

**CG Antenna**

**SB-2000 USB Radio Interface**

**Operating Manual**

**CG Antenna Co. Ltd.**  
Shanghai, China

<http://www.cgantenna.com>

## FEATURES

- **Connect your computer with USB port. No need serial or parallel port.**  
Most of Radio programs are built based on COM serial port of PC computer. But the most latest PC computers don't have a serial port.
- **USB to UART bridge by FT232 single chip. USB 2.0 compliant. Full speed.**  
To be compatible with the legacy radio program, we still have to keep using serial port. That's why we choose to use USB to UART bridge which converts the USB to serial port. FT232R is very reliable industry single-chip USB to UART bridge.
- **CAT, CI/V controller and audio transformer are combined together.**  
No sophisticate software setting. Very clearly operate from reachable setting on the control panel. It supports CAT with RS232 protocol. So it's compatible with the most latest transceivers.

- **Complete isolation between computer and radio station.**

1. Optical isolation used for digital signal.
2. Audio signal isolated 1:1 transformer. It has internal static isolation. Excellent EMC(Electromagnetic compatibility)

- **Operated by computer USB power. No need extra power.**

When you are in your expedition or mobile, you will not have extra power headache with SB-2000. It uses the power from your computer's USB port.

- **Very compact size, easy to carry.**

Weight less than 400 grams. Pocket size only.

- **Supply with full accessories.**

It comes with USB, CAT or CI/V, Data and audio cables.

## FUNCTIONS

SB-2000 links your radio transceiver with the computer.

- **Control radio operation via CAT, CI/V.**

You can control your radio if it supports CAT or CI/V protocol from your computer.

- **Operate RTTY, PSK31, SSTV, FAX, and etc. digital mode.**

From your computer you can easily operate digital mode with proper software. Turn your computer into a professional expensive DTE.

- **Transmit and receive CW.**

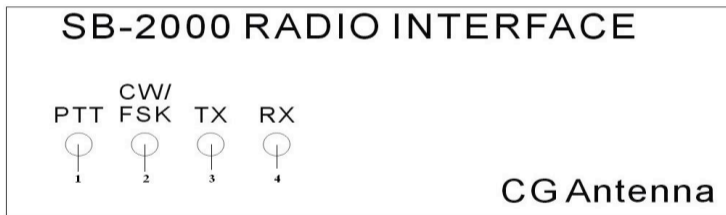
If you want to be relaxed to operate CW, you can choose to use software to send or receive Morse code. Use your computer keyboard instead of paddle or straight key. Read all received Morse code from your computer screen.

- **Support ECHOLINK to control remote station.**  
ECHOLINK allows radio stations to communicate with one another by using Voice over IP (VoIP) technology on the Internet.
- **Record your SSB voice session.**
- **Support FSK operation.**

**FRONT PANEL**

Front panel has all the indicators.

*Diagram 1.*

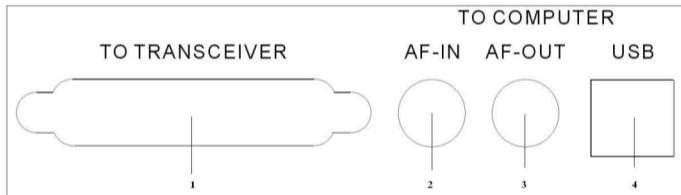


1. **PTT** indicator  
This indicator lights on when it's under operating RTS control signal. Usually it's the PTT output.
2. **CW/FSK** indicator  
This indicator lights on when it's under operating DTR control signal. Usually it's the CW or FSK output.
3. **TX** indicator  
This indicator lights on when the computer sending CAT or CI/V signal to the transceiver.
4. **RX** indicator  
This indicator lights on when the transceiver sending CAT or CI/V signal to the computer.

**REAR PANEL**

Rear panel has all the jacks to the computer and the transceiver.

*Diagram 2.*



1. **TO TRANSCEIVER** port  
This 25-pin female DE-25 port connects to the data, CAT or CI/V and CW port of transceiver.
2. **AF-IN** jack  
This RCA jack connects to the audio-out or speaker socket of the sound card in the computer.
3. **AF-OUT** jack  
This RCA jack connects to the audio-in or microphone socket of the sound card in the computer.
4. **USB** port  
This USB port connects to the USB port of computer.

## HARDWARE INSTALLATION

### **Cable connection**

Please use the suitable cables that are provided by CG Antenna. Most cables of modern transceiver are existed.

### **Rear panel to transceiver**

The 25-pin data socket connects to the data, CAT or CI/V and CW port of the transceiver..

The RCA-3.5 mm connects the AF-IN and the audio output of the computer's sound card. Also connects the AF-OUT and the audio input of the computer's sound card.

USB A-B cable connects the USB ports of the radio interface and the computer.

## SOFTWARE INSTALLATION

SB-2000 comes with software driver for Windows 98, 2000/XP, Vista, Mac OS X and Linux.

### **Computer system requirement**

CPU: Intel P3 500 MHz

RAM: 256MB

CD-ROM

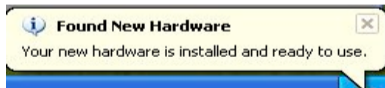
At least one USB 1.1 port and a sound card.

### **Installing software driver on Windows XP**

*\* Please do not connect SB-2000's USB cable to the computer at this moment*

- Insert installation CD into CD-ROM.
- Click 'My Computer' , Click the icon your CD driver. E.g.: E:\
- Double click e:\driver\Win2000\_XP\_Vista\SB2000.exe
- The program will install the suitable driver into system.

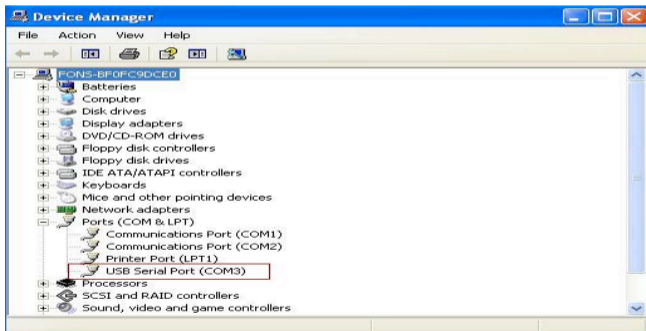
Now connect the **SB-2000** to your computer's USB port via USB cable. The system will detect it.



## Check COM port configuration

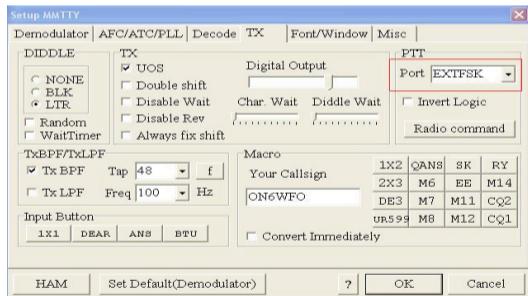
In the Control Panel -> System -> Hardware -> Device Manager

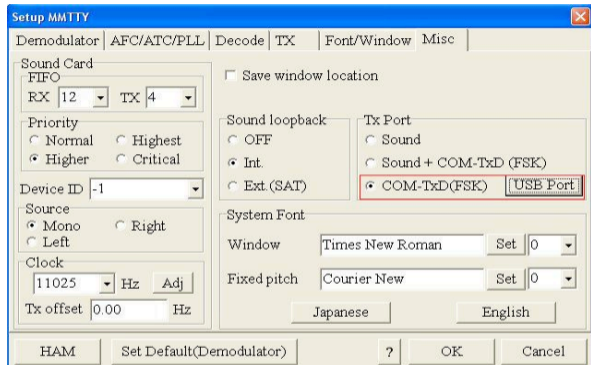
You will see a new port be added. **Write down the port number.**



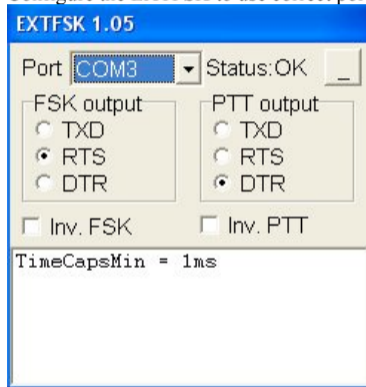
Now you can setup your radio program to use this port to operate.

- *If you use MMTTY and you want to transmit in FSK mode, you have to install COMFSK plug-in. Please refer the detail installation to MMTTY's manual.*





Configure the EXTFSK to use correct port, DTR for FSK output and RTS for PTT(by default)



## CABLE SPECIFICATION

### 1. SP & MIC cable

It is a RCA to 3.5 mm audio jack cable. The impedance of the jack is 600 ohms.

### 2. USB cable

The 4-pin B to 8 pin USB cable.

### 3. DE-25 to data, CAT or CI/V and CW port of transceiver cable

**WARRANTY**

CG antenna warrants SB-2000 against defects in material for a period of ONE (1) year unless otherwise indicated.

The warranty does not cover damage, improper use, abuse, or conditions beyond our control (i.e. lightning).

CG Antenna assumes no liability or responsibility for damage to other devices or injuries to persons as a consequence of using our products.

If you don't accept the terms of the above warranty, please return the products in the original package to your reseller for refund (doesn't include the shipping or possible restocking charge).

**SERVICE**

If you have any problem of your CG product. Please contact your local sales directly. Then we can arrange the repair service.

If return for repair is needed, please wrap and pack your unit well to protect damage during transportation or handling. Include a note with your name, address, phone number, email and brief description of the problem.

*\*CG antenna and our distributors can not be responsible for unit lost or damage in shipping.*





## SB-2000 cable plan

### Yaesu

1. FT mobile rig with mini-din data & min 8 CAT plug (model: **ACC105**)

**Suitable model:**

FT-100(D), FT-817, FT-857(D), FT-897(D)

**Description:**

Mini-din 6 data cable

Mini-din 8 CAT cable (protocol: FIF-232)

CW 1/8"

2. FT mobile rig with mini-din data, DB9 CAT (model: **ACC104**)

**Suitable model:**

FT-450, FT-950

**Description:**

Mini-din 6 data cable

DB9 COM CAT cable (protocol: RS232)

CW 1/4"

3. FT desktop rig (model: **ACC101**)

**Suitable model:**

FT-1000MP(MK-V, MK-V field), FT-2000, FT-9000(DX)

**Description:**

DIN-4 RTTY data cable

DIN-5 Packet data cable

DB9 COM CAT cable (protocol: RS232)

CW ¼"

**ICOM**

1. IC 13-pin mobile (model: **ACC103**)

**Suitable model:**

IC-703, IC-706(MK2, MK2G), IC-718, IC-78, IC-7000

**Description:**

13-pin data cable

1/8" CI/V cable

CW ¼"

2. IC 8-pin desktop (model: **ACC102**)

**Suitable model:**

IC-746(pro), IC-7400, IC-756(pro, pro2, pro3)

**Description:**

8-pin data cable

1/8" CI/V cable

CW ¼"

**Kenwood**

1. TS 13-pin (model: **ACC106**)

**Suitable model:**

TS-570, TS-2000

**Description:**

13-pin data cable

DB9 COM CAT cable(protocol: RS232)

CW 1/8"

2. TS mini-din (model: **ACC107**)

**Suitable model:**

TS-480(SAT, HX)

**Description:**

Mini-din 6 data cable  
Mini-din 8 RTTY cable  
DB9 COM CAT cable (protocol: RS232)  
CW 1/8"

**For more Information please watch out [www.thicom.de](http://www.thicom.de) or  
<http://www.thicom.de/cg-antenna-sb-2000.html>**