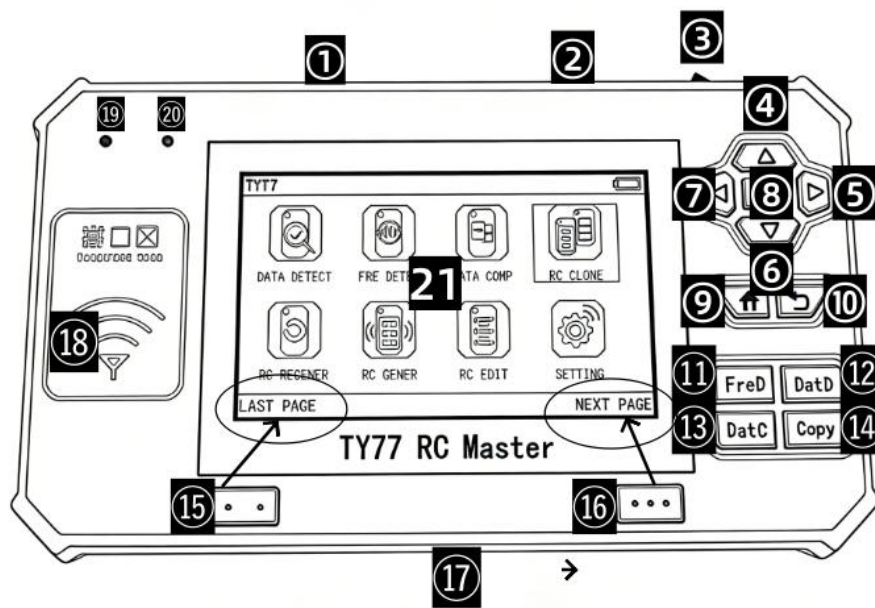


# TY 77 RC Master Manual



## Hardware Overview

1. USB Connection interface (connect directly or portable Power)
2. Remote control data interface
3. Turn On/Off switch
4. Up arrow button
5. Right arrow button
6. Down arrow button
7. Left arrow button
8. Enter button
9. Home button
10. Return button
11. Frequency detect shortcut key
12. Date Detect shortcut key
13. Data Comparison shortcut key
14. Copy (RC Clone) shortcut key
15. Agree / Last page
16. Disagreement / Next page
17. Battery box (fits 4 AA batteries, ideal for outdoor use)
18. Remote control induction area
19. Working LED (Blue)
20. Power LED (Red)
21. LCD display screen

## Preparation Before Use

Take out the TY77 from the package. Plug the USB power line into the USB outlet of the TY77 on one side, and connect the other side to a PC USB port or cell phone charger. Take out a remote connecting wire and connect it to the plug at the Remote Connector. Before powering on, make sure that the plug has been solidly connected. Turn on the power switch to power on!

*(If you have already installed the battery, there is no need to plug it in for use.)*

It'll display the TY77's disclaimer after a boot image. Press '○○⑮' to enter the Home menu options.

*(Note: The content of the dynamic boot image can be customized.)*

## Functional Overview

TY77 RC Master (TY77) is a multi-functional and smart machine for remote control. It includes remote frequency detection and editing, remote data detection, comparison, editing, copying, and data generation/regeneration, etc. These powerful functions help to greatly reduce remote inventory, improve flexibility, and enhance work efficiency, especially in frequency editing. As technology advances and time accumulates, we will update the TY77's program. Updates are free and easy to operate on a PC, with no need to install drivers.

### Equipment list

Content	QTY
TY77 machine	1
USB power wire	1
Remote data cable	2

# Functional Description

## Detect

### 1.Frequency Detect

TY77 has a precise frequency detection function. It's one of the devices in the world that can detect FSK data and can identify two kinds of modulation modes: ASK and FSK.

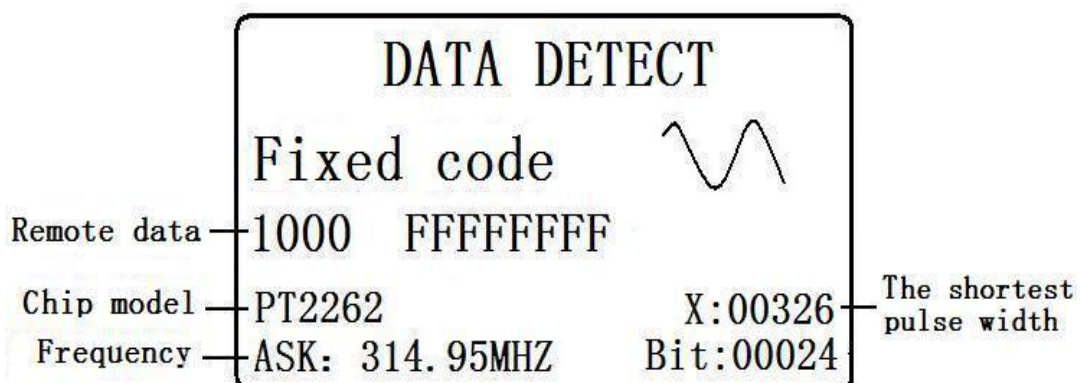
In the Home menu, select the 'Detection' option and press 'o (Ⓢ)' to enter. Then select the 'Frequency Detection' menu to put the equipment into the state of frequency measurement. At this point, place the remote on the 'INDUCTION AREA' and press the button you want to check until the frequency appears on the screen. The device will automatically determine the ASK or FSK mode at the same time.

### 2.Data Detect

When detecting a remote, you can read the data, the shortest pulse width, and part of the chip model.

In the Home menu, select the 'Detection' option and press 'o' to enter. Then select the 'Data Detection' menu. Press the button you want to check on the 'INDUCTION AREA' until the remote data appears on the screen after a 'beep' sound. At this point, release the button.

The data displayed on the screen are the remote control data, chip model, and the shortest pulse width. The order is as follows:



**If it's a branded remote control from the TY77 database, it will be identified during the testing process, and the brand name will be displayed on the screen.**

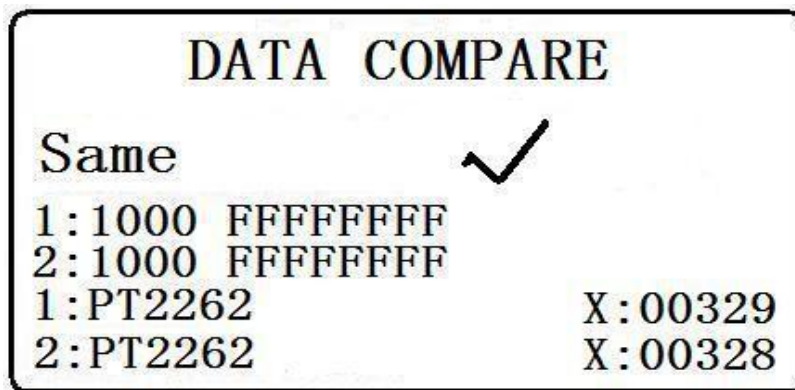
The remote control data displayed is the decoded code obtained by the device based on the code formats of different chips. However, since the codes of some remote controls overlap, certain chip models are represented by "xx" instead. For example, the codes of PT2262 and PT2240 may overlap under certain circumstances. In such cases, it is impossible to distinguish whether the chip is PT2262 or PT2240 solely based on the code itself. Therefore, we display the chip model as PT22xx in this situation.

### **3.Data Comparison**

Compare data between two remote controls. This function is used for comparing an original remote and a copied remote to analyze if they are the same.

In the Home menu, short press the 'Detect' button, and the first menu appears. Short press the up and down arrow buttons to select 'data compare', and then short press 'o' to enter. The screen will display 'Press remote 1'. Place the original remote control on the 'Induction zone', and then press the remote control button to be tested until you hear a beep sound. The screen will then show 'Press remote 2'. At this point, the remote control can release the button. Then, place the copied remote on the 'Induction Area' and press the reference button until you hear a beep sound. Now release the button.

If they have the same data, a big tick '√' will appear in the middle of the screen accompanied by a short beep. Otherwise, a big '×' will be shown accompanied by a longer beep. The order is as follows:



## "Copy" Menu and Function Description

Function: Duplicate/copy old remotes to new ones.

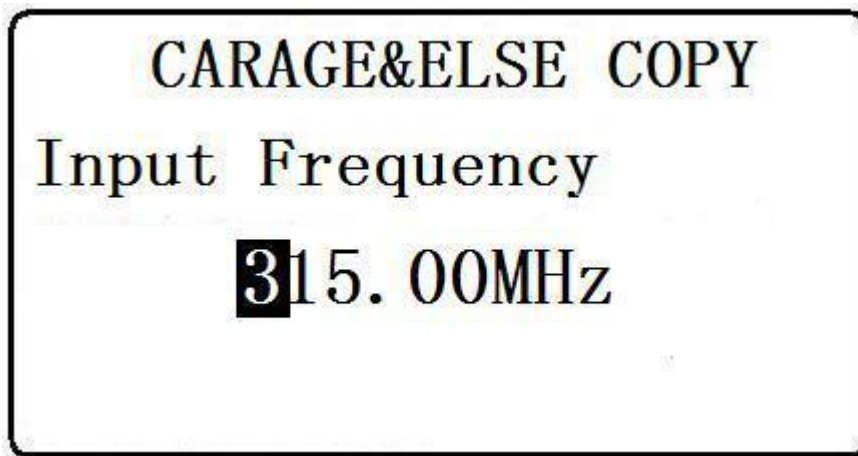
### 1. Remote Copy

This is used to copy a remote with the same ID as the original. If it is a fixed code remote, it can be used directly after being copied, and both the copy remote and the copied remote can work simultaneously. If it is a rolling code remote, it should be programmed to the garage/alarm system, and only one remote (either the copy or the copied one) can work at a time.

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

*NOTE: If directly copying a rolling code remote causes it not to work normally or results in mutual interference, you can copy it using the 'Rolling Code Regeneration' function.*

In the Home menu, short press the "Copy" button. The first menu appears. Short press the up and down arrow buttons to select "Remote copy" and then short press "o" to enter. The screen will display "Press remote 1". Place the original remote control on the "Induction zone" and press the first button to



activate it until you hear a beep sound. After that, the data will display on the screen. Now release the button, as shown in the picture below.

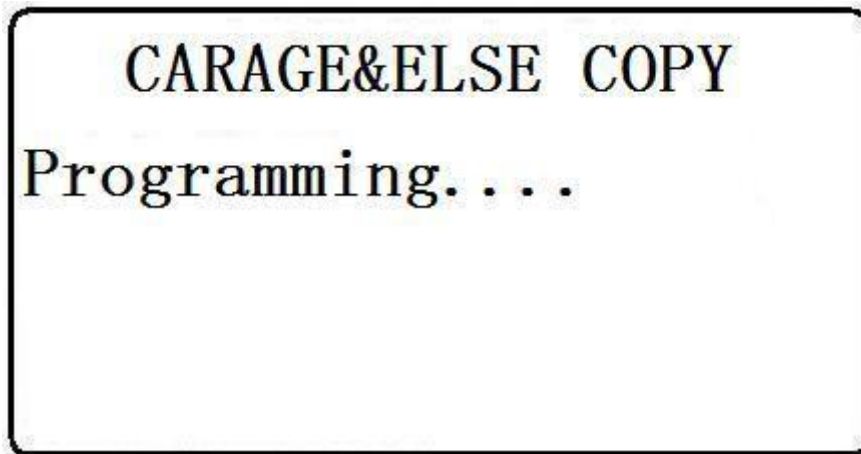
If the data is supposed to be incorrect, please press the button again until you think it is correct. Then short press "o" to enter and press the next button you want to copy, and so on for other buttons. (The first button needs to be entered twice, and it must be the same button on the same remote.)

After the input of the first button, the device will determine, based on the received data, whether the remote control can be copied. If not, it will always show a suggestion: "The remote copy may not be used normally; it is recommended to try Remote Generation." This situation can also result in a normal copy, but there is no guarantee that the copied remote can be used. The user can test it to see if it works normally. If the remote can be copied smoothly, there will not be any other tips.

Maximum 4 buttons are allowed to be copied at one time. After inputting 4 buttons, the screen will display a frequency for the new remote..

For some car/garage door models, it is recommended to generate them directly using "Remote Generate" in the Home menu, and then find the corresponding brand from a list and generate directly.

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 "o" to enter. The screen shows "Connect remote". Connect the remote to the machine with the remote data cable. **Please be sure that the remote has no battery.**



After making the right connection, short press "enter". The device starts to write data into the new remote. A moment later, the screen will display "Write failed" or "Write succeed" to show the result. If the device displays "Write failed", check if the download wire is connected firmly to the remote. Please contact our technology department if you still can't solve the problem.

*NOTE: The device can only write data into the blank remote control we supply, TY77 only.*

## **2.Code Regeneration**

This is to make a new ID remote based on the original one. After successful creation, you should program it to the car/garage. Both the new remote and the copied remote can work.

In the Home menu, choose "copy" and enter, then choose "Code Regeneration". The subsequent work is similar to "COPY".

### 3.Remote Generation

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 brands.

Codes of TY77 remote are never repeated. It produces extremely stable transmitters with an excellent operating range.

First, select "Generate Remote" on the Home menu. Connect the remote to the machine with the remote data cable. Please be sure that the remote has no battery. Press "o" to go to the car brand (or Garage brand) list and choose the brand you need. Press "o" to enter the car/garage remote list and select the remote you want to make.

Press "o" to check the remote information. You can check the frequency and the remote details on the screen and also can edit the frequency again. After input, the TY77 displays "Write succeed".

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

*Note: The button code can be edited again from "Enter remote edit" if, after a match is found, it is not correct.*

**It can read the original chip, duplicate the remote control, and then generate an encrypted version of this chip to be programmed into a new remote control, which features anti-copying functionality.**

Garage remote control generation is similar to this operation method, so there's not much to narrate here.

## Edit Data

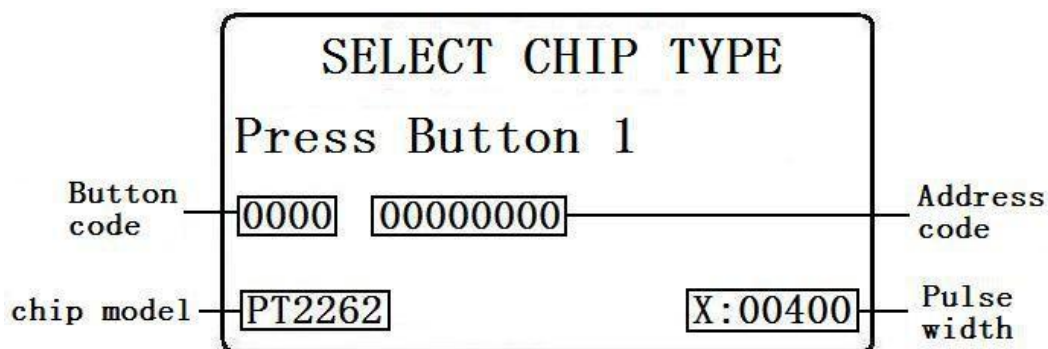
Function: To generate a new remote control without the original remote. It can be done in two ways.

### 1. Select chip type: The data is created by the machine itself.

Enter remote edit: The data is based on reference remote 1. Select the chip type to edit.

The user can edit the chip type according to their needs.

In the Home menu, select the "Edit" option and press "o" to enter. Then select "chip type" in the "Edit" menu. For example, to edit CHIP PT2262, select and enter it, then view as shown in the picture below.



Now the screen displays "Edit code", and is followed by some data of the chip. And there will be a highlight among the data. You can use the up/down arrow button to edit the highlighted text or use the left/right arrow button to move the highlight to edit other data.

In our TY77, two separate areas stand for the button code and address code. Three or four digits on the left are the button code area, and then to the right of the address space is the address code area. In the lower right corner, there is a ×00400, which is the pulse width.

For fixed code, different chips have different numbers of buttons. For example, LX918 only has 3 buttons, but PT2262 has 4. The three or four numbers on the left stand for the button code, and the right one after the blank stands for the address code.

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

Edit the address code. For different fixed-code chips, they may have different address codes as well as different quantities. Some have 8 bits with 3 statuses per bit, and some have 11 bits with 4 statuses per bit. For example, the address code of PT2262 has 8 bits with 3 statuses per bit (0, 2, 3 are used to represent; we don't use "1"). Another example, the address code of LX918 has 11 bits with 4 statuses per bit (0, 1, 2, 3 are used to represent).

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

Edit the pulse width. Editing the pulse width is related to the "timing resistor" of the corresponding chip, but it should not be less than x060 (the parentheses seem to be incorrect here; if it's a placeholder, it should be clarified properly; for now, just removing the incorrect parentheses), or it will lead to transmitting difficulties for the remote. In fact, the pulse width will not be less than x60. So there's not any effect in practical application.

When the pulse width is also being edited, press the Enter key on the device (Button 2 to start editing data. Its input and editing method is the same as said before).

When all four keys are finished editing, press the Enter key on the device, and the device will prompt you 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, you can make a selection according to the required frequency and then confirm it. Finally, press the Enter key. The screen will prompt "Connect remote control". Connect the TY77 dedicated sub-machine remote control to the device with a download cable (please remove the remote control battery when making the connection). Press the device's "o" button, and the device will write the edited data into the TY77 dedicated remote control handset.

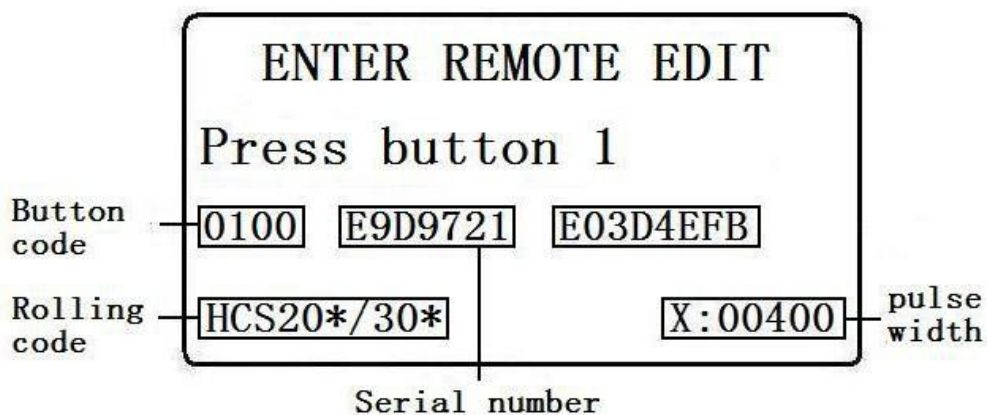
## **2.Enter Remote Edit (including rolling code and fixed code edit)**

Reference users can directly edit the remote control to obtain the required equipment settings. Press the remote control buttons in the Induction area of the device. Based on the received data, the device will directly enter the corresponding edit state.

In the Home menu, select the "Edit" option, and then press the "o" enter key on the right side of the device. Then select "Enter remote edit". The device will prompt "Press button 1". Place the reference remote control in the device's "Induction area". When the first key is pressed, the device will "beep". Then press the Enter key, and the screen will directly go into edit mode, prompting "Press Button 1" again. This

prompt appears below the corresponding data, and there is a cursor in the data. You can modify the data using the up and down arrow keys to move the cursor, and you can also move the cursor position using the left and right arrow keys.

For example, the code of the HCS series of rolling codes is represented by four separate regions. The four numbers on the left form the key code area (referred to as the key value). The second number region is the serial number area. The two areas after the serial number are not related to editing and are not allowed to be edited either. Its location is shown in the following figure.



### Button Code and Serial Number Data

The button code allows each bit to be either **0** or **1**.

For serial number data, you can enter any number from **0 to 9** or letters

**A–F** (i.e., hexadecimal values **0–F**).

### Note:

Do not modify key data freely—it is critical for proper operation. Only make changes if absolutely necessary!

### Edit Pulse Width

Editing the pulse width is related to the "timing resistor" of the corresponding chip.

It should **not** be less than **x060** (or transmitting difficulties may occur with the

remote). In practice, the pulse width will not fall below **x60**, so this should not affect real-world applications.

When editing the pulse width, press the **Enter** key on the device, then press **Button 2** to start editing data. The input and editing methods remain the same as previously described.

After selecting the remote frequency, press **Enter**. The screen will prompt:

**"Connect remote control."**

Connect the TY77 dedicated sub-machine remote control using a download cable (remove the remote's battery before connecting). Press the device's "○" button to write the edited data into the TY77 remote control handset.

### **3. Edit Frequencies**

The **TY77** is the only device capable of remote frequency settings.

Due to the complex variety of remote control frequencies in the market, TY77 engineers developed—after extensive R&D—a powerful frequency editing function. This allows you to freely set any frequency between **300MHz and 500MHz** for each button individually.

#### **Example:**

- Button 1: **315MHz**
- Button 2: **433.92MHz**
- Button 3: **330MHz**
- Button 4: **430.5MHz**

Once set, the frequency remains stable and will not drift for any reason.

Frequency settings can be adjusted repeatedly.

## How to Edit Frequencies:

1. In the **Home menu**, select "**Edit**", then press the "o" enter key on the right side of the device.

2. Select "**Edit frequencies**", then press the "o" key again.

3. The screen will display two options:

- "**Remote Frequency Edit**" (for changing the entire remote's frequency)
- "**Key Frequencies Edit**" (for setting different frequencies per button)

### Example: Setting TY77 Remote to 338MHz

1. Select "**REMOTE FREQ Edit**" and press **Enter**.

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

2. A list will appear (as shown below).

The list above shows **9 commonly used frequencies**, which can be selected using the "↑, ↓, ←, →" arrow keys. If **338MHz** is not in the list, you can choose a similar frequency (e.g., **330MHz**). After selection, the middle of the screen will display **330**, as shown in the diagram below.

REMOTE FREQUENCY			
Input Fre		<b>330.00</b>	
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 the '↑, ↓' direction keys to adjust the frequency from **330MHz** to **338MHz**, as shown below.

REMOTE FREQUENCY			
Input Fre		<b>338.00</b>	
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 will prompt you to connect the remote control. Then, use the download cable to connect the TY77 special sub-machine remote control and press the confirmation button again. The device will write data to the remote control after emitting a beep sound. The editing process for "Button Frequency" is similar, but it only allows editing for each individual button. There isn't much more to elaborate on in this regard.