

Preparations:

Before upgrading the firmware, please prepare the following items:

- External DC power supply (13.8V);
- Recovery data cable;
- Recovery software "Tera Term" (included in the firmware upgrade package);

Special Attention:

1. The firmware of G90/G90S is divided into two parts: **host firmware and head firmware**. The two firmware shall be flushed into the device separately.

※ Note: The Version No. of the head firmware and the body firmware must be the same, otherwise there may be any error or the device cannot be started.

- Please insert the data cable into the **COMM** port at the rear of the body during the host recovery;
- Please insert the data cable into the **customized** port on the left side of the head during the head recovery;
 - Host firmware program name: G90_MainUnit_FW_V***
 - Head firmware program name: G90_DispUnit_FW_V***

***Recovery methods for the host and the head are the same. This tutorial takes the host recovery as an example.**

2. There are differences in the way that different batches of G90/G90S heads enter the recovery mode:

- If the serial number of the body starts with "X04", the method for the head to enter the recovery mode is as follows:

In the shutdown state, briefly press the power button of G90/G90S, and quickly press the space bar on the computer keyboard at the same time.

- If the serial number of the body starts with "V7", the method for the head to enter the recovery mode is as follows:

In the shutdown state, press and hold the volume knob, and then press the power button briefly.

※ The method for the body to enter the recovery state is the same: in the shutdown state, briefly press the power button of G90/G90S, and at the same time quickly press the space bar on the computer keyboard.

★ Reminder:

- In order to ensure a one-time success, please read this tutorial in detail to understand the steps of the whole recovery process before the operation.
- When the firmware is upgraded, the channel storage record will be cleared. Please make a backup in advance.

Recovery Procedure

1. Install the appropriate cable driver. (Different computer systems have different compatibility with drivers. Please select the driver suitable for your computer. Please note that the 2303 chip driver and 232 chip driver are different)

2. Insert the data cable of G90 into the USB port of the computer, and wait until the automatic search for the driver file is finished.

3. Open the "Device Management" in "My Computer" on the computer to view the serial port number of the data cable, as shown in Fig. 1.

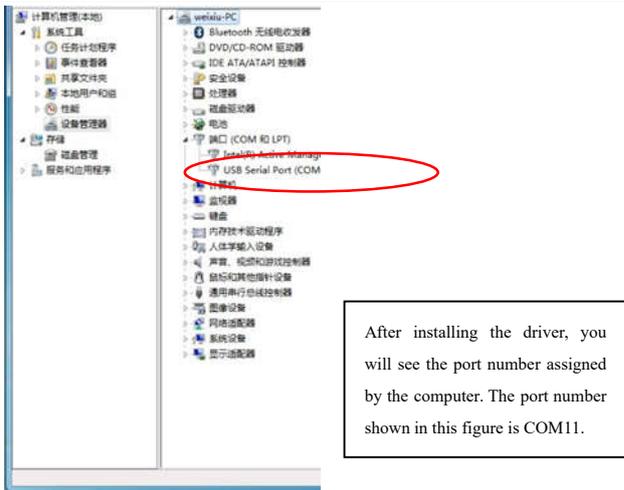


Fig. 1 Install the driver of the data cable on the computer

- 4. Insert the 3.5mm plug of the data cable into the COMM port at the rear of the body, and run the recovery software "Tera Term" on the computer. (The software is included in the firmware update package)
- 5. At this time, the software "Tera Term" has not been configured. In the menu Setup—Serial port of the software, select the port number recorded in step 3, and click "OK" button as shown in Fig.2. After setting the port number, the software interface is shown in Fig. 3.

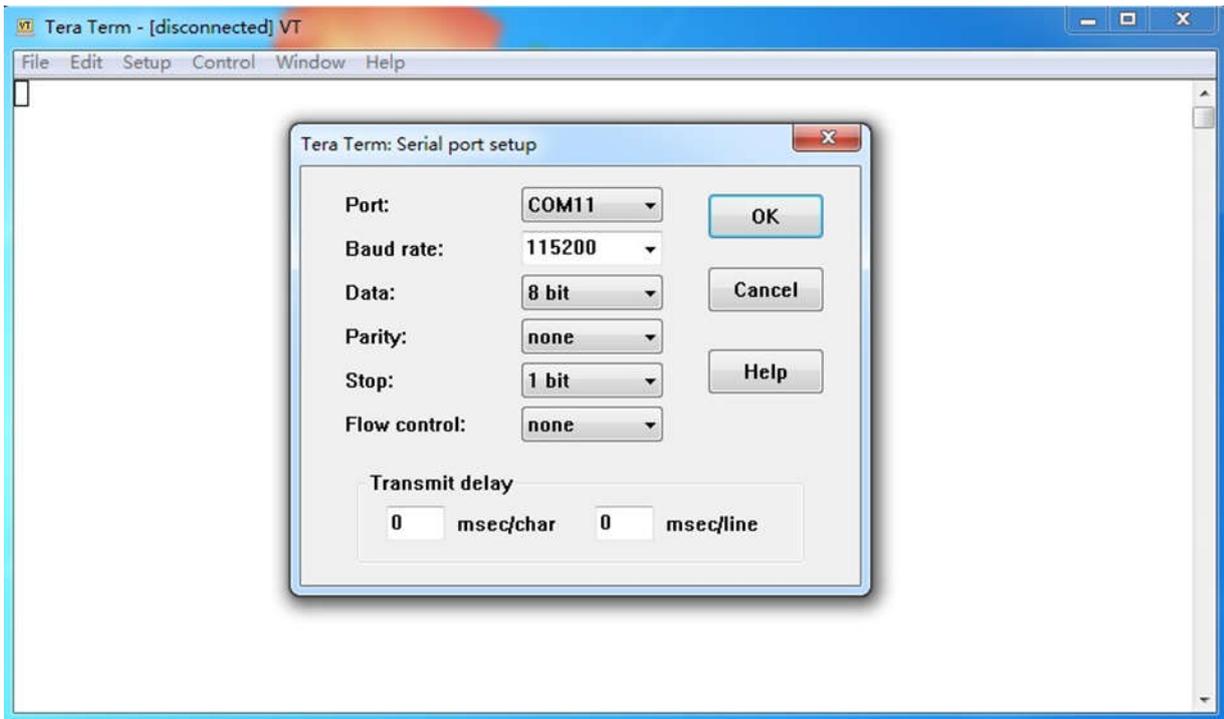


Figure 2 Setting Tera Term Port

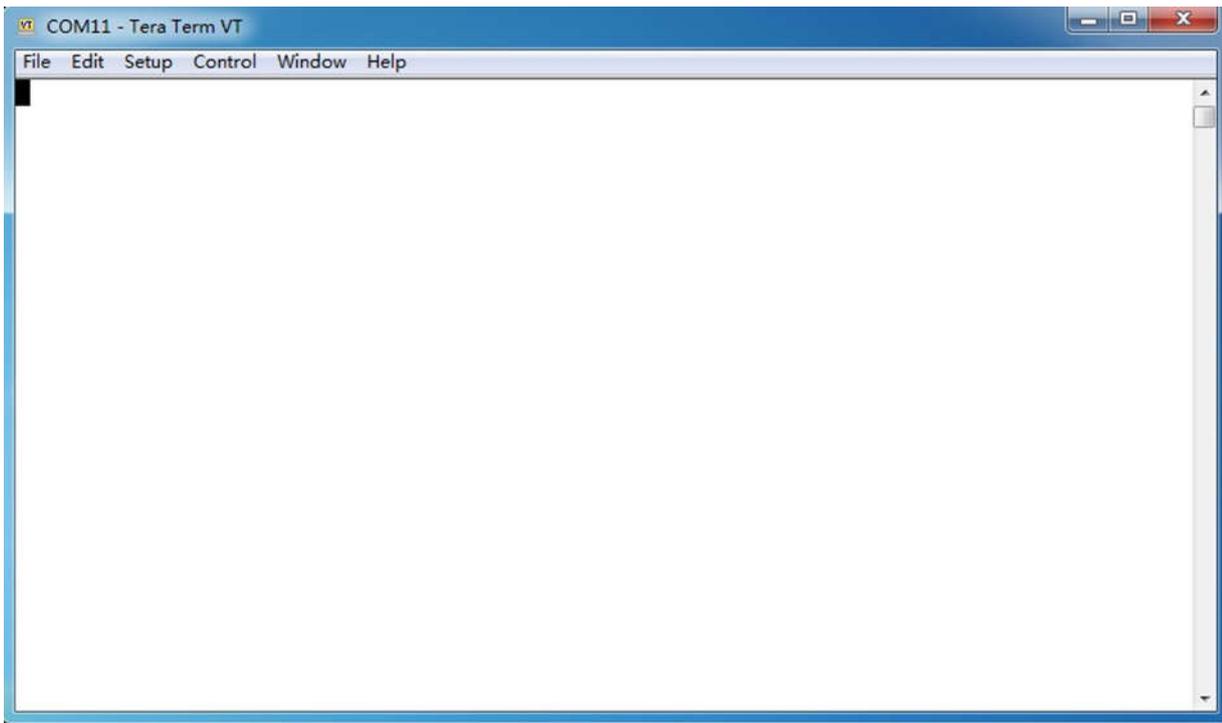


Figure 3 Software operation interface after setting the port number

6. Plug the external power supply into the power port of the host, and **please do not start the computer at this time.**

Briefly press the power button of G90/G90S, and quickly press the space bar on the computer keyboard. Please press the space bar before the software window prompts that the countdown is over, as shown in Fig. 4.

After pressing the space, a prompt message will appear in the software window, as shown in Fig. 5.

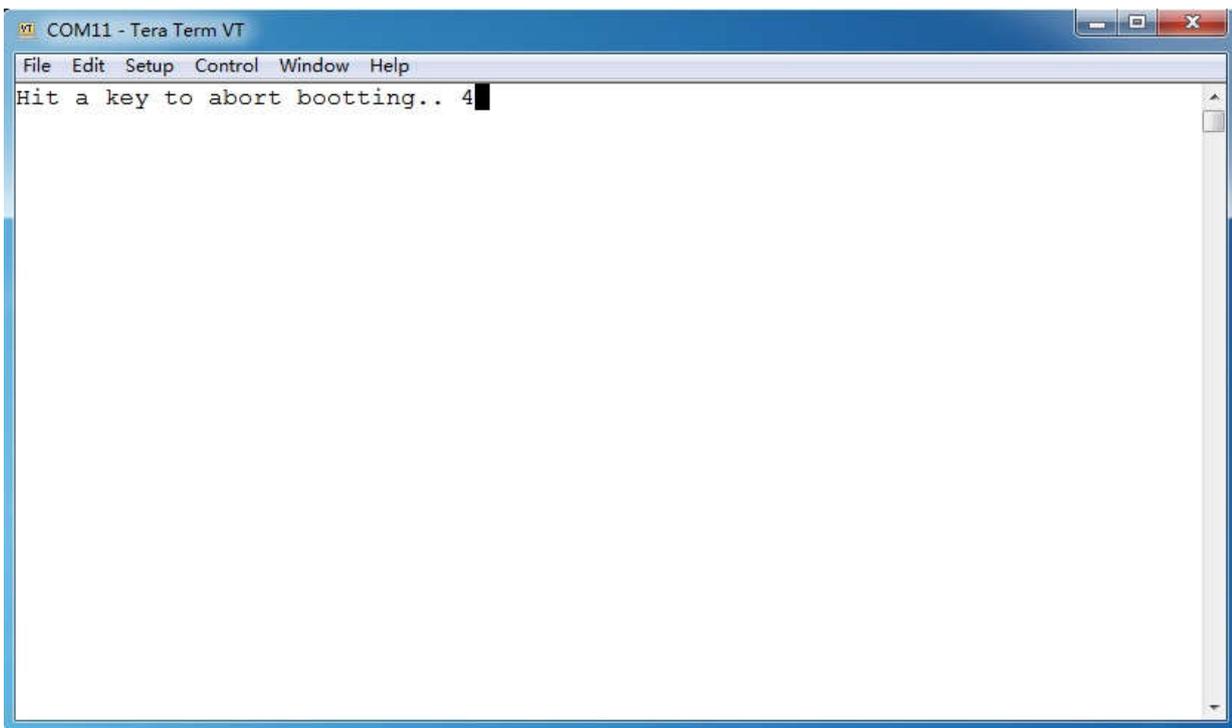


Fig. 4 Countdown of software window

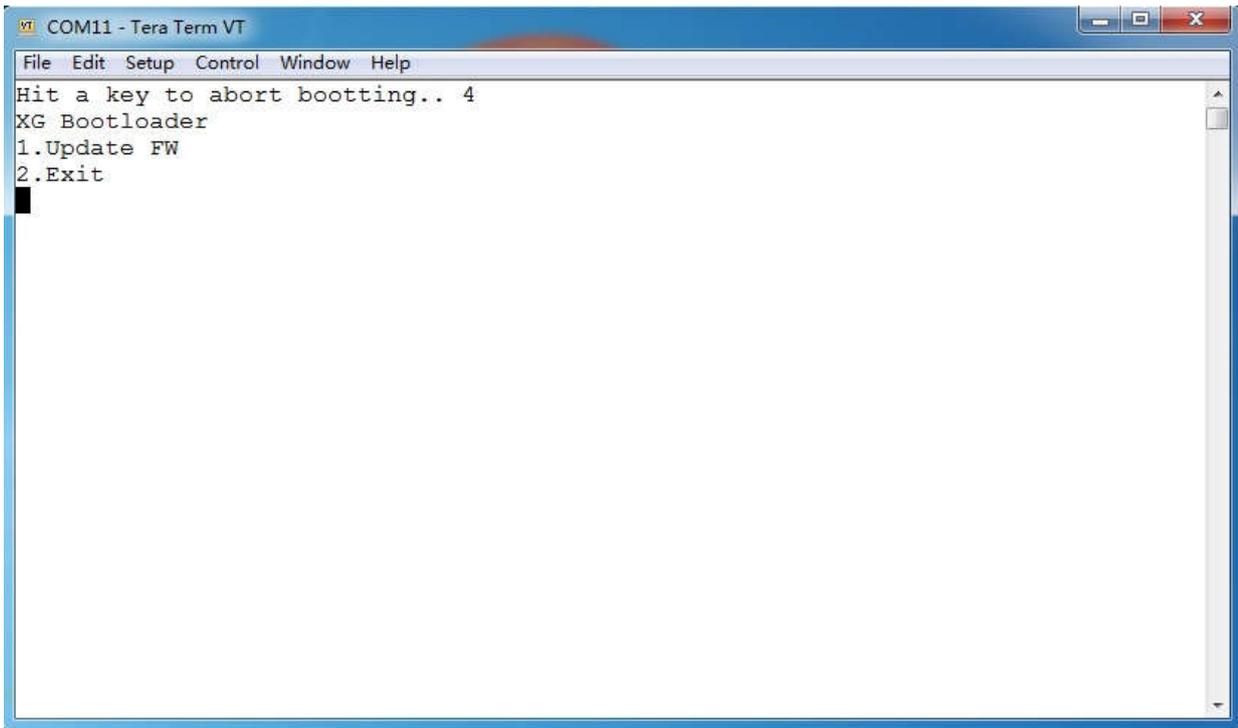


Fig. 5 Prompt message appears on the software window after pressing the space bar

7. Press the number key "1" on the computer keyboard to start clearing the memory, and the progress percentage indication message will appear in the software window, as shown in Fig.6.

As shown in Fig. 7, after the memory is erased, the firmware is ready to be sent.

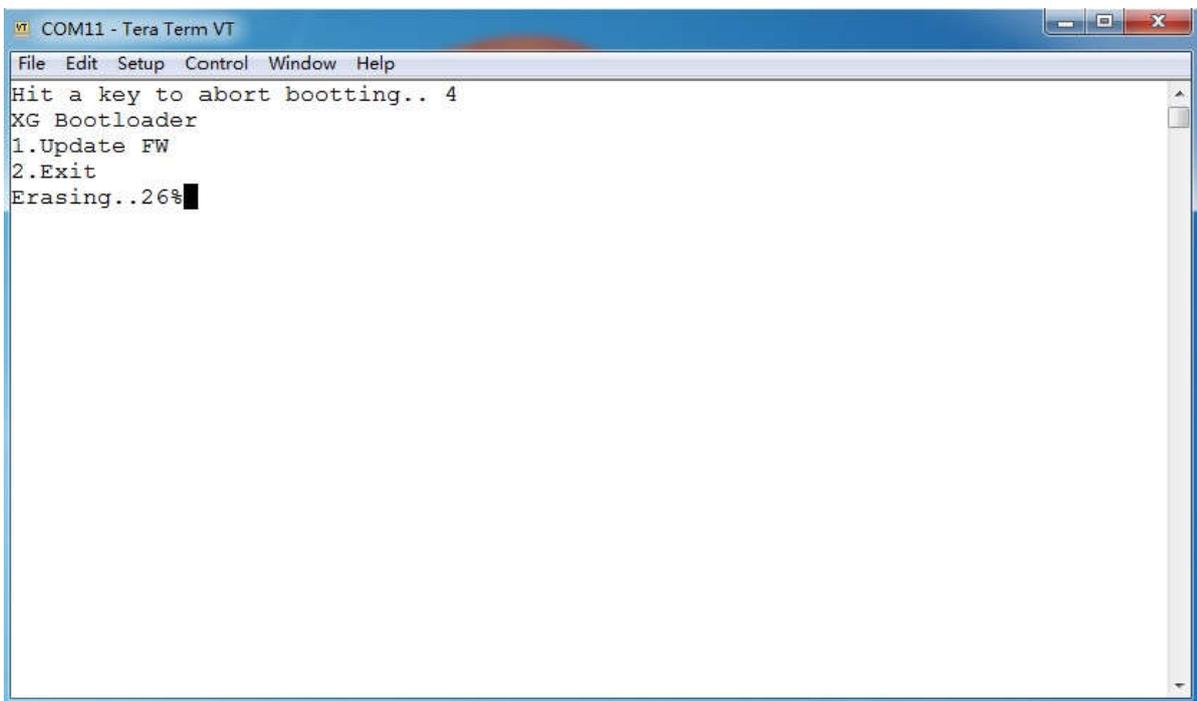


Fig. 6 Start erasing memory

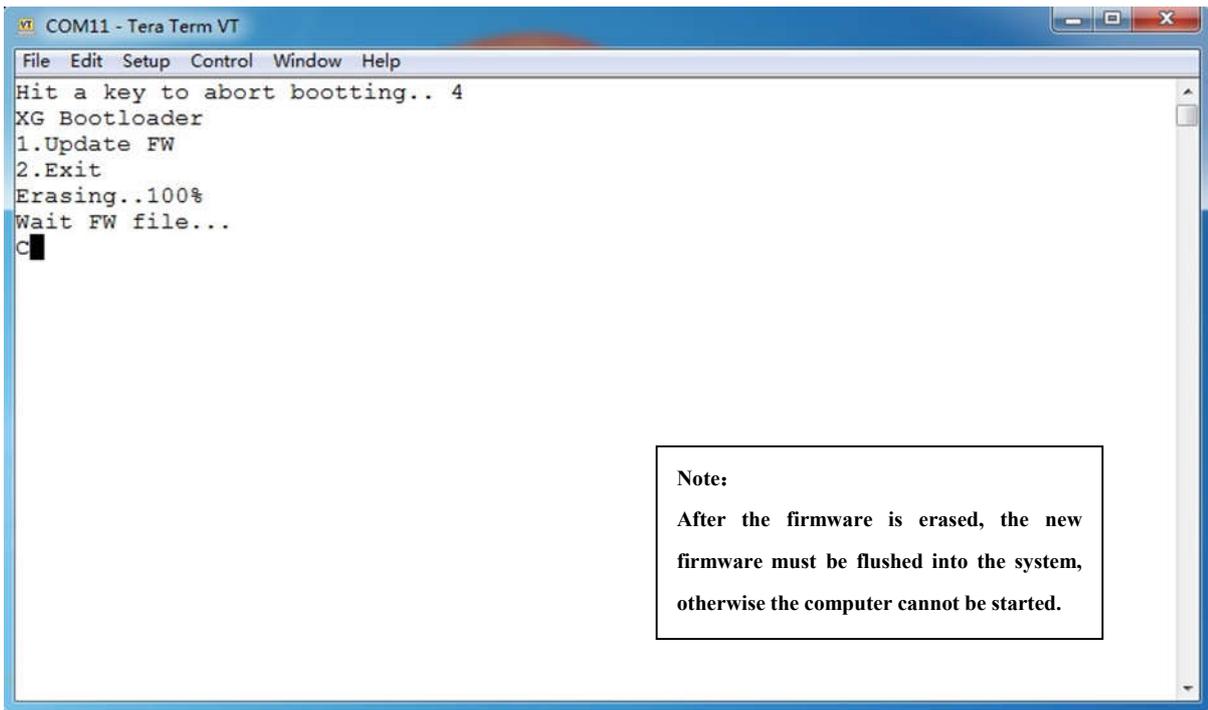


Fig. 7 Firmware is to be sent after the memory is erased

8. Select the menu File—Transfer—XMODEM—Send of the tool software, and select the sending type of the file. as shown in Fig. 8.

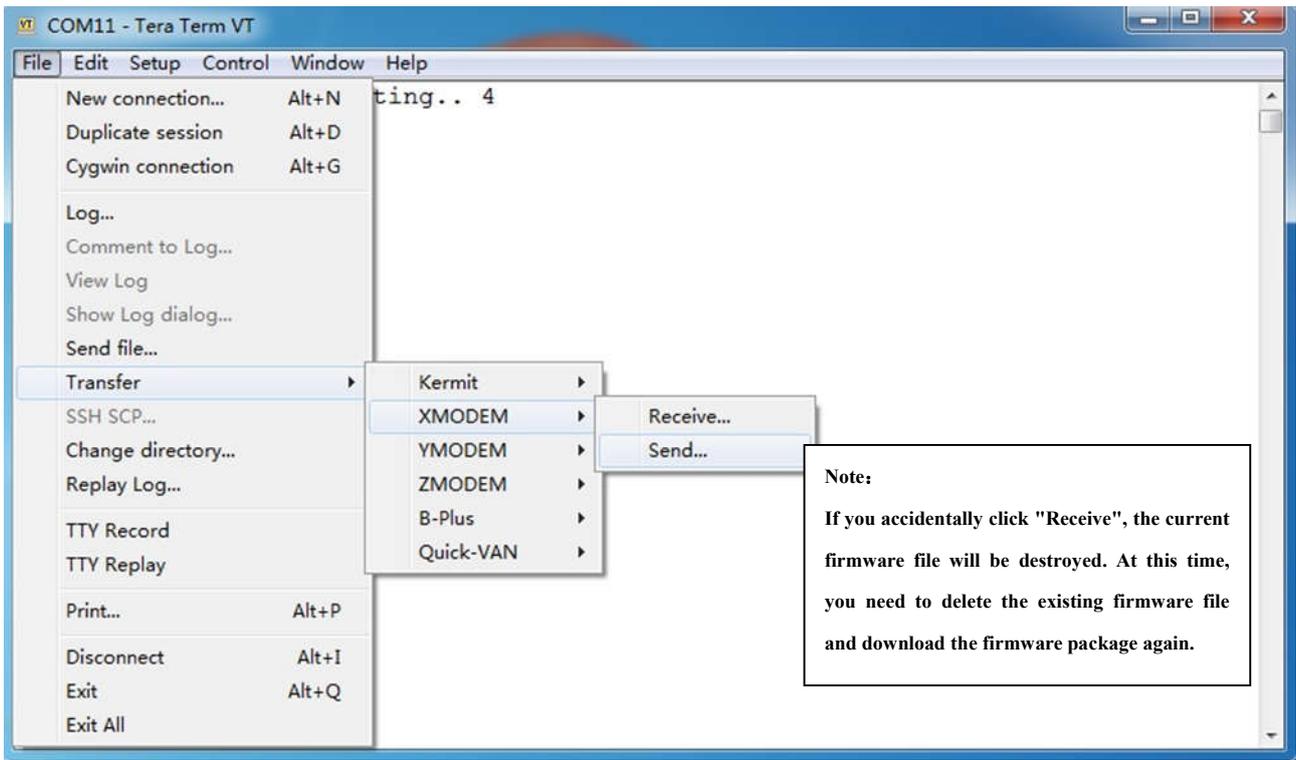


Fig. 8 Select File Sending Type

9. At this time, the firmware selection window will appear as shown in Fig. 9.

Select the firmware to be flushed, click the "Open" button, and start sending the firmware as shown in Fig. 10, until the progress bar shows that the firmware is sent completely.

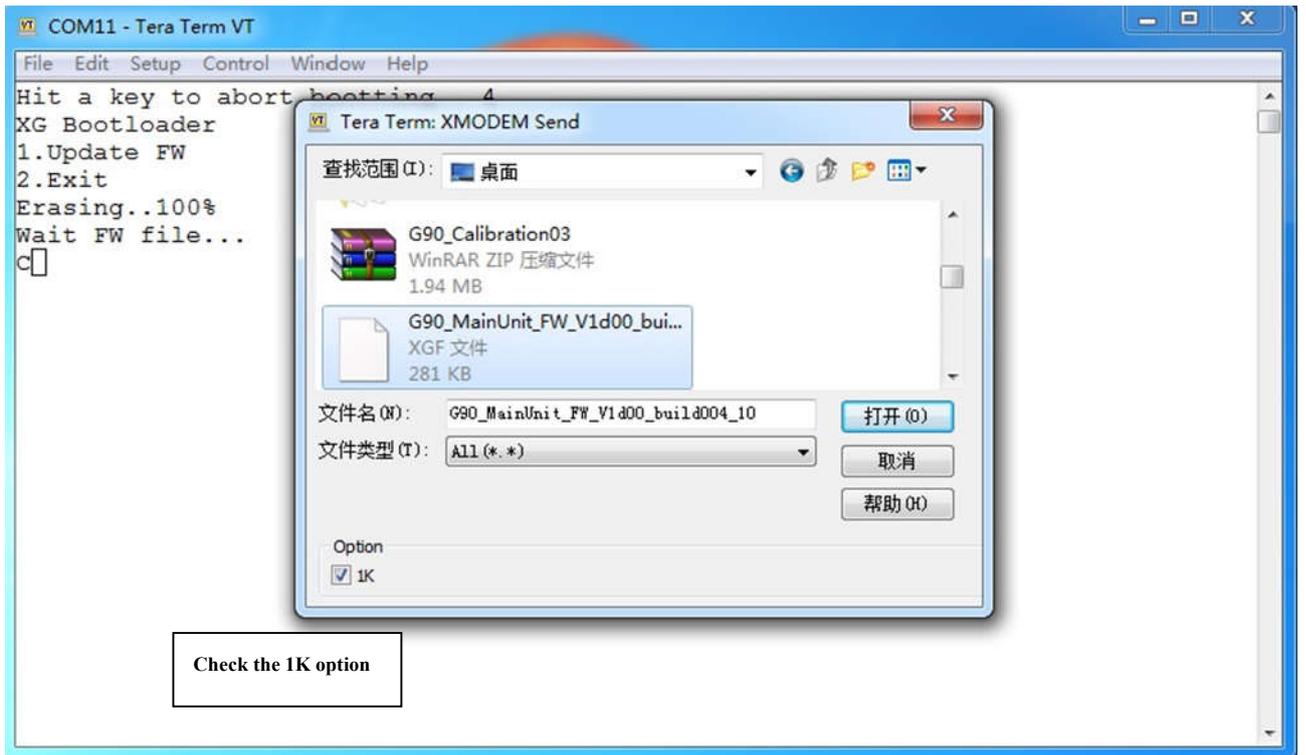


Fig. 9 Select the Firmware

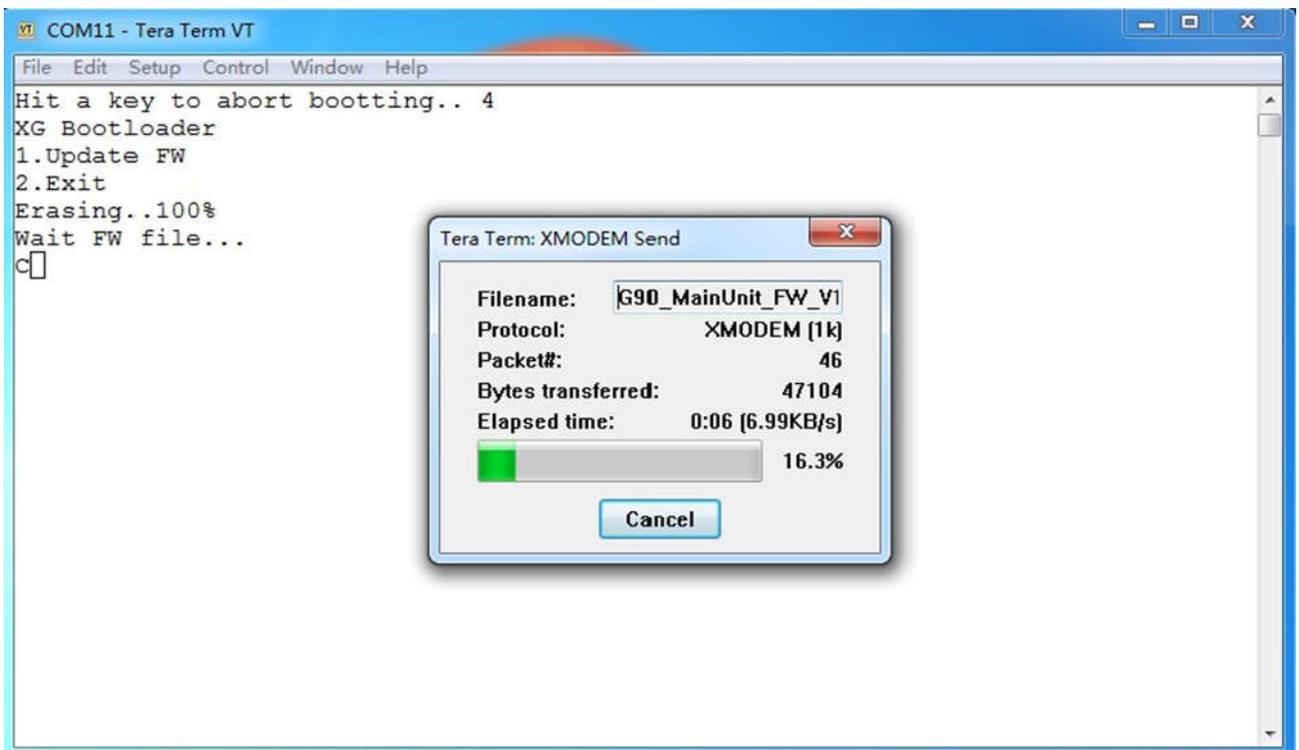


Fig. 10 Firmware is being sent

10. After sending the firmware, the software window is displayed as shown in Fig. 11.

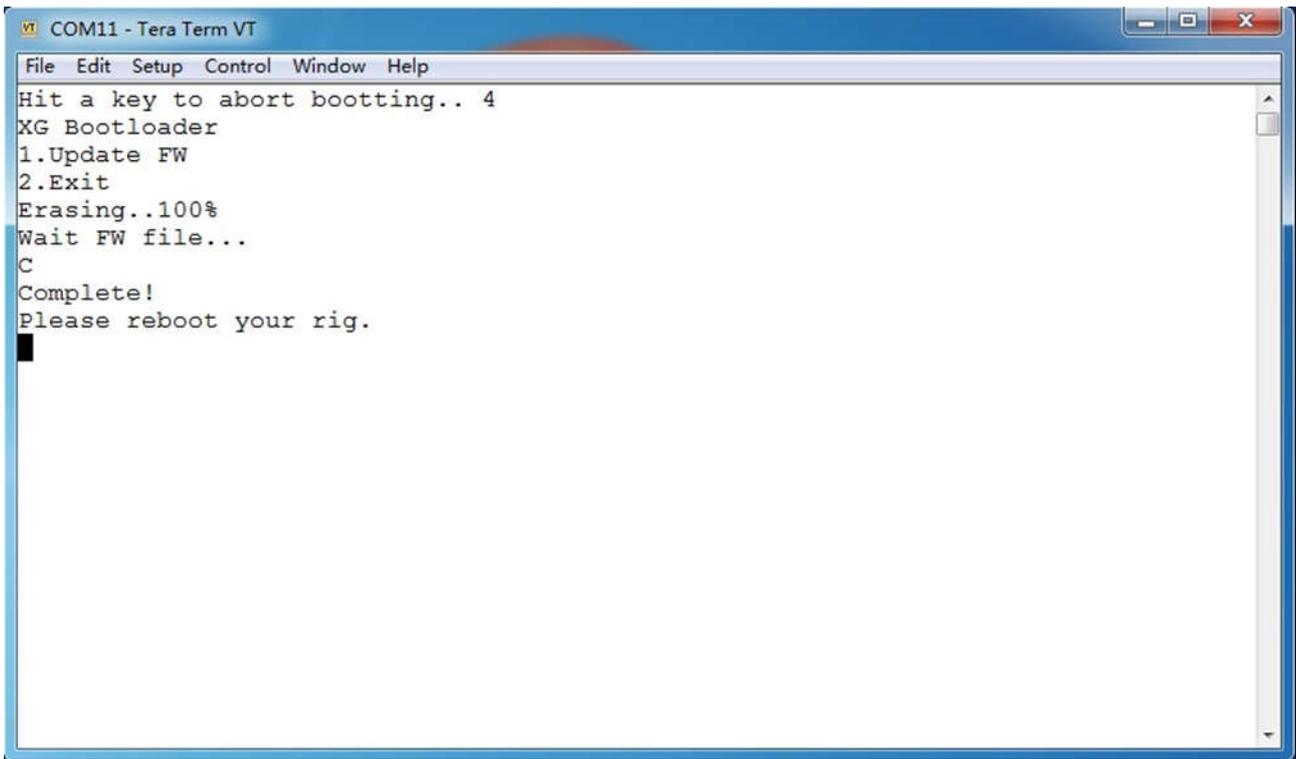


Fig. 11 Information displayed in the software window after the firmware is sent

11. **At this time, unplug the external power supply and data cable directly. Note: Please unplug the external power supply directly, and do not press the power switch of G90/G90S.**

Now, the recovery at the host end is completed.

Considerations:

1. The recovery process for the head is the same as that for the host, but the data cable is inserted in the customized port on the left side of the head. After the recovery for the host end is completed, you can directly update the firmware of the head without closing the Tera Term software. The operation procedure is the same as above.
2. If the operation is wrong, the connection is interrupted, or the firmware is selected incorrectly during the recovery process, please repeat the recovery process. The device will not become "bricked".

■ Initialization Method

Through initialization, all settings will be reset to the factory state, so please operate with caution!

- 1、 In the shutdown state, press and hold the FUNC key, and then press the power button to enter the initialization interface.
- 2、 If select YES, the system is initialized and exit the interface; if select NO, the system is not initialized and exit the interface.

Initialization completed.

End of Text.