23.5-6000mhz RF signal source
2.8 Inch Touch screen version operation manual

Interface description

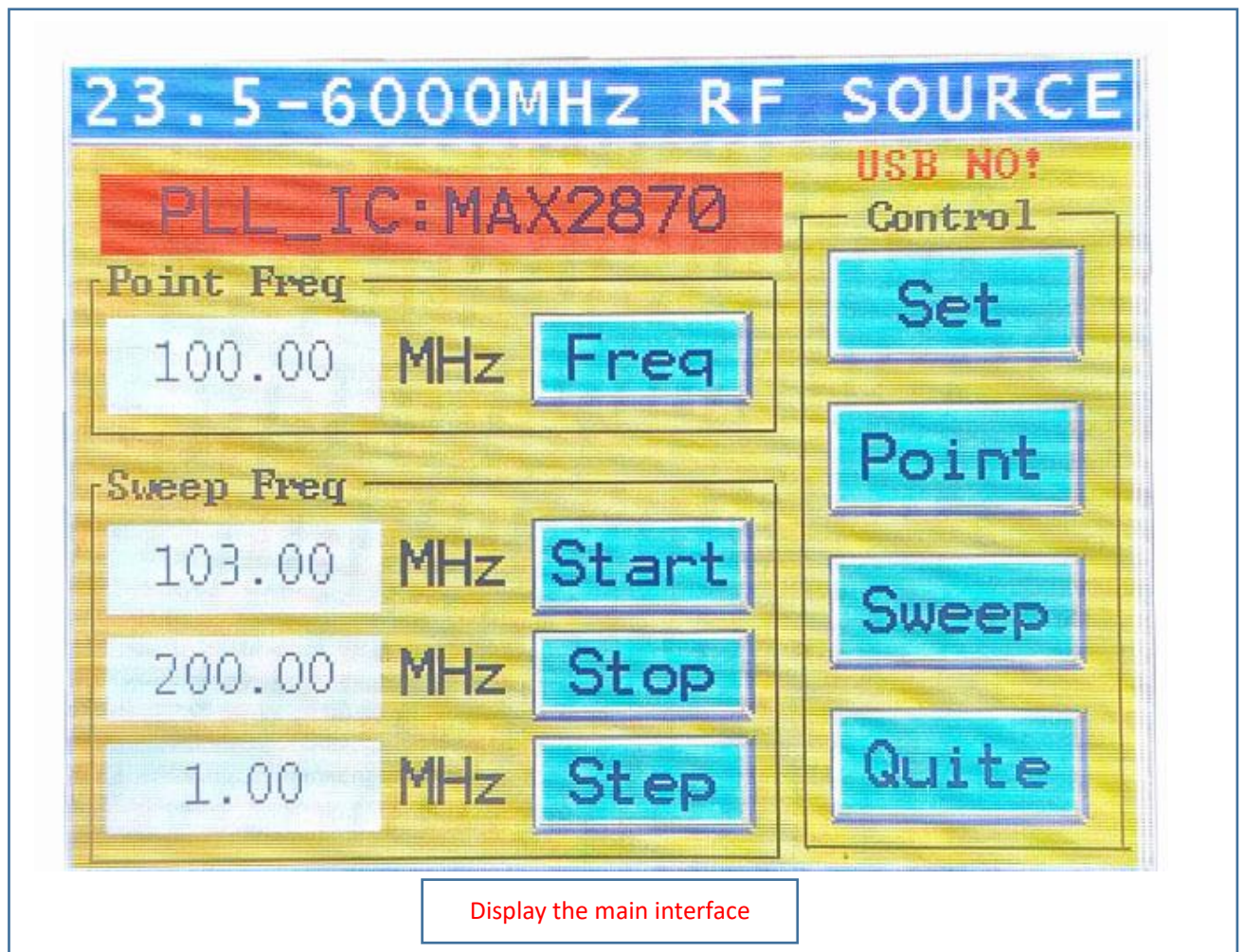|	
TYEPC_USB	RF OUT
	25Mhz fixed
OFF/ON	RESET

※parameter information

1. Frequency range: 23.5mhz-6000mhz.

2. Working voltage: 5V.

3. TYPE_ C USB interface.

4. Automatically save data, support automatic saving after power failure, and automatically execute the previous work function after power on.

5. Full touch control.

6. Minimum resolution: 10kHz.

7. Minimum frequency sweep interval: 1ms.

8. Support serial port control function and provide serial port command protocol.

9. On board active crystal oscillator 25MHz fixed signal output interface.

※ Main interface introduction

Display the main interface

1. **Freq**

   Click this button on a single machine to enter the point frequency setting interface to modify the point frequency.

2. **Start**

   Click this button on a single machine to enter the frequency setting interface to modify the frequency of the sweep start.

3. **Stop**

   Click this button to enter the frequency setting interface to modify the sweep stop frequency.

4. **Step**

Click this button to enter the frequency setting interface, where you can modify the sweep stop frequency.
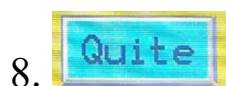
5. **Set**

Click this button to enter the setting interface, where you can display the hardware ID of the master IC, modify the frequency output power, frequency sweep interval, and operating mode parameters.

6. **Point**

After clicking this button, the button turns green, the point frequency signal output is turned on, and the equipment starts to output signals.

7. **Sweep**

After clicking this button, the button turns green, the sweep signal output is turned on, and the equipment starts to output the sweep signal.
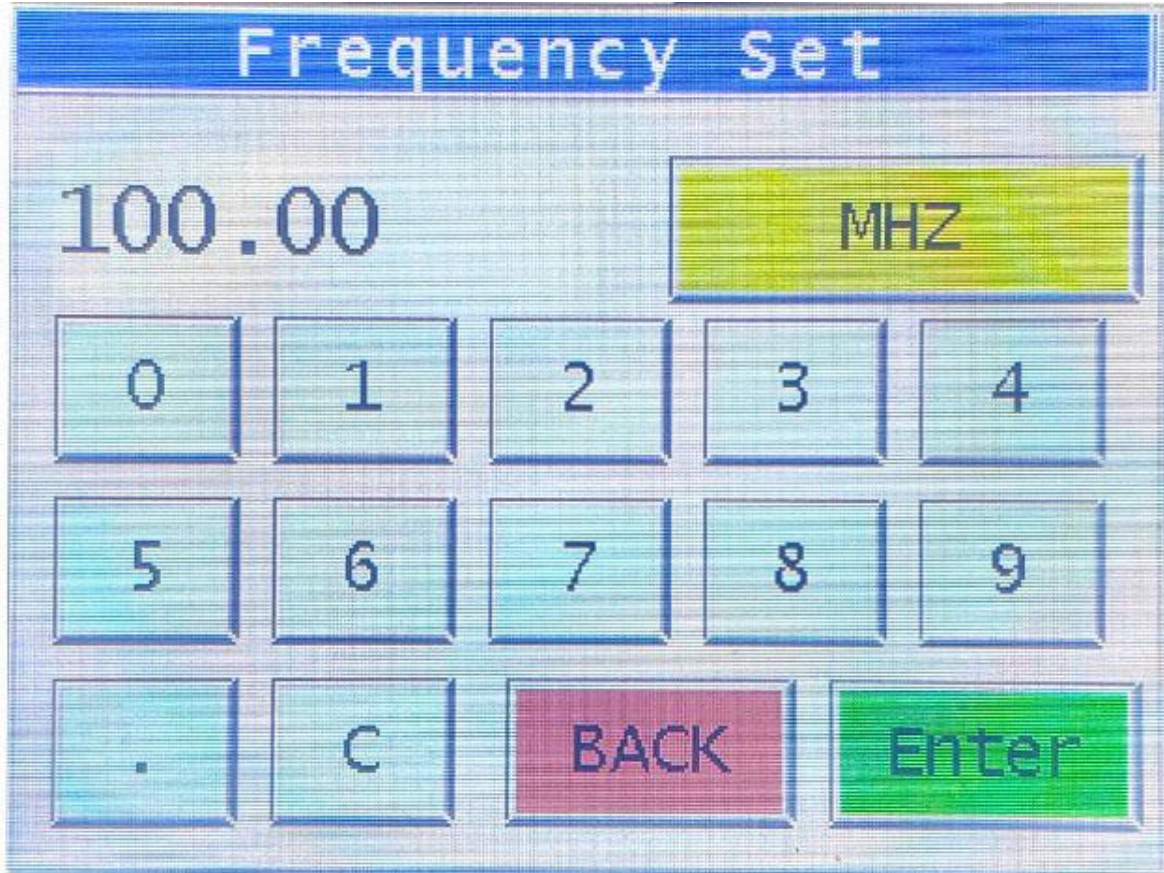
8. **Quite**

After clicking this button, the button turns green, turns off the output and mutes the device.

Additional instructions:

In case of touch failure during use, you can send the screen recalibration command through the computer to enter the screen calibration interface, and the calibration method will be provided at the end of the instructions.

※Frequency setting interface

In this interface, press "C" to clear all data, click "back" to delete parameters, and click "enter" to confirm parameters and return to the main interface.

※Setting interface

In this interface, you can modify the output power. Click "gear" to switch to "DB". There are two power display modes, and a total of four gears can be adjusted. According to the max2870 manual, the maximum output power can be 5dBm. In the actual test, the maximum output power can be 0dbm. Other gears can be analogized once. The frequency sweep interval parameter can be modified, with a minimum of 1ms.The working mode can be modified. In mode "A", each startup is in the silent mode, and the parameters need to be manually adjusted to open the output. In mode "B", each startup directly executes the last set working state without additional operation. Press "Enter "to save the data and return to the main interface.

※Serial communication protocol

1 point frequency part

consisting of 9 bytes in total, baud rate: 115200.

Byte 0:0X55

Byte 1: 0X55 fixed value, indicating point frequency.

Byte 2: high 8 bits of Point frequency integer part.

Byte 3: low 8 bits of Point frequency integer part.

Byte 4: high 8 bits of Point frequency decimal part.

Byte 5: low 8 bits of Point frequency decimal part.

Byte 6：Output power value（0X00 0X01 0X02 0X03）.

Byte 7：0X0d

Byte 8：0X0a

Example：100.23Mhz

0X550X55 0X00 0X64 0X00 0X17 0x03 0X0d 0X0a

555500640017030d0a

2 frequency sweep part

19 bytes in total, baud rate: 115200.

Byte 0:　0XAA

Byte 1:　0XAA fixed value, indicating frequency sweep.

Byte 2：high 8 bits of Start frequency integer part.

Byte 3：low 8 bits of Start frequency integer part.

Byte 4：high 8 bits of Start frequency decimal part.

Byte 5：low 8 bits of Start frequency decimal part.

Byte 6：high 8 bits of Stop frequency integer part.

Byte 7：low 8 bits of Stop frequency integer part.

Byte 8：high 8 bits of Stop frequency decimal part.

Byte 9：low 8 bits of Stop frequency decimal part.

Byte10：high 8 bits of Step frequency integer part.

Byte11：low 8 bits of Step frequency integer part.

Byte12：high 8 bits of Step frequency decimal part.

Byte13：low 8 bits of Step frequency decimal part.

Byte14：high 8 bits of Sweep_time integer part.

Byte15：low 8 bits of Sweep_time integer part.

Byte16：Output power value（0X00 0X01 0X02 0X03）

Byte17：0X0d

Byte18：0X0a

Example： Start   100.00Mhz

Stop   200.00Mhz

Step   1.00Mhz

Sweep   10ms

Output power   0X03

0XAA 0XAA 0X00 0X64 0X00 0X00 0X00 0XC8 0X00 0X00 0X00 0X01 0X00 0X00 0X00 0X0A 0X03 0X0d
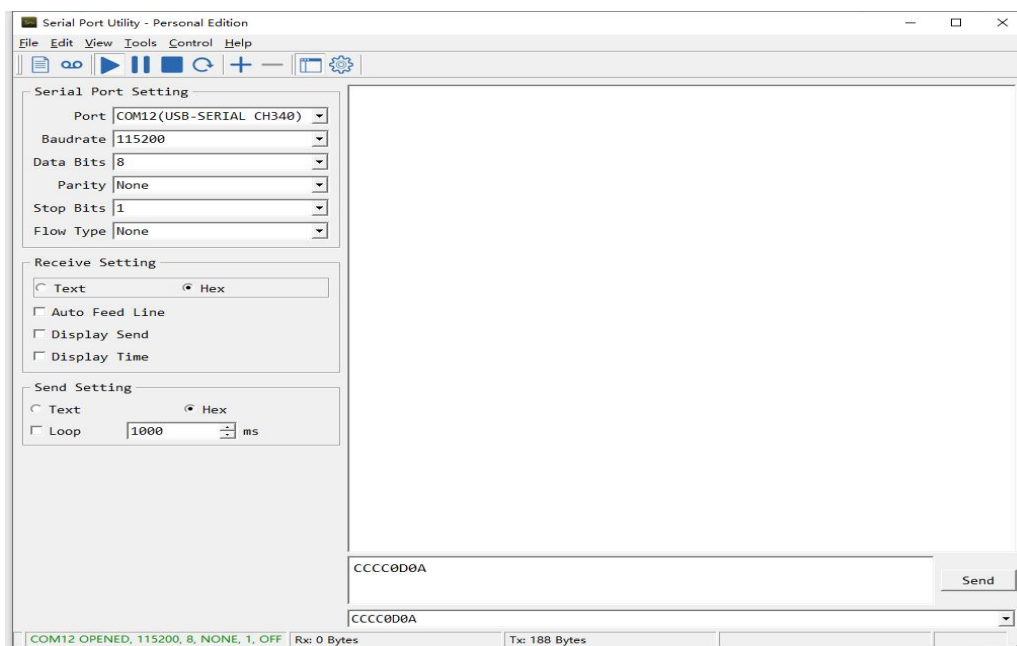
0x0a

AAAA0064000000C8000000010000000A030d0a

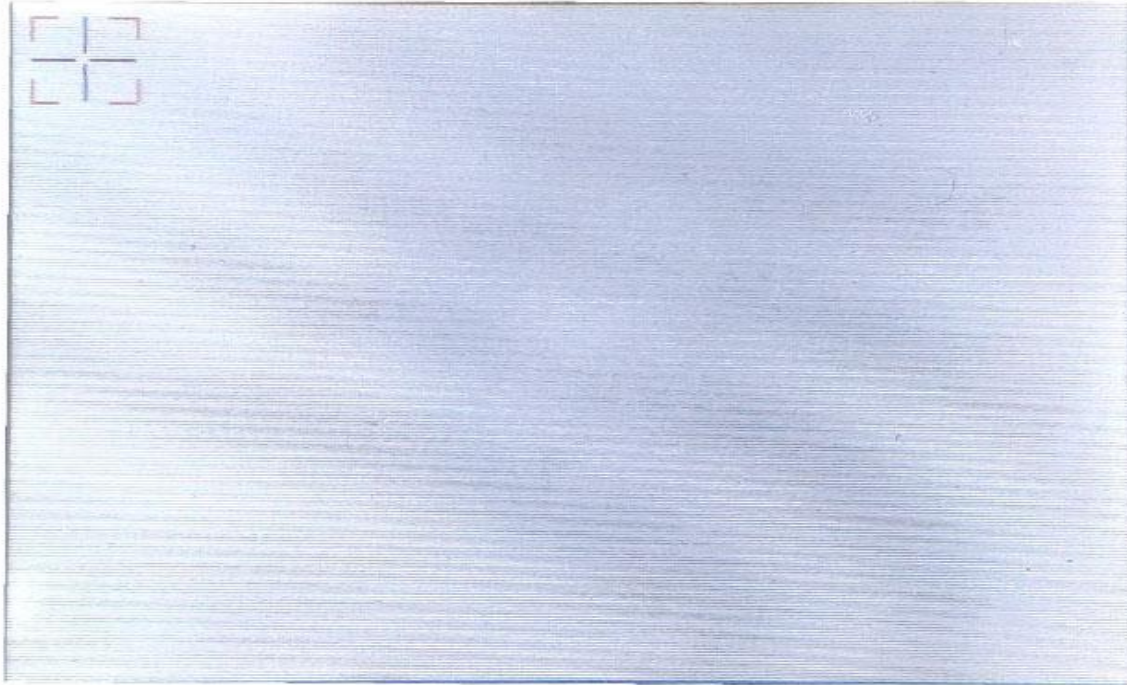## ※Touch screen calibration

Screen recalibration command

If the screen fails and needs to be recalibrated, you can use the serial port to send this command to recalibrate the screen.
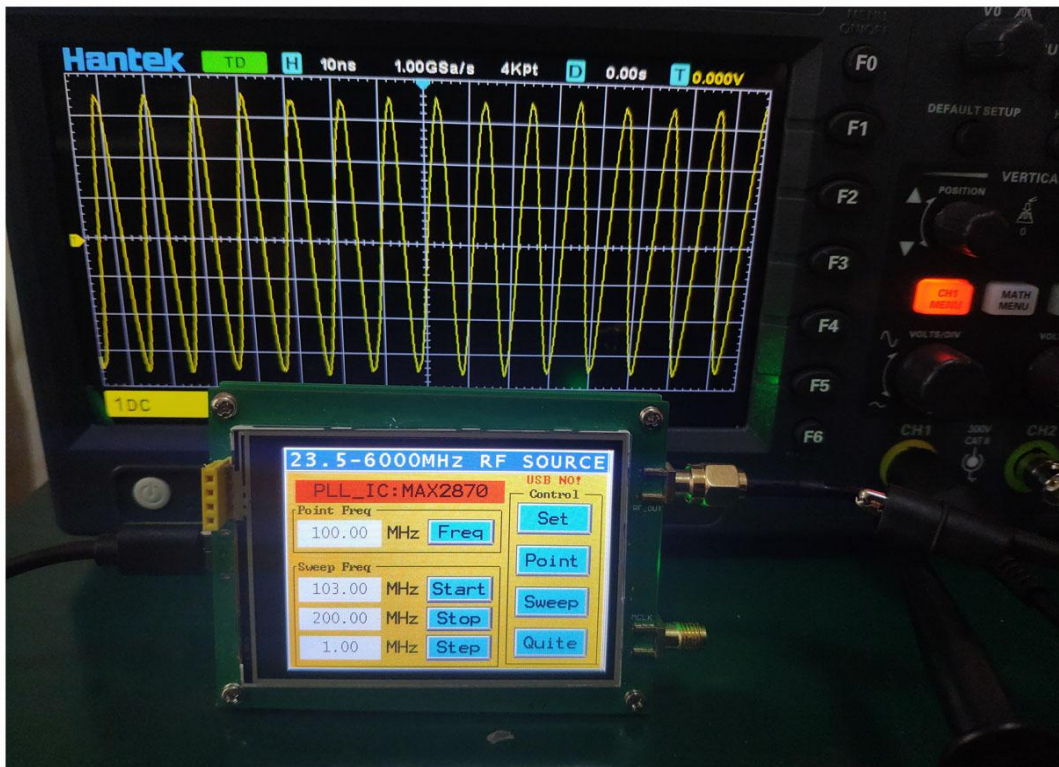
0XCC 0XCC 0X0d 0X0a

CCCC0d0a

Install the serial port driver, connect the computer with the USB cable, find the actual serial port number, open the serial port assistant software, any serial port assistant can be used, and set the baud rate to 115200 Send the on-screen calibration command to be included in the calibration interface.
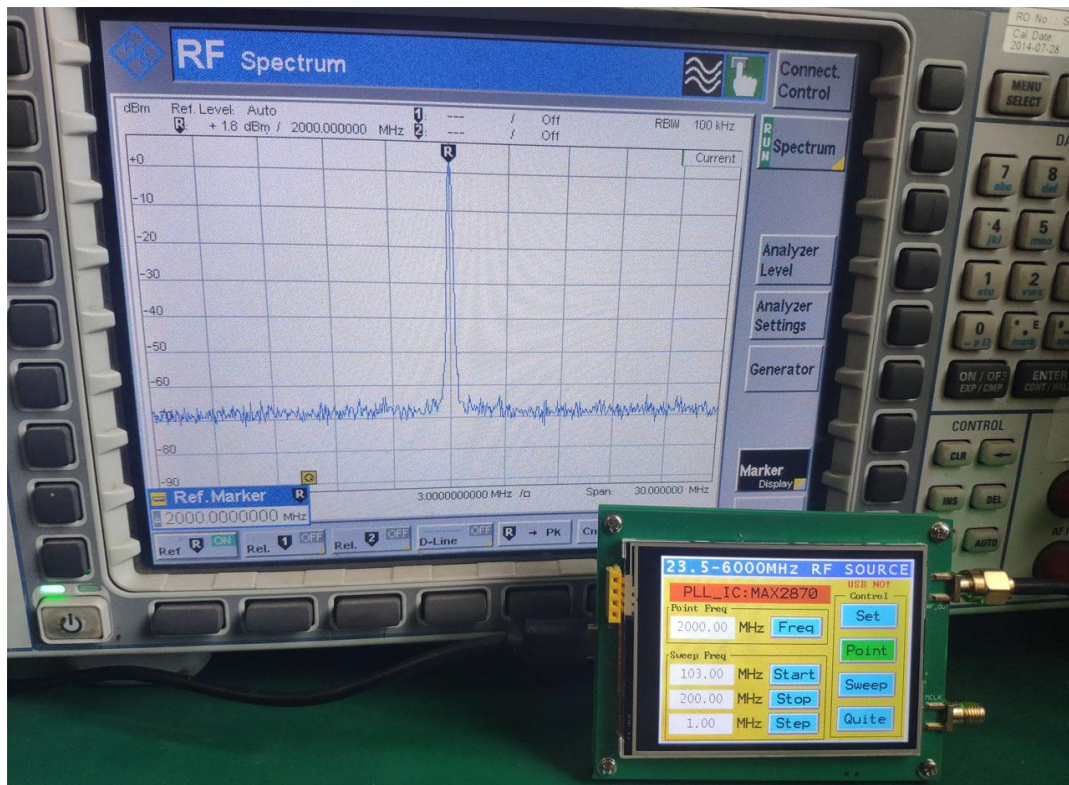

In the screen calibration interface, you can press the cross mark on the screen to collect touch screen data. After a total of four cross marks are clicked, it will automatically exit and return to the main interface, and the screen calibration is completed. If the calibration fails or the screen is touched by mistake, the command can be sent repeatedly for recalibration.

※Measured waveform

100mhz Actual picture of oscilloscope measurement

2000MHz spectrometer measurementReal picture

Over!