OPEN

5. Keep Alive (Only useful when CYT-133SC's I/O mode is acting as TCP Client) : (CYT-133SC → Host)

Length(Bytes)	**2**	**2**	**64**	**2**	**1**
	0xF0F0	**0x0007**	**RESV**	**0xF0F0**	**CRC**

0x0007 – Keep Alive (new created)

Return Successful Packet (Host → CYT-133SC)

Length(Bytes)	**2**	**2**	**32**	**32**	**2**	**1**
	0xF0F0	**0x0008**	**Xxx (don't care)**	**Xxx (don't care)**	**0xF0F0**	**CRC**

0x0008 – ACK of Keep Alive (New created)

Appendix B- Remote reset command

a. CGI (URL) command
http://192.168.1.125/reboot.htm@admin:admin

b. CHIYU proprietary command, UDP connection/port 5050

	Byte
SNG	16
CMD	4

SNG (16 bytes): signature data, should be "**CHIYU Reboot CMD**" case sensitive.
CMD (4 bytes): 0x00 00 00 20

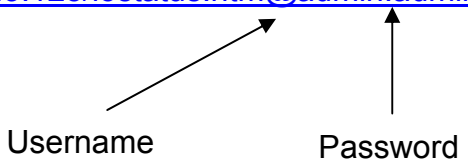
Return packet:

	Byte
SNG	16
ACK	4

SNG (16 bytes): signature data, should be "**CHIYU Reboot CMD**" case sensitive.
ACK(4 bytes): 0x00 00 00 21

Appendix C- CGI(URL) command for I/O control

- Get I/O Status : http://192.168.3.125/iostatus.htm@admin:admin



- Energize Output Relay command:

For example :

Energize Relay No.1 all the time

http://192.168.3.125/set_relay.php&no=1&time=0@admin:admin

Energize Relay No.2 and latch 10 seconds

http://192.168.3.125/set_relay.php&no=2&time=10@admin:admin

- Clear Output Relay command:

For example :

Clear Relay No.1

http://192.168.3.125/clear_relay.php&no=1@admin:admin

Clear Relay No.2

http://192.168.3.125/clear_relay.php&no=2@admin:admin