

Note: IAP upgrade mode is only applicable to RS485 version.

1.1 Firmware upgrade by IAP

There are 2 IAP modes:

IAP mode 1:

Ground the SWD port of the motor, then power on and enter mode 1. Factory parameters will be restored after the upgrade.

IAP mode 2:

Send control instructions and enter IAP mode 2. User parameters will be retained after the upgrade.

Note:

For IAP upgrade operation video, see "MKS SERVO42&57E IAP upgrade video.mp4"

IAP mode 2 instructions are as follows

Downlink package (PC → SERVO42E/57E)				
Head	Slave addr	Function	CMD	CRC
FA	01	50	cmd	CRC

cmd = 01 Enter boot mode

cmd = 02 Enter silent state

cmd = 03 Exit silent state

Control word cmd description:

When there is only one motor on the bus, directly send cmd = 01 command to enter boot mode;

When there are multiple motors on the bus, to avoid data interference, you can do the following:

- First broadcast cmd = 02 command (FA 00 50 02 CRC) to make all motors enter the silent state;
- Then send cmd = 01 command to the motor to be upgraded to enter the boot mode to upgrade the firmware;
- After the upgrade is completed, broadcast cmd = 03 command (FA 00 50 03 CRC) to make all motors exit the silent state.

Note: In the silent state, the motor does not respond to commands other than 50.

Uplink package (PC ← SERVO42E/57E)				
Head	Slave addr	Function	Data	CRC
FB	01	50	status(uint8_t)	CRC

status =1 Write success.

status =0 Write fail.

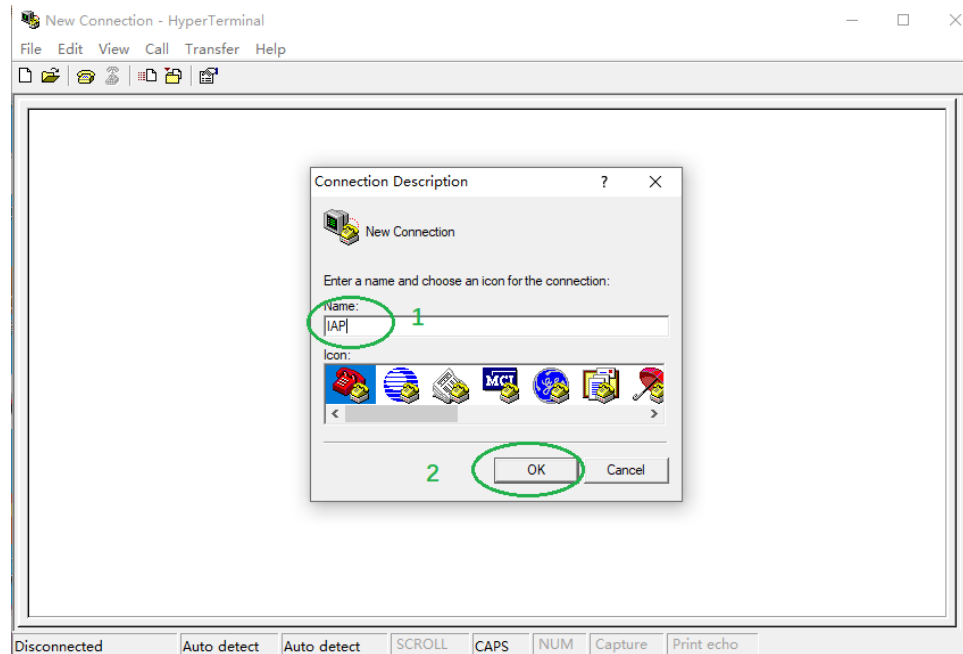
Note: After successful setup, the motor automatically restarts and enters IAP mode 2, waiting to receive the upgrade file(*.bin).

1.2 HyperTerminal Operation

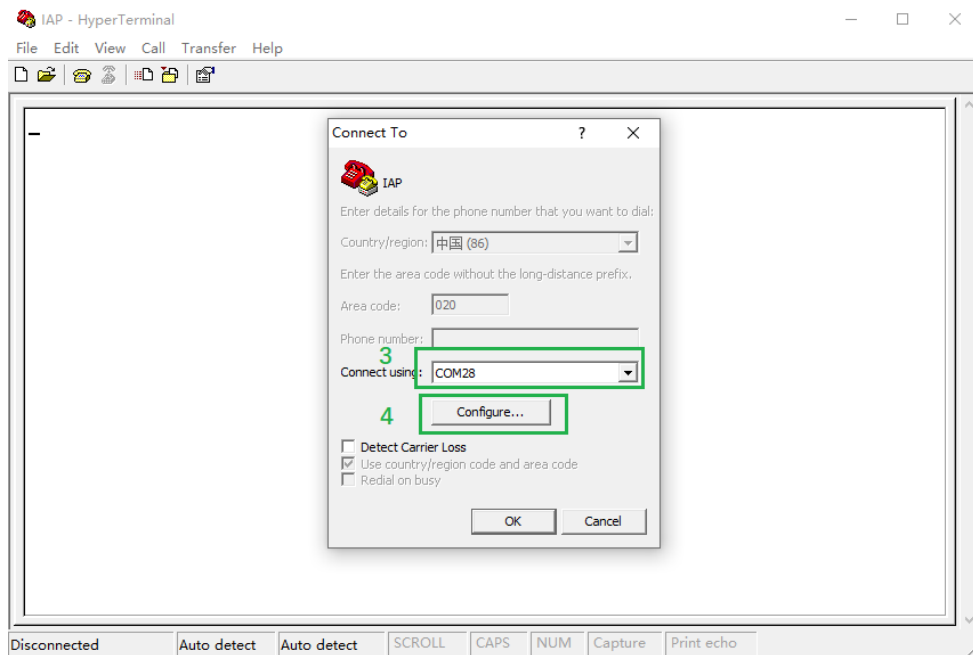
1. Run the HyperTrm.exe

Enter Name, such as "IAP", See Figure "1" below,

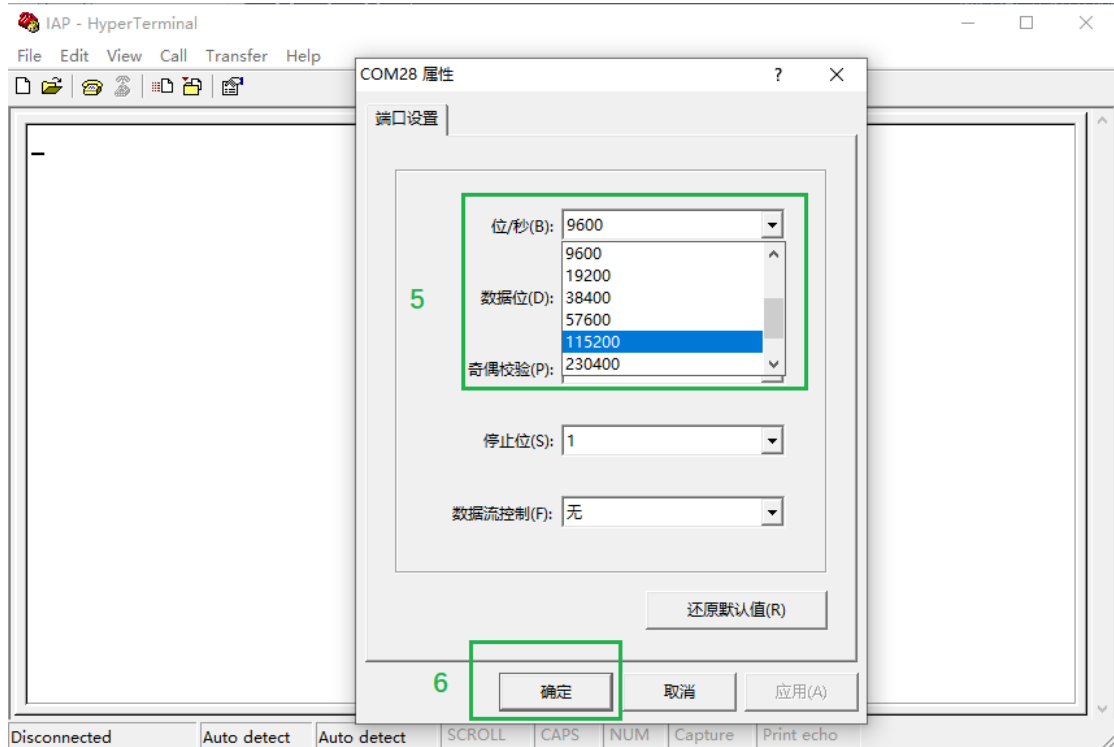
Click "OK", See Figure "2" below



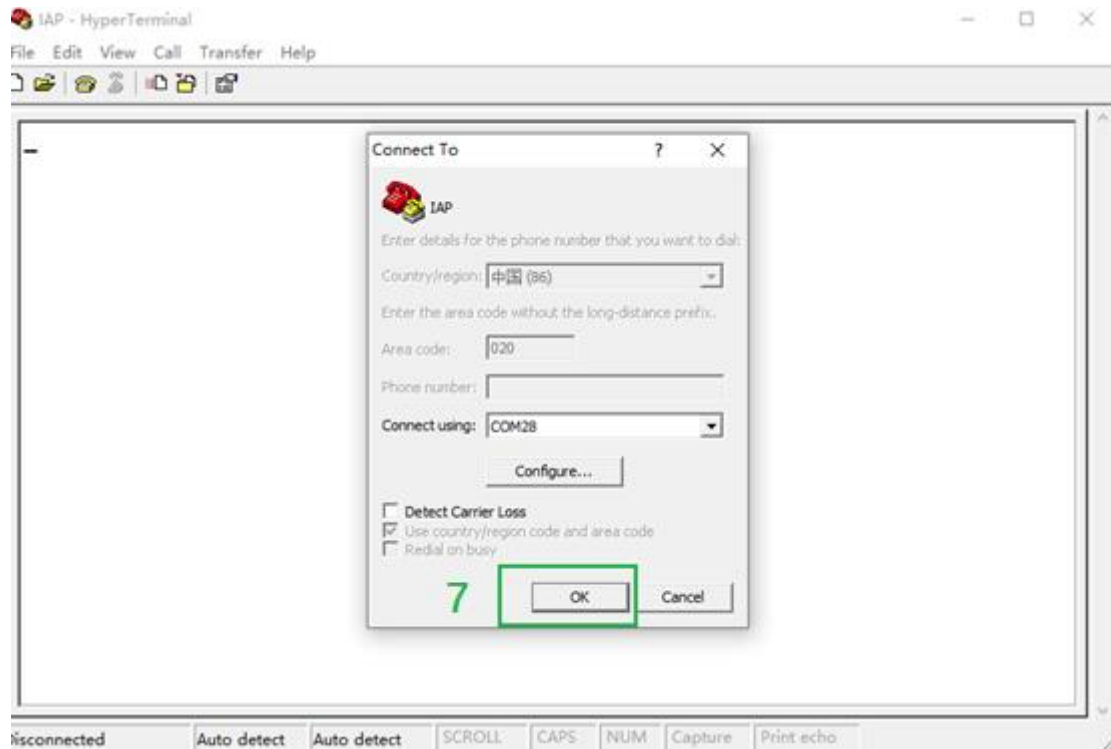
2. Select the corresponding COM, see Figure “3” below
Click “Configure...” see Figure “4” below



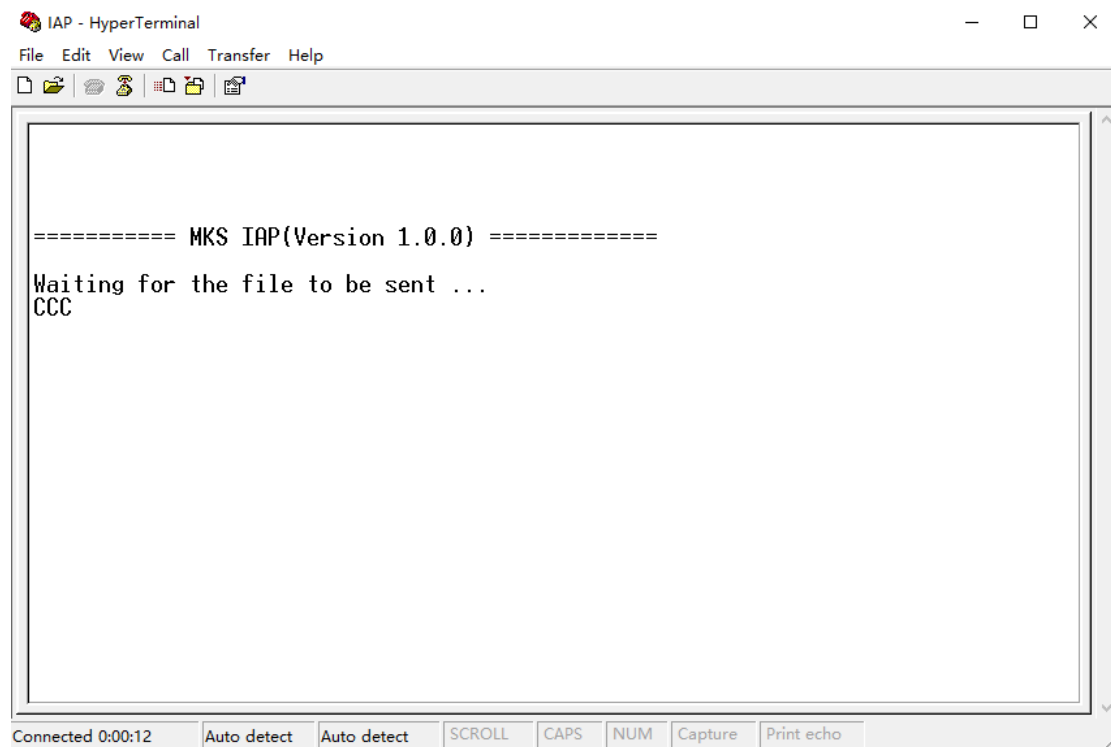
3. Select baud rate “115200”, see Figure “5” below
Click “确定”, see Figure “6” below



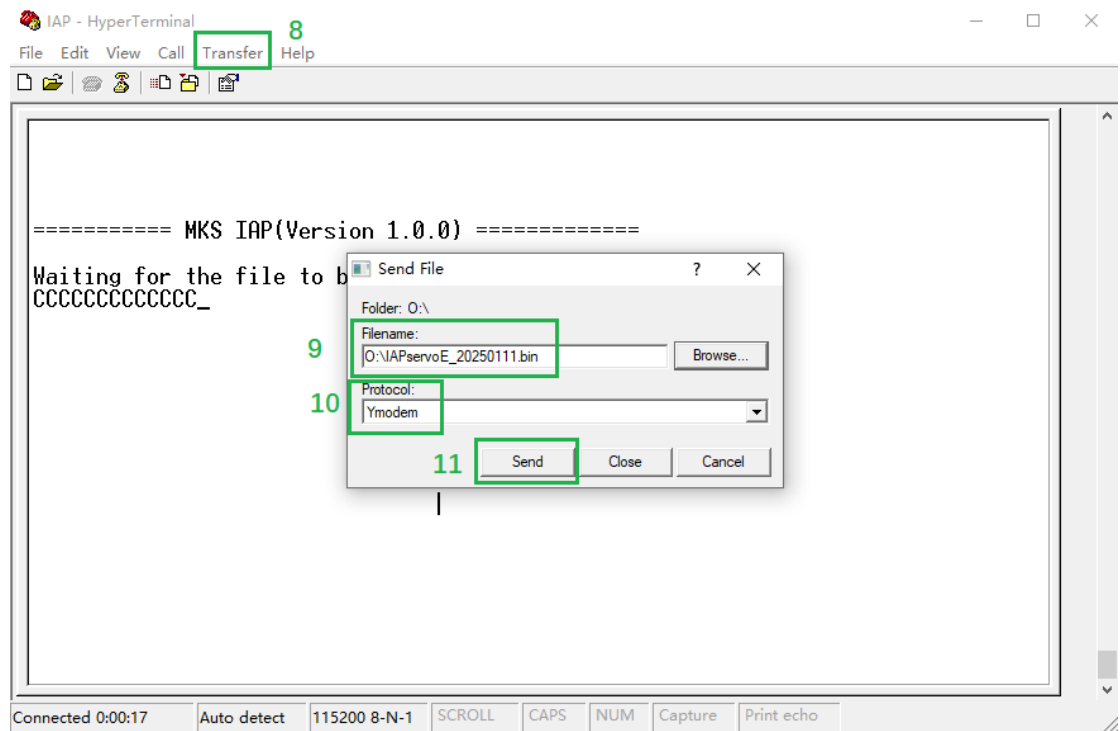
- Click "OK", see Figure "7" below



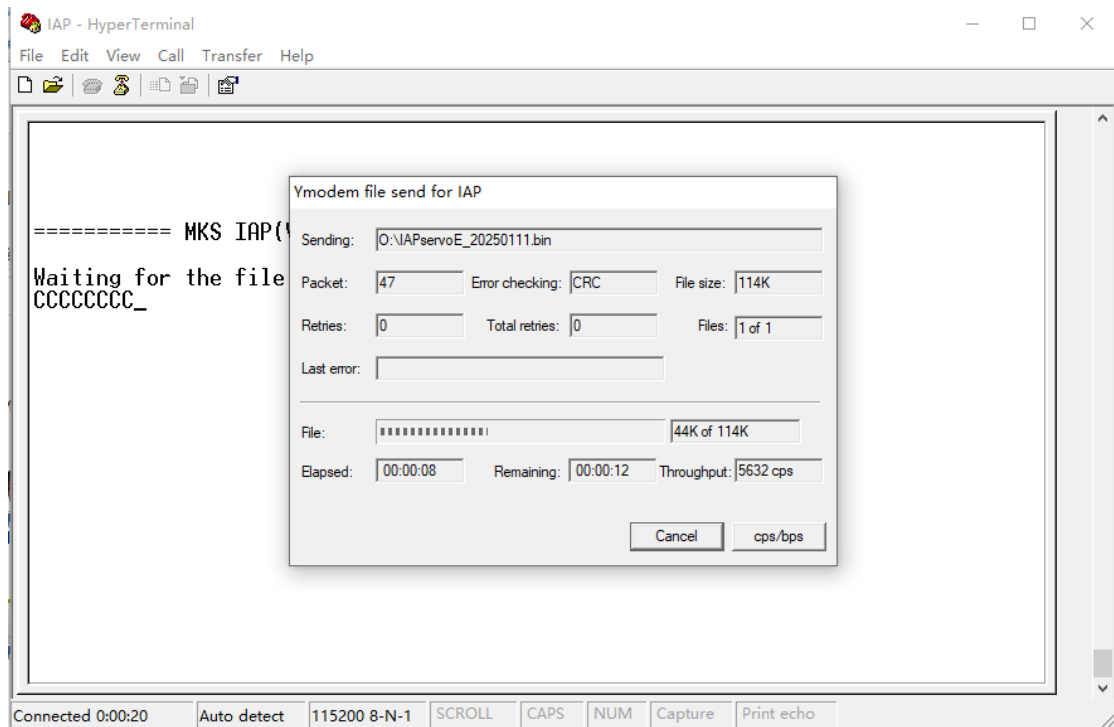
- Power on the motor and enter IAP mode.
- The "CCC..." characters are received, as shown in the figure below.



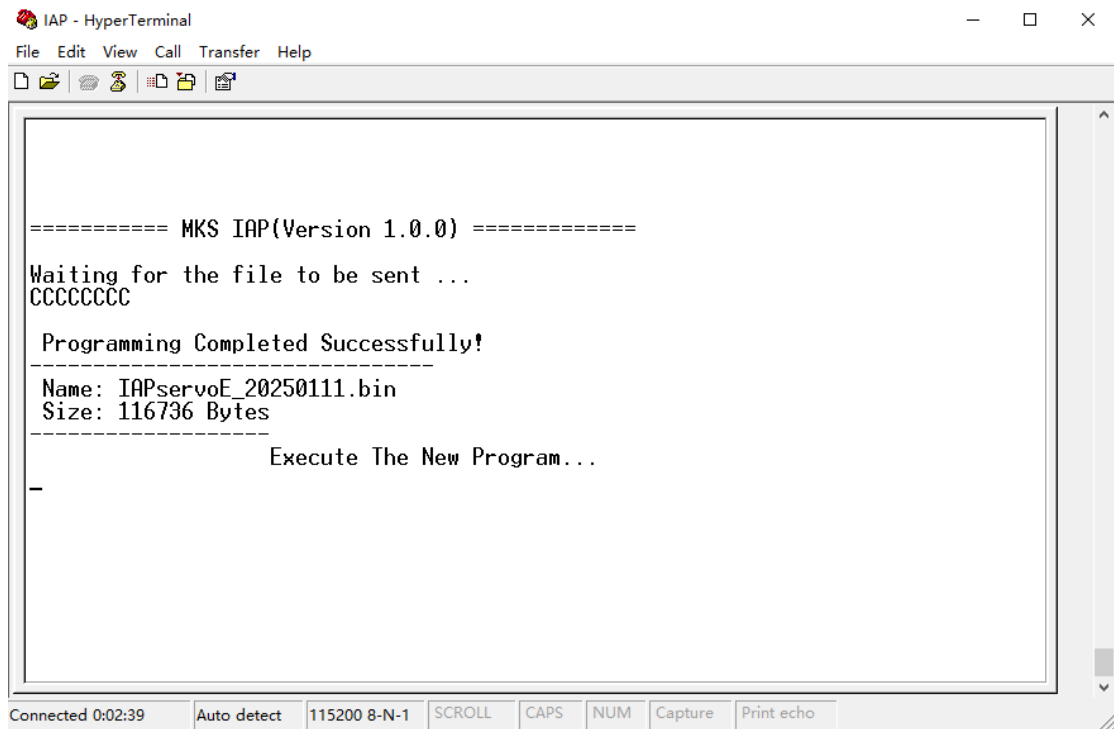
7. Select "Transfer" -> "Send File...", see Figure "8" below
 - Select the file "*.bin", see Figure "9" below
 - Select "Ymodem", see Figure "10" below
 - Click "Send", see Figure "11" below



8. Wait for the file transfer to complete, see the figure below



9. IAP upgrade completed, see the picture below



```
==== MKS IAP(Version 1.0.0) =====
Waiting for the file to be sent ...
CCCCCCCC
Programming Completed Successfully!
-----
Name: IAPservoE_20250111.bin
Size: 116736 Bytes
-----
Execute The New Program...
-
```

Connected 0:02:39 Auto detect 115200 8-N-1 SCROLL CAPS NUM Capture Print echo