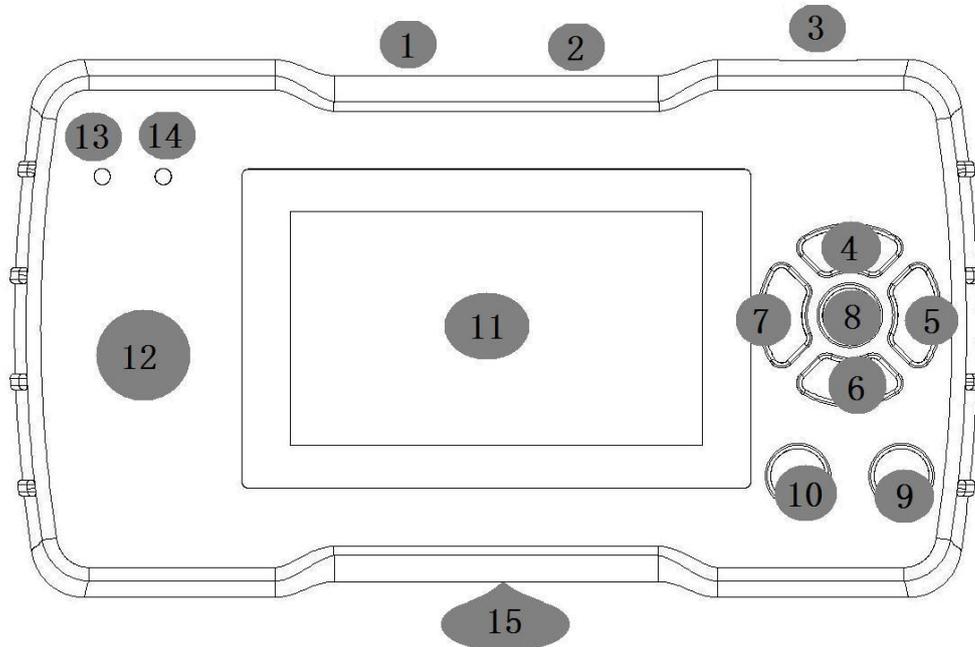


Hardware

Overview



- 1: USB Connection interface (Connect directly or portable Power)**
- 2: Remote data interface**
- 3: Turn On/Off**
- 4: Up arrow button**
- 5: Right arrow button (Pg Dn)**
- 6: Down arrow button**
- 7: Left arrow button (Pg Up)**
- 8: Enter button**
- 9: Return button**
- 10: Home button**
- 11: LCD display screen**
- 12: Remote control induction area**
- 13: Working LED(Blue)**
- 14: Power LED(Red)**
- 15: Battery box (Use 4 "AA" Size battery)**

Preparation before use

Take out the TY90 form the package.Plug the USB Power line one side in USB Outlet of TY90,and the other sides link in PC USB port or cell phone charge.。 put out a remote connecting wire,connect it to plug at the Remote Connector.Before power on,make sure that the plug has been solid connect.。 Turn on the power switch,power on!It'll display the TY90's disclaimer after a boot image, press " O " to enter the Home menu options.

(NOTE: The content of dynamic boot image can be customized)

Functional overview

TY90 Universal Programmer (TY90) is a multi-functional and smart machine to remote(RKE),it include: remote Frequency detect and Frequency edit ,remote data detect ,compare, edit,copy,and data generate/regenerate etc.The more powerful functions help to greatly reduce remote inventory,improve flexibility and work efficiency.Particularly at Frequency edit.As the advance of technology and the accumulation of time ,we will updata the program of TY90.Updata is free and easy operate on PC,do no need to install drivers.

Equipment check list

Content	QTY
TY90 machine	1
USB power wire	1
Remote data cable	2
User guide	1
certificate	1

Functional description

一, Detect

1, Frequency Detect

TY90 has a precise frequency detection function. It's a small number of devices that can detect FSK data in the world,can identify two kinds of modulation mode.

In the Home menu,select"Detection"option and press"○"to enter,then select the "Frequency Detection" in "Detecting" menu,equipment into the state of frequency measurement.At this point,put the remote on the "INDUCTION AREA",Press the button which u want to check until the frequency shows in the screen,and will automatically determine ASK or FSK mode at the same time.

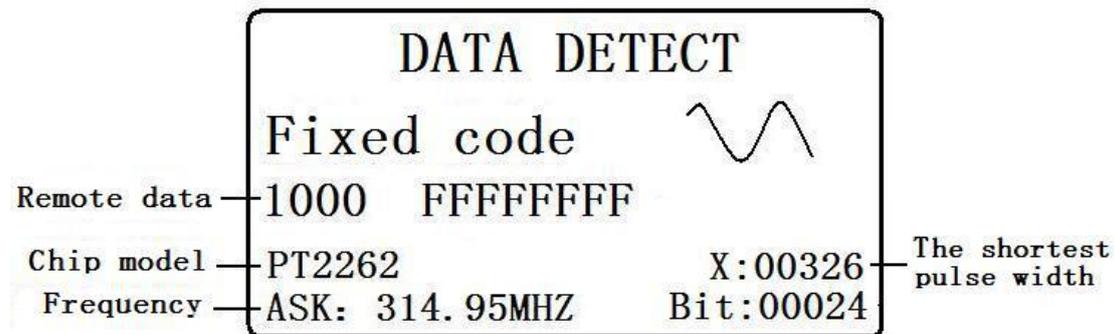
2, Data detect

Function:when detect a remote ,you can read the data,the shortest pulse width and part of Chip model.

In the Home menu,select"Detection"option and press " ○ "to enter,then select the "data Detection" in "Detecting" menu.Press the button which u want to check on the "INDUCTION AREA" until the remote data shows in the screen after "di" a sound.at this point ,release the button.

data on the screen are: remote data ,chip model,the shortest pulse width.

Its order as follows:

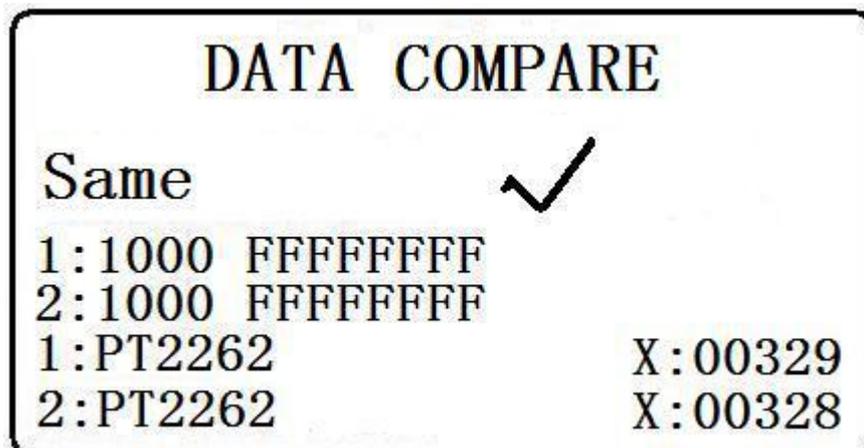


3, data compare

Function:Compare data between two remote controls.this is for comparing between original remote and copied remote,to analyze if they are the same.

Instruction:In Home menu,short press the "Detect" button.first menu appears.short press up and down arrow button,select"data compare" and short press " ○ "to enter,the screen display"Press remote 1",Put the original remote control on the "Induction zone" And press the remote control

button to be tested until hear a sound of beep, the screen show "press remote 2". At this point the remote control can release the button, then put the remotes have been copied on the "Induction Area", press the reference button until hear a sound of "beep", now release the button. if they have same data, there will be a big tick "✓" show in the middle of the screen (short beep), otherwise, a big "×" be showed (longer beep).



二, "Copy" menu and function description

1 remote copy

Function: duplicate/copy old remotes to new ones.

this is to copy a same ID remote as the original, if it's fixed code, it can be used directly after being copied, and both the copy remote and the copied remote can work at the same time. If it's rolling code, should program to the garage/alarm, and only one remote (copy one or copied one) can work.

Instruction: Please test and record the frequency of the original remote before you copy it.

NOTE: (If direct copy rolling code make remote won't work normal, mutual interference. you can copy by the "Rolling Code Regeneration.")

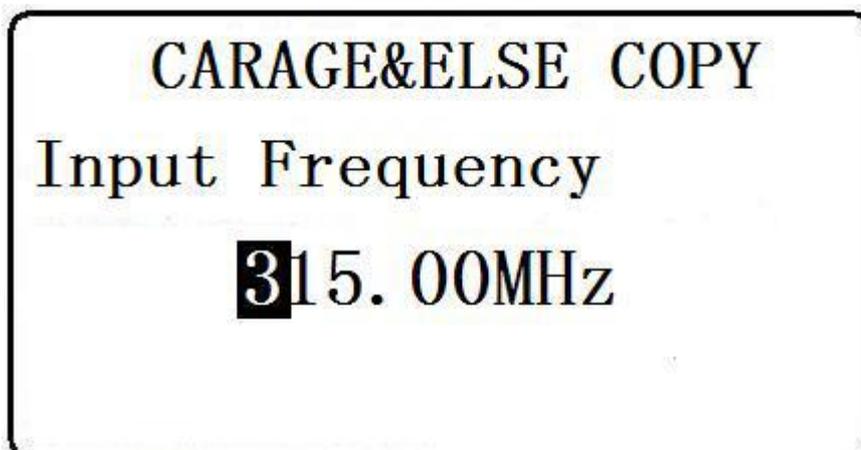
In Home menu, short press the "Copy" button. first menu appears. short press up and down arrow button, select "Remote copy" and short press "○" to enter, the screen display "Press remote 1". Put the original remote control on the "Induction zone" and press the first button to on it. until hear a sound of beep, after that data display on the screen. Now release the button. as picture below.

If the data is supposed to be incorrect, please press the button again until you think it's correct. then short press "○" enter and press the next button you want to copy, other buttons and so forth. (the first button need to enter twice, must be one the same button of the same remote).

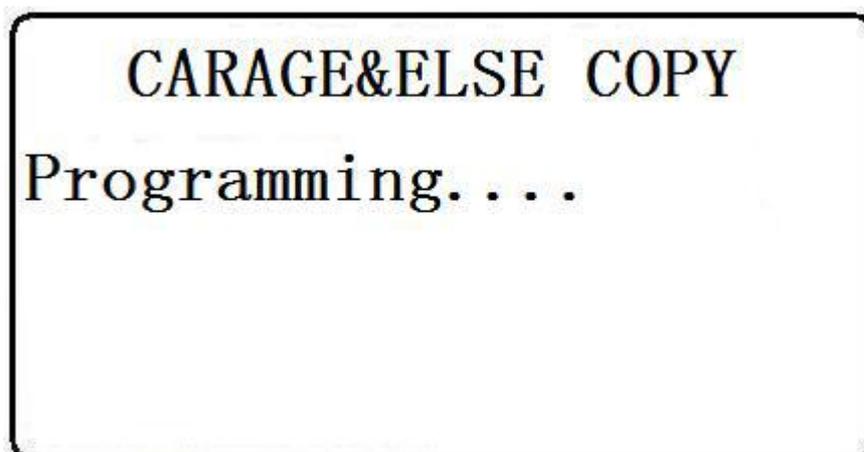
After the input of the first button, the device will be based on the received data, determine whether the remote control can be copied, if not, it always show a suggest: "the remote copy, there may not be normal use, it is recommended to try Remote Generation". This situation can also be normal to complete this copy, but the remote control of this copy, no guarantee can be used, the user can have a test to see if normal use. For some car/garage door models, it recommend directly generated by "Remote Generate" in the Home menu, than find the corresponding brand from a list and generated directly.

If can copy the remote smoothly, there will not be any other tips.

Maximum 4 buttons are allowed to copy at one time. After input 4 buttons, the screen will display a frequency to the new remote, as picture below:



Then you are in accordance with the frequency of the previous detection and comparison, if correct (if incorrect or no you need, can press "↑, ↓, ←, →" to edit it.) Press "○" enter, the screen shows "Connect remote". Connect remote to machine with the remote data cable, please be sure that the remote is without battery.



After right connection, short press "enter", the Device start to write data into new remote. a moment later, the screen will display "Write failed" or "Write succeed" to result.

If the Device displays "write failed", check if the download wire is connected firmly with the remote. please contact our technology department if still can't solve the problem.

NOTE: the Device only can write data into blank remote control we supply, TY90 Only.

2, CODE REgeneration,

This is to make a new ID remote based on the original, after successful made, should program it to the car/garage. both the new remote and the copied remote can work.

In Home menu, choice "copy" enter, than choice "Code Regeneration", The after work is similar to "COPY",

三, remote Generate

More than about 100 types of transmitters(Car remote/RKE and Garage remote) can be generated,for example FAAC,NICE,DITEC,Hyundai,Toyota,Nissan,VW,Honda and many other brand.

Codes of TY90 remote are never repeated.Produces extremely stable transmitters with an excellent operating rang. .

The first ,Select"Generate Remote"on the Home menu ,Connect remote to machine with the remote data cable ,please be sure that the remote is without battery.

Press"○" to the car brand (or Garage brand)list,choose the brand you need.

Press"○" to enter the car/garage remote list, and select the remote you want to make.

press"○" to check the remote information,you can check the frequency and the remote detail on the screen and also can edit the frequency again .After input the ty90 display"Write succeed",

Now ,you can try to program the remote to the car/garage to test.

Note:button code can edit again from"Enter remote edit"if after a match is found not correct.

Garage remote control generation is similar to the operation method,in this not much to do the narrative.

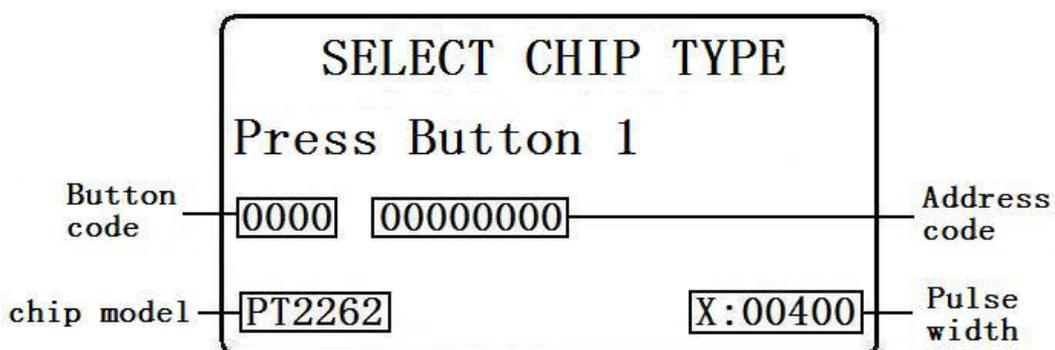
4.Edit data

Function:To generate a new remote control without original remote.It`s done by 2 ways:

- 1 Select chip type:the data is create frome the machine by their own.
- 2 Enter remote edit:the data is on the basic of reference remote
1,select chip type to edit

The user can edit the chip type according to the need to choose.

In the Home menu,select"Edit"option and press"○"to enter,then select the "chip type" in "Edit" menu.For example edit CHIP PT2262,select and enter,than view as below picture:



Now the screen display "Edit code",and follow with some data of the chip.Andthere will be a highlight among the data.You can use up/down arrow button to edit the highlight test or ues left-right arrow button to move the highlight to edit other data.

In our TY90,two separately area stands for button code and address code,3 or 4 digits on the left is the button code area, then the right of the address space is address code area, the lower right corner there is a X : 00400,this is pulse width.

for fixed code,different chip have different number of buttons.For example,LX918 only have

3 buttons, but PT2262 have 4. The 3 or 4 numbers on the left stands for button code, the right one after the blank stands for address code.

After finish editing data of the button, you can press right arrow button or directly press "0" to go to address code area.

Edit address code: For different chip of fix code, they may have different address code, as well as quantity. Some have 8 bits, 3 status per bit, some have 11 bits, 4 status per bit. For example: Address code of PT2262 has 8 bits, 3 status per bit (0, 2, 3 are used to represent, we don't use "1"). Another example, the address code of LX918 has 11 bits, 4 status per bit (0, 1, 2, 3 are used to represent).

After finish the editing the button and address code, please press right/left arrow button, or short press "0" to edit pulse width area.

Edit pulse width: Editing the pulse width is related to "timing resistor" of corresponding chip, but it should not less than x060(), or will lead to transmitting difficult of the remote. In fact, the pulse width will not less than x60. So there's not any affection in practical application.

When the pulse width is also editing, press the Enter key device, the Button 2 to start editing data. Its input and editing method and said the same.

When all four keys are finished editing, press the Enter key device, the device will be prompted to select the frequency, as shown below:

REMOTE FREQUENCY			
Input Fre		000.00	
315	433.92	315.5	430.5
310	330	350	370
390	418	311	304

In this case can be selected according to the frequency required to confirm. Finally, press the Enter key, the screen will prompt "Connect remote control" connection TY90 dedicated sub-machine remote control with a download cable (when connection please tear down the remote control battery), press the device's "O" button, the device will the edited data is written into the TY90 dedicated remote control handset.

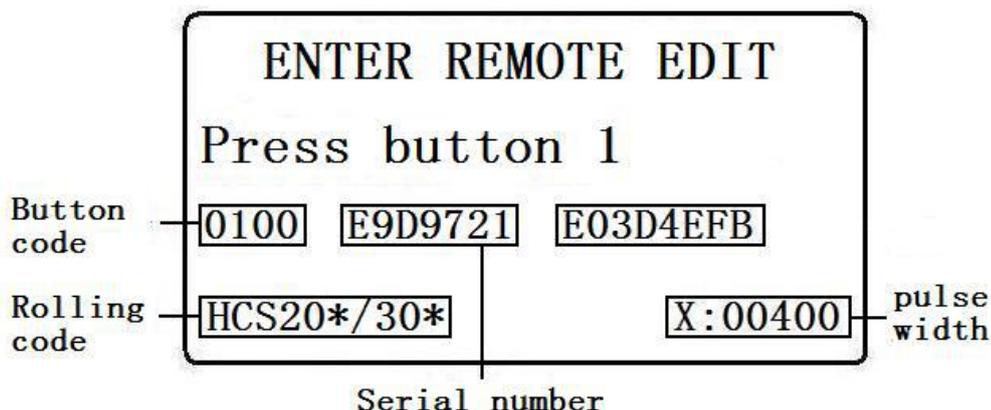
2, Enter remote edit (includ rolling code, fixed code edit)

Reference users can directly edit the remote control to get the required equipment on the Induction area, press the remote control buttons, the device according to the received data, directly into the corresponding edit state.

In the Home menu, select "Edit" option, then press the device on the right side of the "O" enter key. Then select "Enter remote edit". The device will prompt "Press button 1". The reference to the remote control on the device's "Induction area" and it's the first key press will "beep", then press the Enter key, the screen will go directly to edit mode, the prompt "Press Button 1" again,

which appears below the corresponding data, and there is a cursor in the data, and then you can modify the cursor up and down arrow keys to data, you can also move the cursor position with the left and right direction .

For example, HCS series of rolling code of the code is the four separate regions represented, four number on the left is the key code area (referred to as the key value), the second number region is the serial number area, after the serial number the two areas are unrelated to editing, also does not allow editing. Its location in the following figure:



Button code, each bit can be 0 or 1; and serial number data number, you can try every number located from 0 to 9, and the letters A ~ F (ie hexadecimal 0 ~ F).

Note: Please do not modify key data freely, which is very important. Only determine if modifications need to be modified!

Edit pulse width:Editing the pulse width is related to "timing resistor" of corresponding chip,but it should not less than x060(),or will lead to transmitting difficult of the remote.In fact,the pulse width will not less then x60.So there`s not any affection in practical appliation.

When the pulse width is also editing, press the Enter key device, the Button 2 to start editing data. Its input and editing method and said the same.

After do the remote frequency selection, press the Enter key, the screen will prompt "Connect remote control" connection TY90 dedicated sub-machine remote control with a download cable (when connection please tear down the remote control battery), press the device's "○" button, the device will the edited data is written into the TY90 dedicated remote control handset.

3, Edite frequence

TY 90 is the only one device can be the remote frequency settings.

Because the market of remote control has a variety of complex frequency, TY90 Engineers after a long time of development, relying on a strong R & D strength, the first to launch a powerful frequency editing function,you can freely set any frequency between 300MHz to 500MHz, and can freely set the frequency any each button. For example, the first key to 315MHz frequency, the second key is 433.92MHz frequency, and the third key is the 330MHz frequency, the fourth key is 430.5MHz frequency. After setting the frequency, the frequency is very stable,Will not cause frequency deviation for any reason.Frequency settings can be set repeat many times.

In the Home menu, select "Edit" option, then press the device on the right side of the "○" enter key. Then select "Edit frequencies" option, then press the device on the right side of the "○" key, the screen will appear "Remote Frequency Edit" and "key frequencies Edit" two options. If you want to change the entire frequency remote control, you can choose "Remote control frequency editor"; if you want to edit the frequency of each key of the remote control, you want the frequency of each key is not the same, you can choose "Edit button frequency."
 If now want to put TY90 dedicated remote control edited to 338MHZ, you select the "REMOTE
 FREQ Edit", and press the enter key. In this case the interface will pop up a list, as shown below:

REMOTE FREQUENCY			
Input Fre		000.00	
315	433.92	315.5	430.5
310	330	350	370
390	418	311	304

The list above is 9 kinds of commonly used frequency, can be through "↑, ↓, ←, →" arrow keys to select the frequency of 338MHz not in the list, then you choose a similar frequency "330mhz", then in the middle of the screen will display 330, as shown in the diagram below.

REMOTE FREQUENCY			
Input Fre		330.00	
315	433.92	315.5	430.5
310	330	350	370
390	418	311	304

You can use "←, →" the arrow keys to move the cursor, and "↑, ↓" direction keys to 330 to 338MHz, as shown below:

REMOTE FREQUENCY			
Input Fre		338.00	
315	433.92	315.5	430.5
310	330	350	370
390	418	311	304

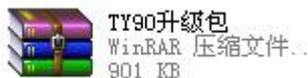
After setting the frequency, press the device's confirmation button, the screen prompts the remote control, and then use the download line connection TY90 special sub machine remote control, and press the confirmation button. Then the device will write data to the remote control after hear a sound of beep.

“Button Frequency” editing is also similar to the operation of the method, but it is only for each button to be an editor.in this not much to do the narrative.

五, 升级

The user can select the "System" option in the Home menu, and then view the system version of TY90 equipment currently used, firmware version, device ID.

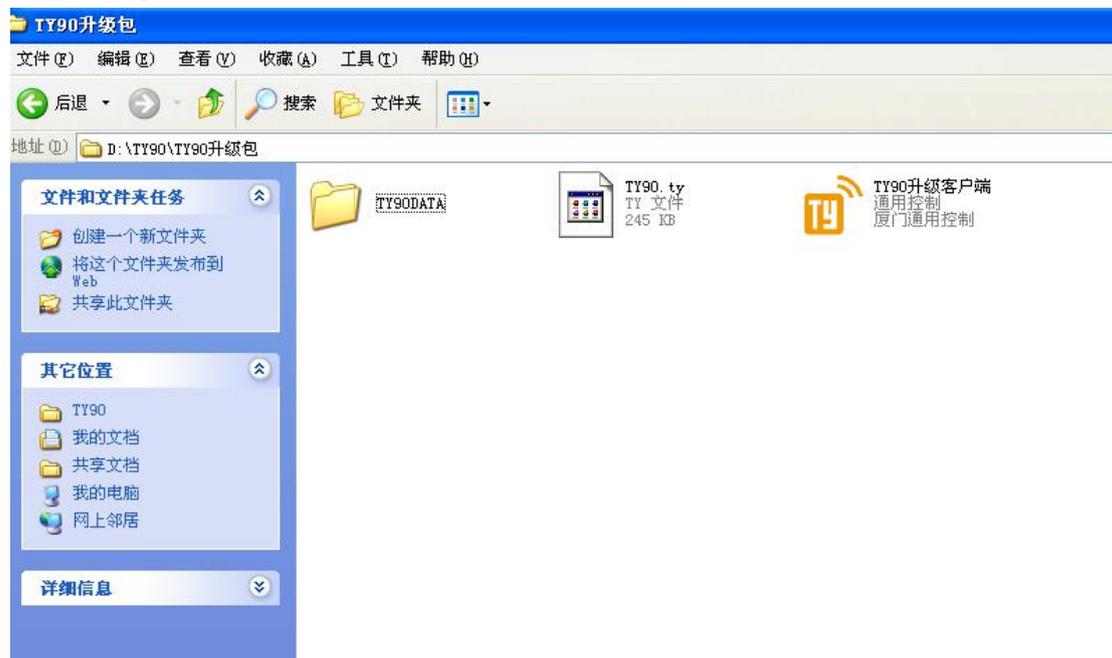
Manufacturers will be based on market development, strengthening its own development, continue to upgrade the equipment, may be increased by constantly adapting car and garage door remote data. The upgrade process requires TY90 devices connected to the PC, without having to install the driver, the upgrade file will be compressed form of release in various forums, websites, dealer. Simple upgrade operation, permanently free.



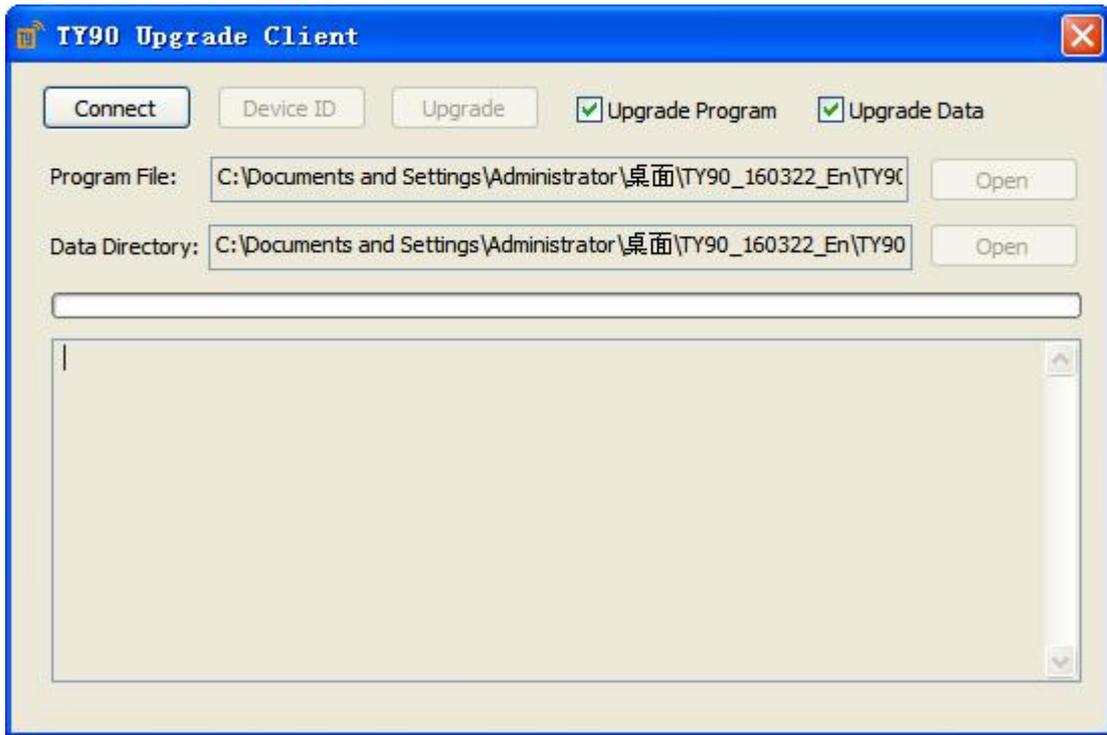
Click "TY90 upgrade package" the archive, and press the PC right mouse button, click the extract to the current folder, as shown below:



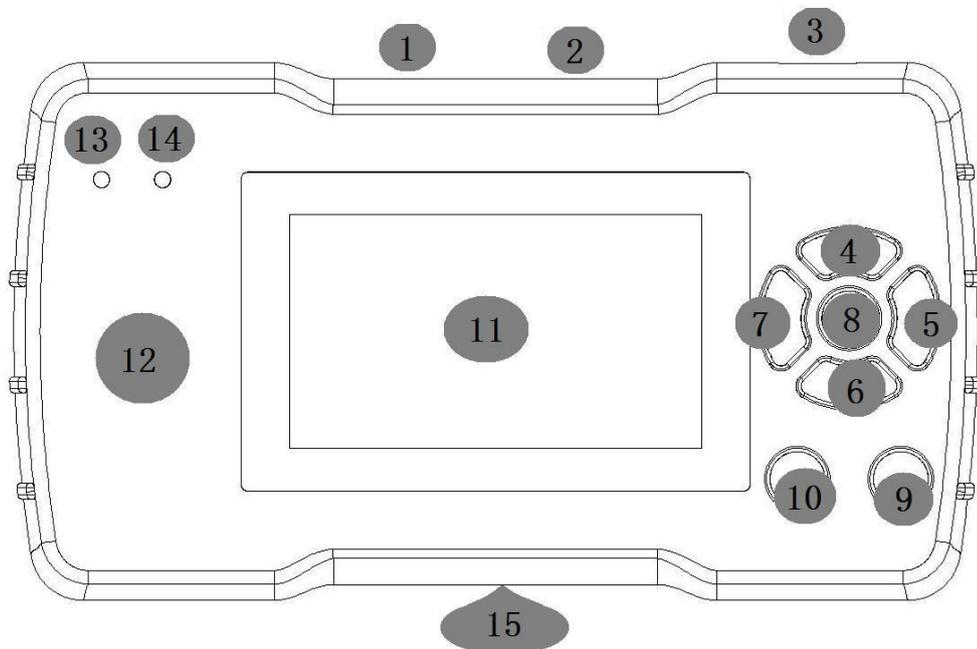
After unpacking, found in the current folder "TY90 upgrade package" folder, double-click will bring up a screen, as shown below:



Then double-click the "TY90 upgrade the client", it will pop up a screen, as shown below:



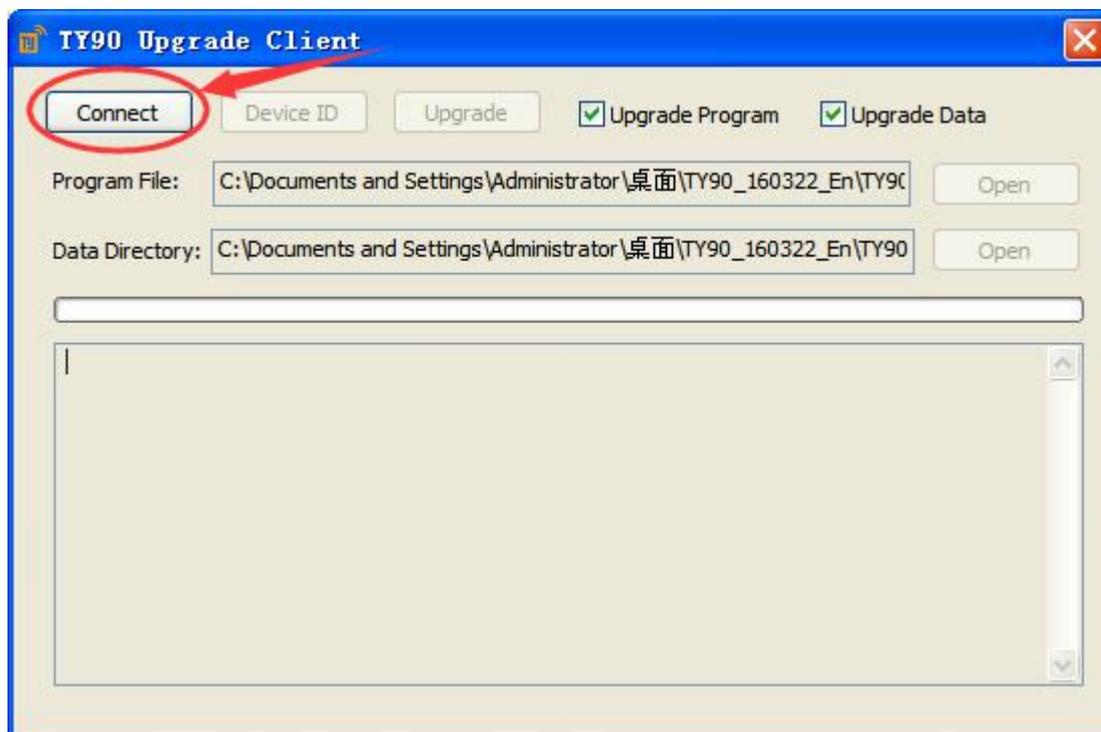
At this time, the TY90 device USB power wire access to the TY90 USB Connection interface, the other end connected to the PC USB interface.while TY90 device in the shutdown state,press and hold the enter key"○" and the Home menu key, and then turn the power on,as shown below:



Note: at the same time, press and hold the enter key"○" and the Home menu key,and then turn the power on.Namely:at the same time,hold the keys 8 and 10 not to release, and then press the button 3 turn on.

In this case, the left side of the blue light will continue to blink ,TY90 device screen does not light up, prove TY90 device into upgrade mode.

Next, open the TY90 upgrade the client on PC, according to the interface connector,as shown below:



If the connection is successful, the Information of Bar TY90 upgrade the client interface will displays the connection is successful, and "Device ID" and "Upgrade" screen lights up, customers can click on the "Upgrade" button to upgrade. (If the connection is not successful, check the connection TY90 device and the PC is firmly and unplug the USB power cord and plug it, and then repeat the upgrade procedure)

After the upgrade is successful, TY90 upgrade client information bar will show the upgrade was successful, and TY90 device will automatically restart!

Select "System" option on the device after the restart,Users can view the TY90 system version currently used,this way to verify whether the upgrade is complete!