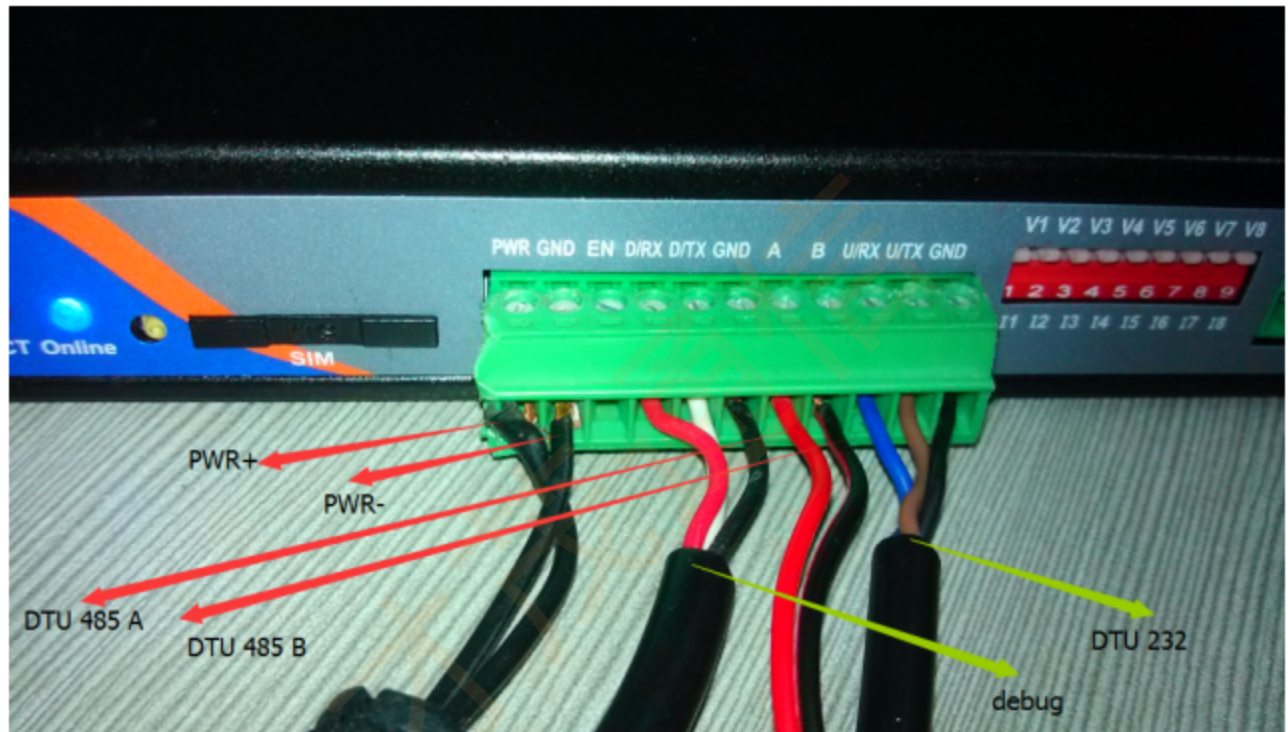


## Quick operation on how to enable DTU function of RTU (for APN network)

Version No.:V1.0      Date: 20151009

### 1. RTU Cable Connection

1. Power wire (PWR—black with white, GND—black)
2. RS232(D/RX—blue, D/TX—brown, GND—black); RS485( A--RED, B--Black)



#### Note:

For old version RTU, you can **only** choose 1 RS232/RS485 serial to use, but can not use them both. For our new version RTU that has launched since Sept. 2015, you can use **both** of RS485 and RS232. Following is the difference on DIP switch between old version and new version, please note it.

DIP switch: new version has 9pin, the additional 1<sup>st</sup> one pin on the left is the battery switch. But old version only has 8 pin. (See as following picture)



## 2. Login RTU local web-based page

Pls configure your APN parameters on local web-based page first, see as below picture





1. Open the browser and enter into the default IP address: 192.168.1.2; then fill in account name: admin, password: admin.
2. To choose English version on the left;
3. RTU IP address: Please change RTU's IP address to avoid conflicts when you use cable connect RTU with digital.

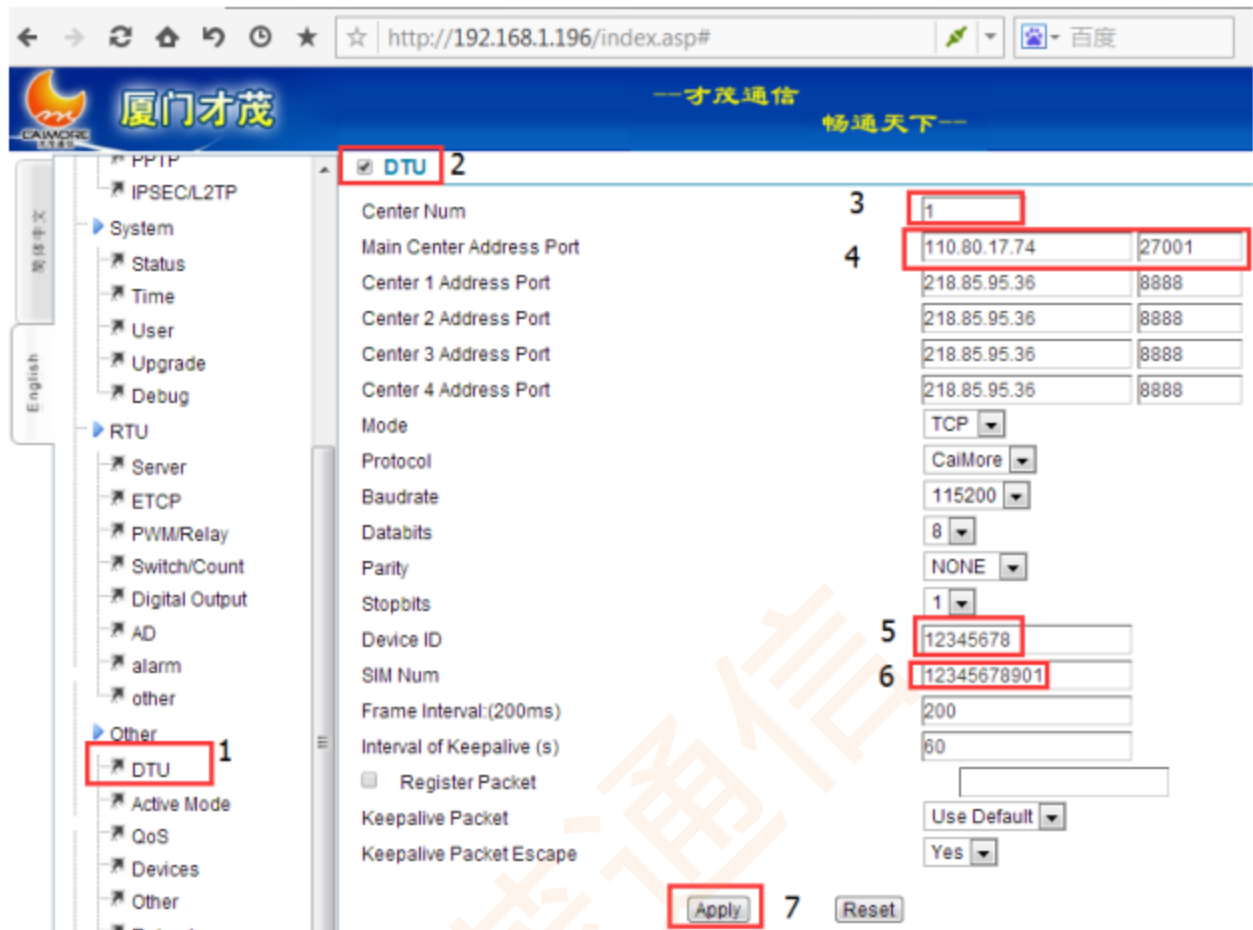
Note: a. If RTU connect with PC by cable directly, please ensure that RTU's IP is as same as your PC's;

B. If RTU connect with switch router by cable, please ensure that RTU's IP should be in the same private network with switch router.

### 3. Configure DTU function

Hereby will introduce you 2 configuration for your reference. One is for the old version RTU, the other one is for new version.

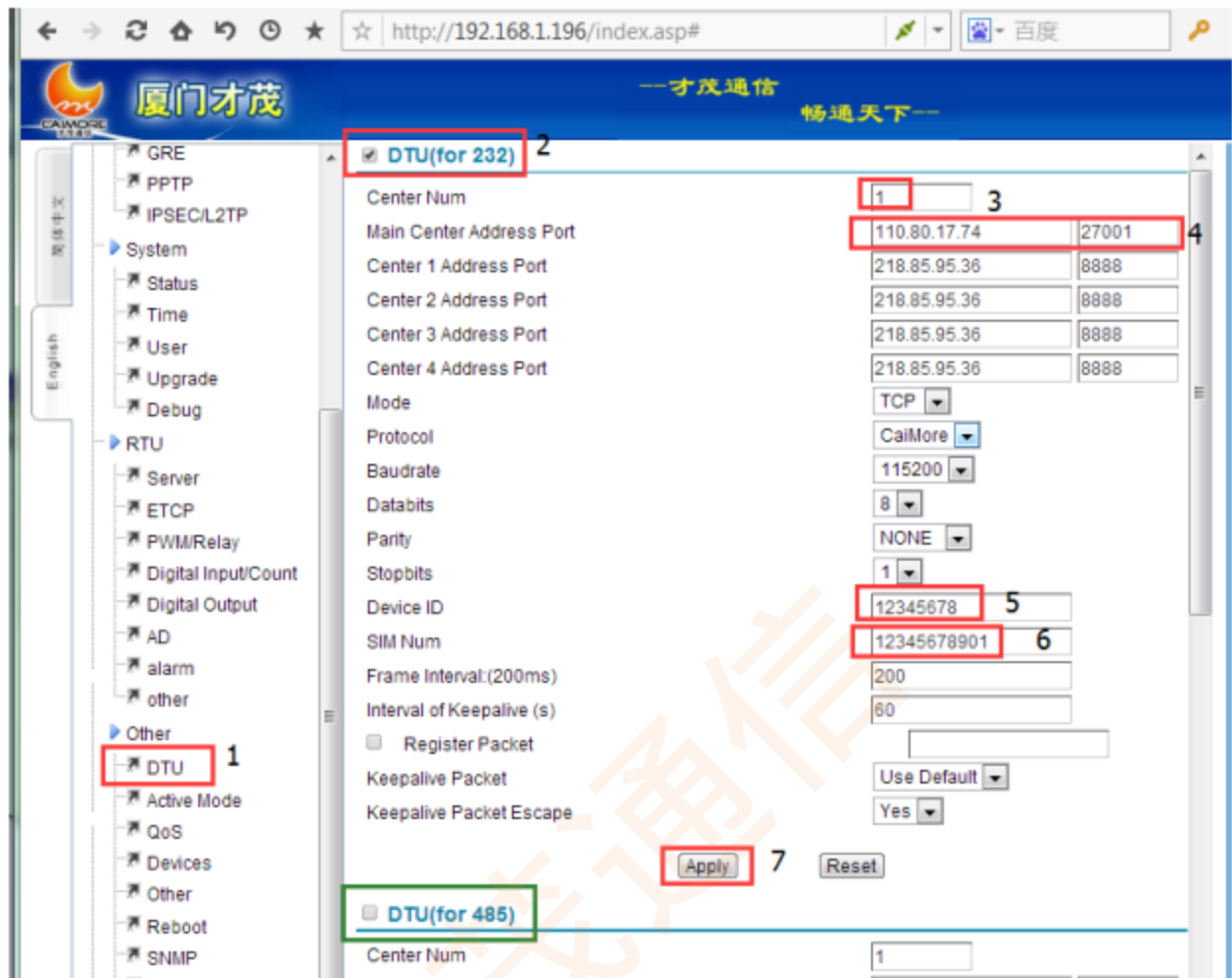
#### 3.1 Configure DTU function for old version RTU



1. Click "Other--DTU" on the left bar on the page;
2. Tip "DTU" option;
3. To enter into the center No., if there is only 1 center, please only fill in the relative parameter on "Main Center Address Port". If there is multiple center, please fill in them one by one.
4. To set the main central server's public IP and port.
5. Fill in the RTU's ID No. , in order to let server to recognize RTU .;
6. Fill in SIM card No., in order to let server to recognize RTU;
7. Click "Apply" to finish, then power off RTU first and then reboot it again.

### 3.2 Configure DTU function for new version RTU

The detail step of configuration is as same as old one. There is only 1 difference that you can set the parameters of RS232 & RS485 separately. Please refer to below:



#### 4. Enable central server port

There are 2 ways to enable central server, by your own central(TCP) server or “**NETWORK DEBUGGING ASSISTANT**”

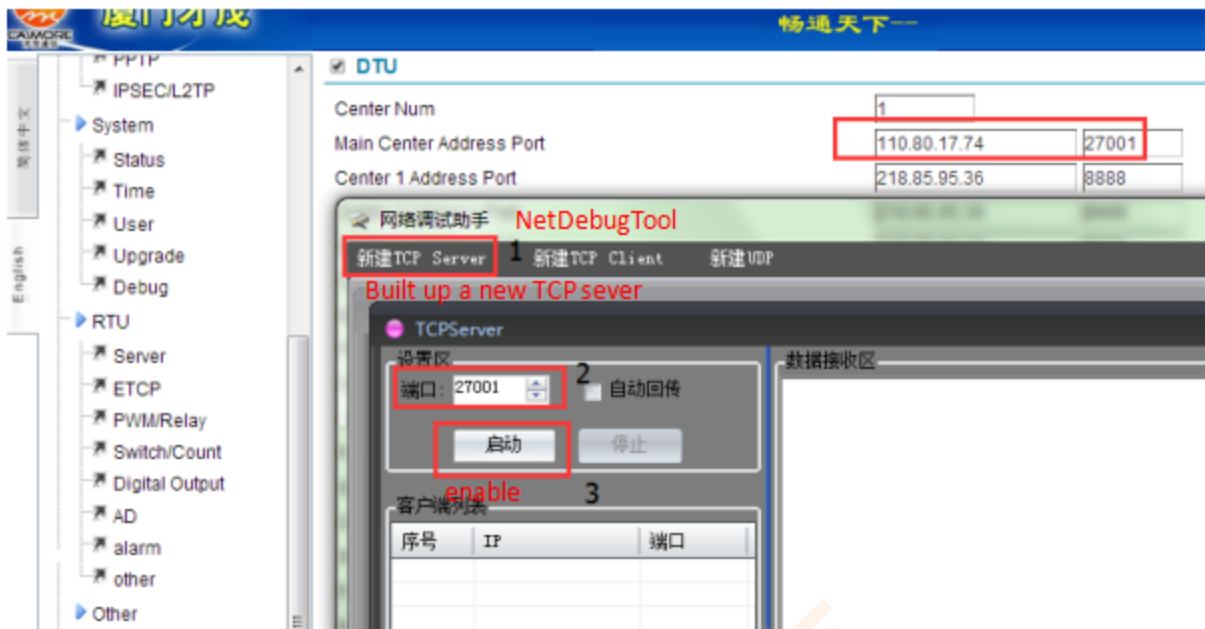
##### A. Your own central (TCP) server.

1. Please open your own central(TCP) server’s public IP port;
2. Central(TCP) server will receive a connection request with a registration packet from RTU;
3. Once the registration packet is 21 bytes and meet to the definition as below (refer to 3 point), central(TCP) server will interpret it as RTU has been connected.

##### B. “ NETWORK DEBUGGING ASSISTANT” .

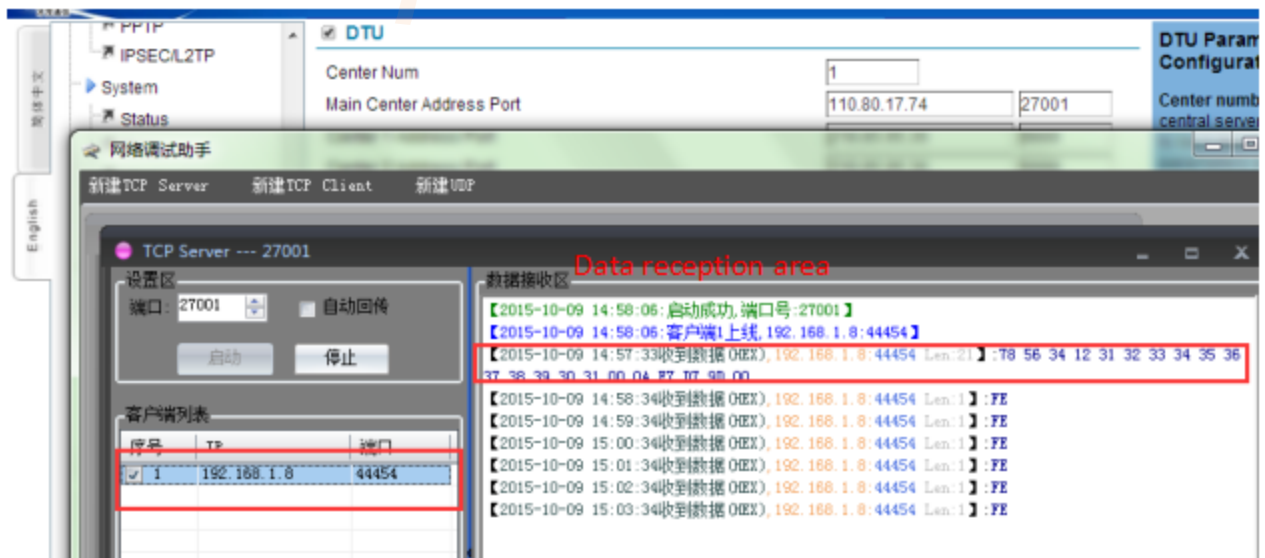
Please download it online, which is similar to “NetDebugTool.exe”. Below picture hope will be useful for you.





1. Open your "NETWORK BEGGING ASSISTANT" program;
2. Click "Built up a new TCP server";
3. Set your central server's public IP port by "Port" option. For example: 27001.  
**Note: this port NO. Should as same as your central server's public IP port.**
4. Click "Enable" to connect RTU with your central server, and then tick "Hex display" on the right side page of "NETWORK BEGGING ASSISTANT" program. If there is a **registration packet data** displayed on the "Data reception area", for example: **78 56 34 12 31 32 33 34 35 36 37 38 39 30 31 00 0A F7 D7 9D 00**; that means that RTU has been connected with the server.

Please refer to following picture:



## 5. Definition of registration packet data

**First registration package** refer to the first time of RTU to send the data for central server' successfully, and get the package data with 21 bytes from the server. See as the format as below:

ID	PHONE_NUMBER	0	IP_ADD	ETX
4bytes	11 bytes	1 byte	4bytes	1byte

Description:

**ID:** The ID No. Of RTU, which has been set on the local web-based page;

**PHONE\_NUMBER:** The ASCII code of the mobile phone NO.

**IP\_ADD:** RTU's dynamic IP address

**ETX:** 0x00 means the data is ending.

For example:0x 78 56 34 12 31 32 33 34 35 36 37 38 39 30 31 00 0A F7 D7 9D 00

It will be interpreted like this:

78 56 34 12 means RTU ID Number is 12345678

31 32 33 34 35 36 37 38 39 30 31 means mobile phone NO. Is: 12345678901

00 0A F7 D7 9D means IP address