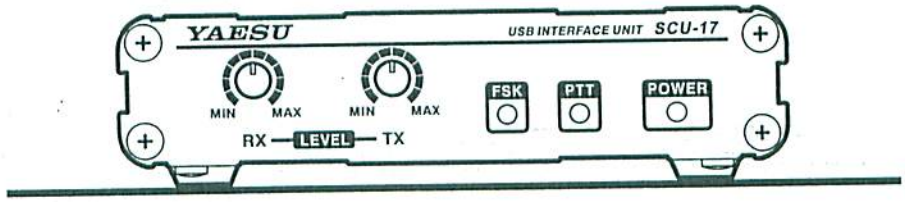
YAESU
The radio

# SCU-17 USB INTERFACE UNIT

Instruction Manual




日本語の説明は 18 ページから記載されています。

## Introduction

The SCU-17 interface unit may be used for CAT control of the transceiver with a computer via a USB connection; and for communications using SSTV, RTTY and PSK digital modes.

**Note:** YAESU does not produce CAT, SSTV, RTTY and PSK System operating software, due to the wide variety of personal computers, operating systems, and applications in use today.

- ❒ The SCU-17 provides CAT communication through the USB terminal when a PC does not have an RS-232C connection.
- ❒ The SCU-17 is equipped with a USB audio system device, so the TX and RX audio system signals are accessible to the SCU-17 through the USB cable. Therefore, the supplied USB cable is the only connection needed between the SCU-17 and PC.
- ❒ The SCU-17 is equipped with a two-channel USB serial device and enables the various transmission modes and the CAT communication simultaneously.
- ❒ The SCU-17 operates from the USB bus power; you do not need to prepare an external power supply.
- ❒ For RF isolation, the SCU-17 is designed with photo relays for the PTT/FSK terminals. AF transformers are used in the AUDIO IN/OUT lines to provide excellent ground isolation.
- ❒ The SCU-17 is equipped with the TX and RX audio controls on the front panel, for convenient level adjustment.
- ❒ LED indicators on the SCU-17 front panel monitor the PTT and FSK control. The operating conditions may be quickly confirmed.
- ❒ When using the SCU-17 to perform TX control, the transceiver may switch to transmit mode when the computer is started.

# Virtual COM port driver Installation

Install the virtual COM port driver on the personal computer before using the SCU-17 USB interface unit.
Please see the USB Driver (Virtual COM Port Driver) on the Yaesu Website for details refer to (http://www.yaesu.com/) in the FTDX1200 product files section.

**Note:** Do not connect the USB cable and SCU-17 to your personal computer until after the "virtual COM port driver" installation is completed, because an incorrect driver may be installed.

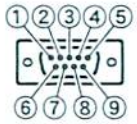
- ❒ For assistance with the software port configuration, refer to "How to Confirm the Installation, and the COM Port Number" in the "Virtual COM port Driver Installation Manual".
- ❒ For information on port configuration for commercial and free computer software, refer to the manual for the software being used.
- ❒ When using the USB cable to supply TX and RX audio signals, set the Sound Card (input and output) settings to "USB Audio CODEC".
- ❒ When using the USB cable for computer TX control, the transceiver may switch to transmit mode when the computer is started, etc.
- ❒ YAESU does not provide technical support for the use or operation of commercial or free computer software.



# Accessories

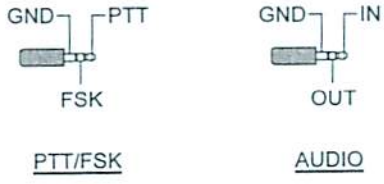
USB cable (Type "A" male to Type "B" male) ..... 1 pc

RS-232C cable (female to female, Straight Type) ..... 1 pc




Connection cable (MDIN6P - MDIN6P) ..... 1 pc

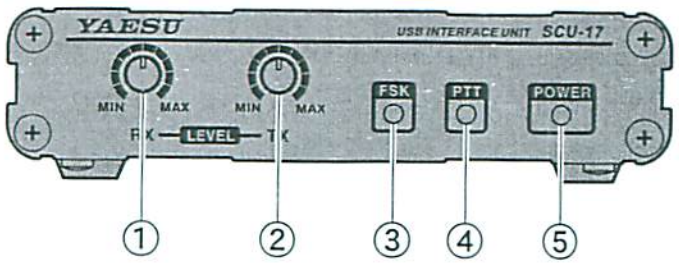

3.5 mm Stereo plug ..... 2 pcs



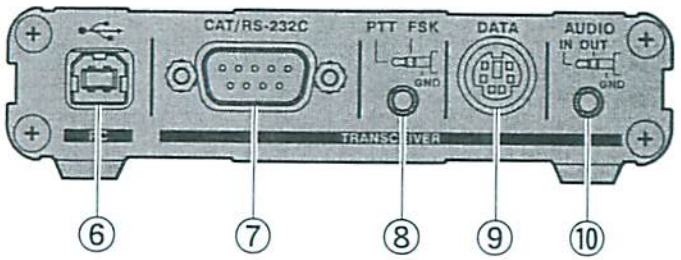

Instruction manual

# Controls & Connections

## Front Panel




## Rear Panel




**① RX audio level control knob**
This knob adjusts the RX audio level.

**② TX audio level control knob**
This knob adjusts the TX audio level.

**③ FSK Indicator**
This indicator illuminates when the Mark frequency is shifted.

**④ TX Indicator**
This indicator illuminates during transmission.

**⑤ POWER Indicator**

**⑥ USB Connector**
Connect to a computer from this jack using the supplied USB cable.

**⑦ CAT/RS-232C Jack**
This 9-pin serial DB-9 jack allows CAT communication of the transceiver.
Connect a supplied RS-232C cable here and to the transceiver.

**⑧ 3.5 mm stereo Jack (PTT/FSK)**
This 3-conductor, 3.5 mm stereo jack is used for PTT/FSK. For RF isolation, these terminals are designed with photo relays.

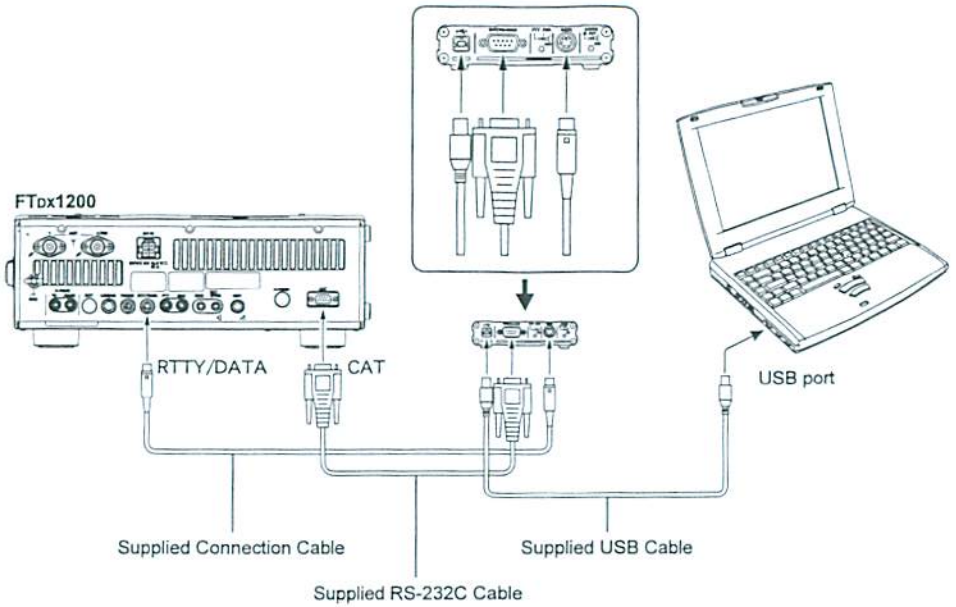
**⑨ DATA Jack**
This 6-pin (MDIN6P) jack allows DATA communication of the transceiver.

**⑩ 3.5 mm stereo Jack (Audio IN/OUT)**
This 3-conductor, 3.5 mm stereo jack is used for Audio IN/OUT. For RF isolation, AF transformers are used in the AUDIO IN/OUT lines.
This Jack is equipped with an attenuator that is applied to the audio output.
See page 15 for details about attenuation.

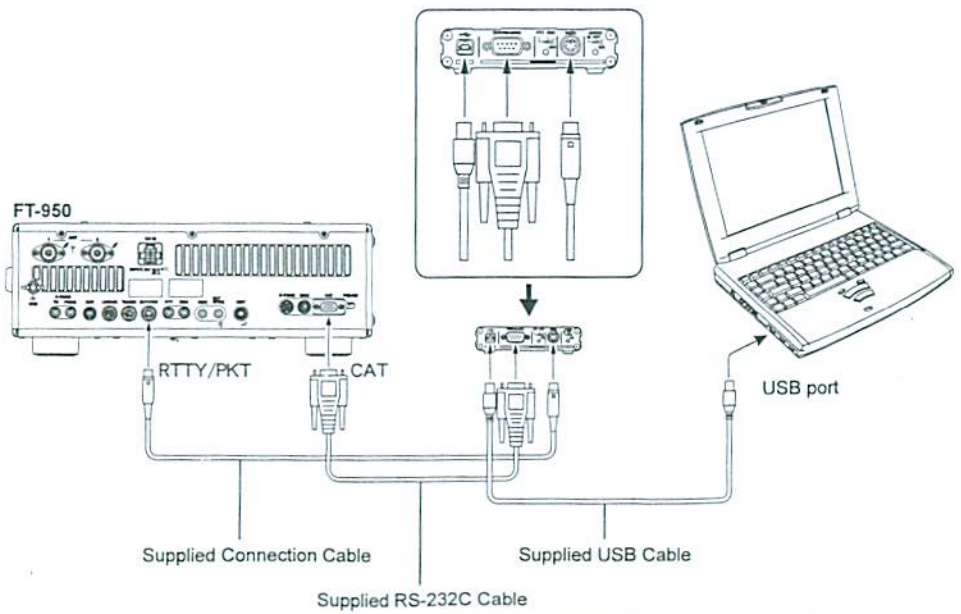


# System Setup

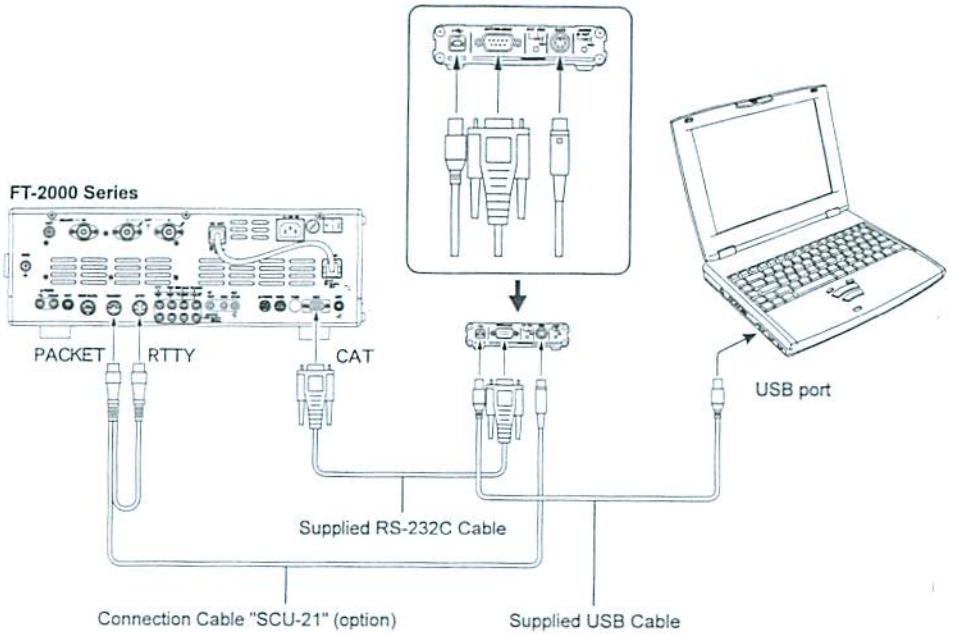
## FTDX1200




## FT-950



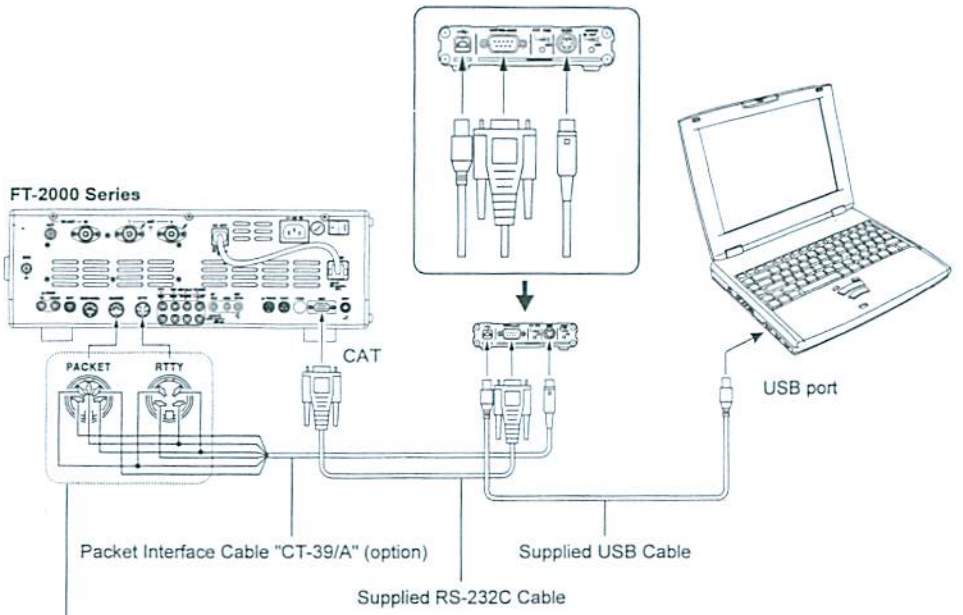
## FT-2000 Series / SCU-21





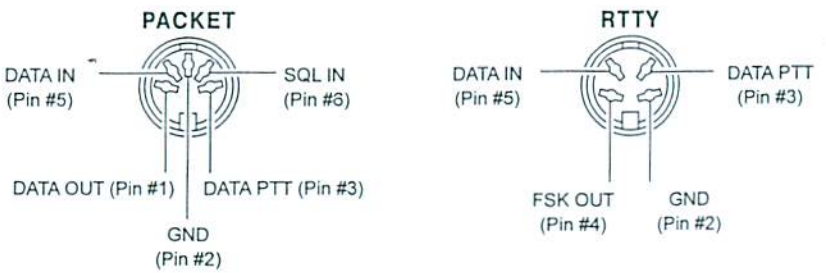



## FT-2000 Series / CT-39/A



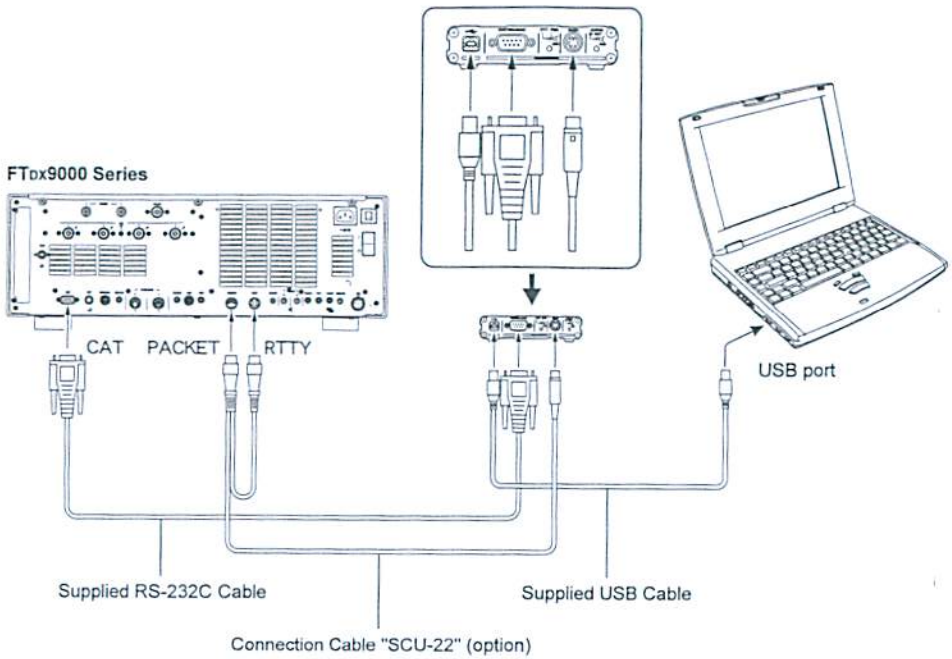

| SCU-17 DATA Jack Pin # | CT-39 | CT-39A |
|---|---|---|
| #1 | Black | Brown |
| #2 | Brown | Red |
| #3 | Red | Orange |
| #4 | Orange* | Yellow |
| #5 | Yellow | Green |
| #6 | Green | Blue |
| Shell | Shield (BLK) | |

* : The CT-39 orange wire may be white




(as viewed from rear panel)

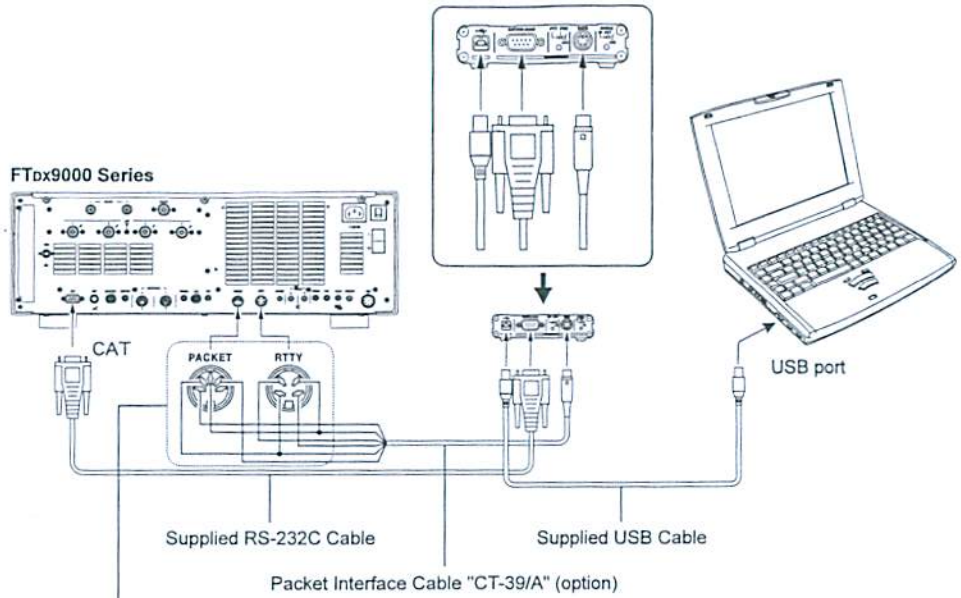
## FTDX9000 Series / SCU-22





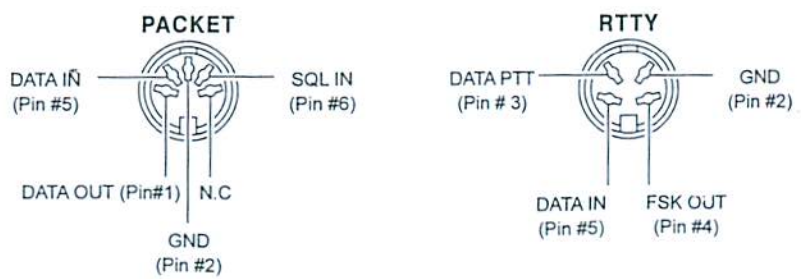



## FTDX9000 Series / CT-39/A



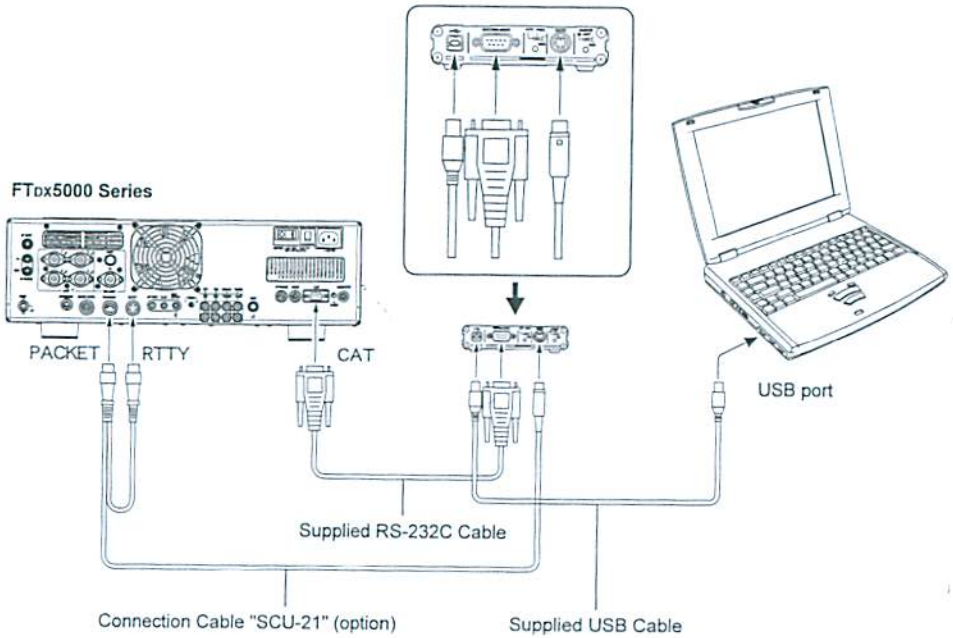

| SCU-17 DATA Jack Pin # | CT-39 | CT-39A |
|---|---|---|
| #1 | Black | Brown |
| #2 | Brown | Red |
| #3 | Red | Orange |
| #4 | Orange* | Yellow |
| #5 | Yellow | Green |
| #6 | Green | Blue |
| Shell | Shield (BLK) | |

* : The CT-39 orange wire may be white




(as viewed from rear panel)

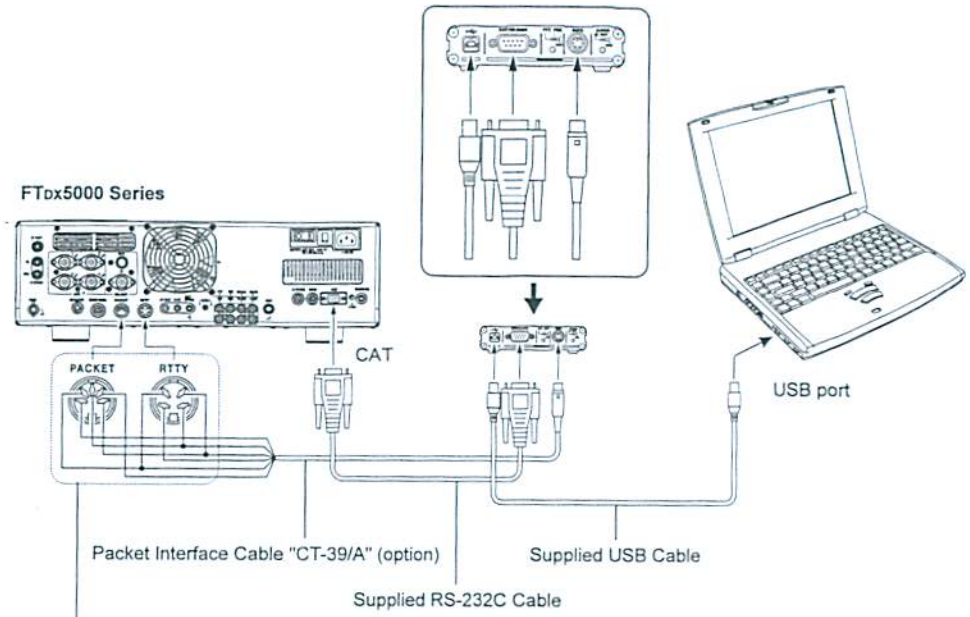
## FTDX5000 Series / SCU-21





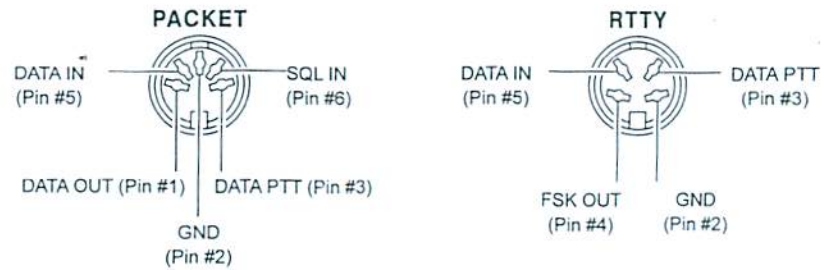



## FTDX5000 Series / CT-39/A



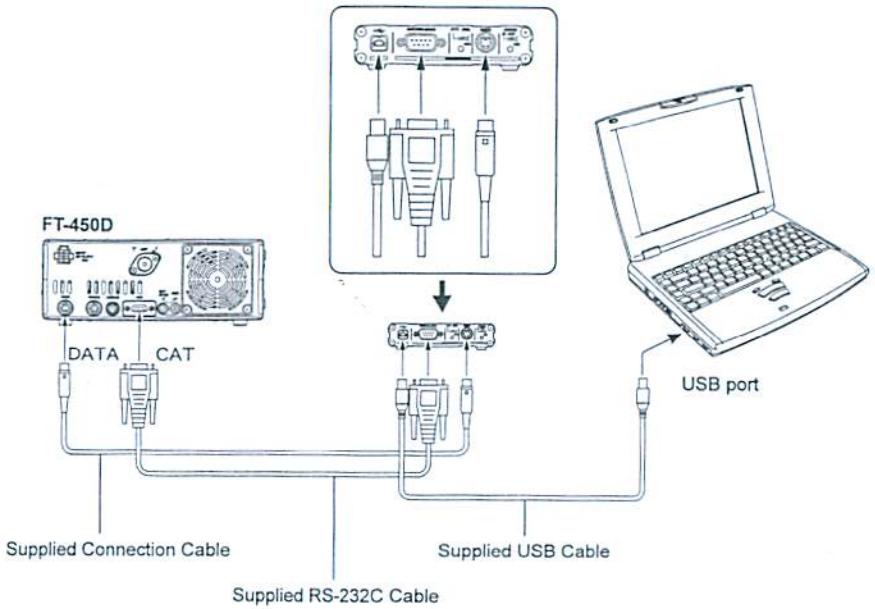

| SCU-17 DATA Jack Pin # | CT-39 | CT-39A |
|---|---|---|
| #1 | Black | Brown |
| #2 | Brown | Red |
| #3 | Red | Orange |
| #4 | Orange* | Yellow |
| #5 | Yellow | Green |
| #6 | Green | Blue |
| Shell | Shield (BLK) | |

* : The CT-39 orange wire may be white

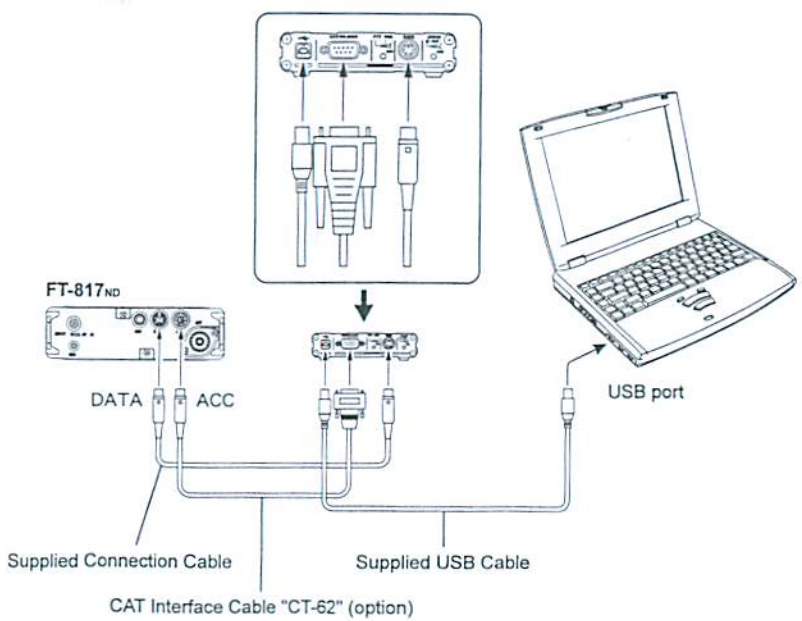



(as viewed from rear panel)

## FT-450D



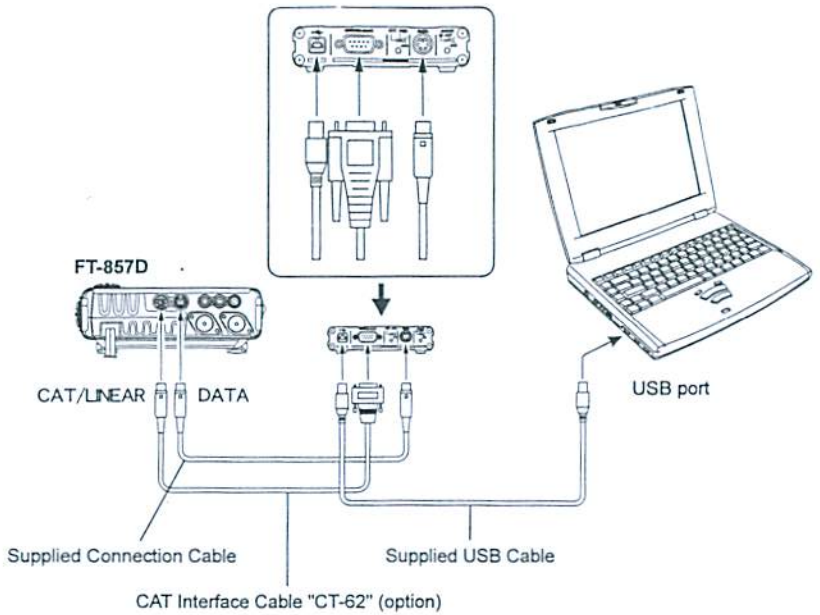

## FT-817ND





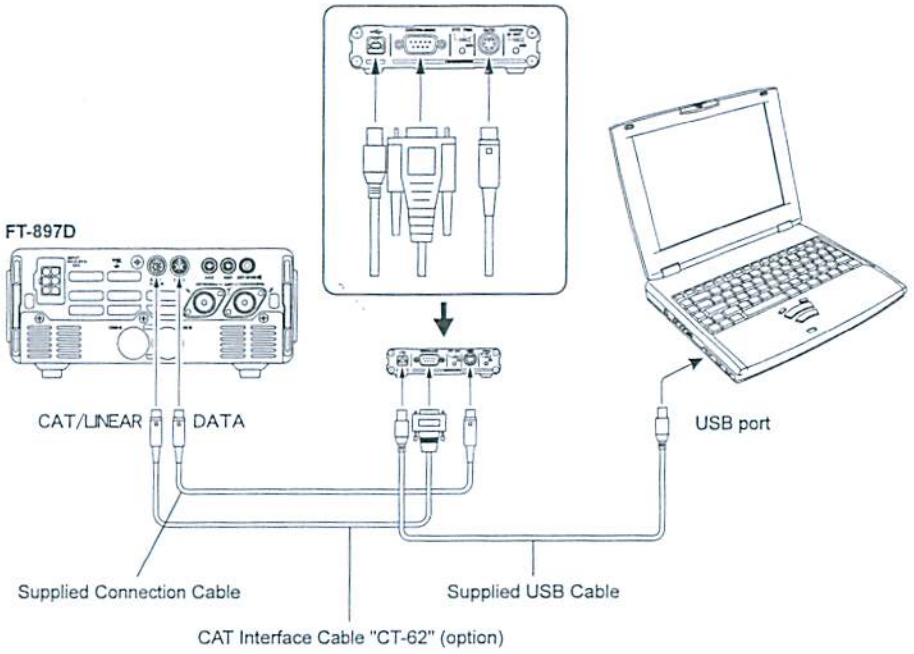



## FT-857D

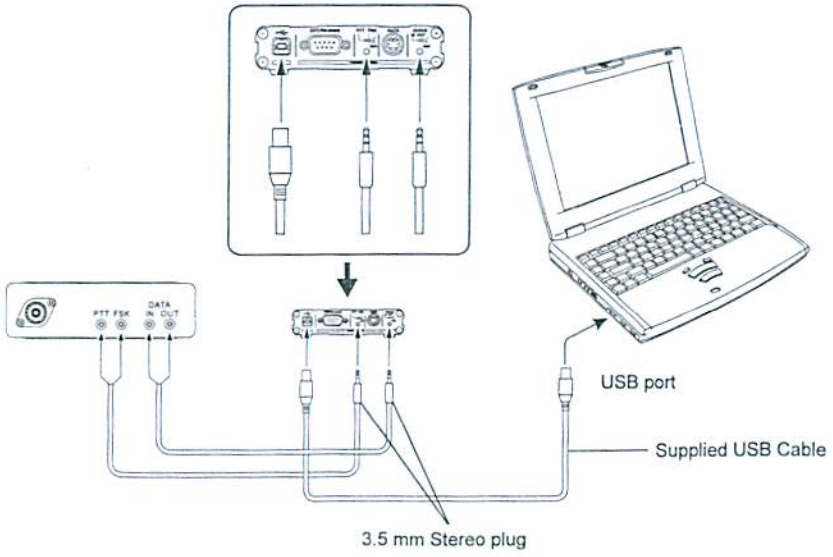


# System Setup

## FT-897D




## Interfacing to other transceivers






# PTT/FSK control and Attenuator Setting

The PTT/FSK setting may be changed and the audio output attenuator may be enabled by changing the configuration of an internal switch and a jumper.

1. Disconnect all the cables from the SCU-17.
2. Referring to Figure 1, remove the 4 screws attaching the top case, then remove the top case.
3. Refer to Figure 2 for the location of switch (S1001) and jumper (J1006).
4. Set the switch (S1001) and jumper (J1006).
   S1001: PTT/FSK control setting
   J1006: Attenuator setting to the audio output of the Audio IN/OUT jack.
5. Replace the top case, using the 4 screws removed in step (2) above.
6. Reconnect the cables to the SCU-17.

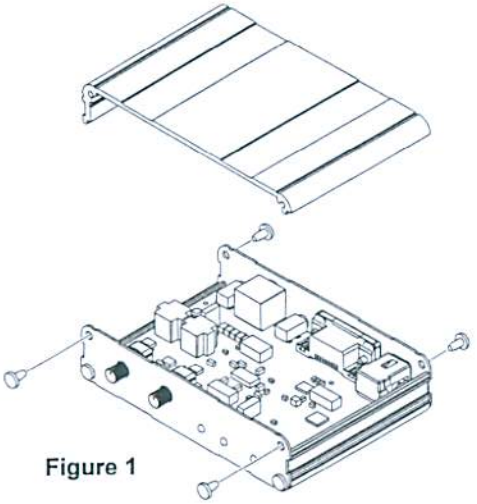


Figure 1

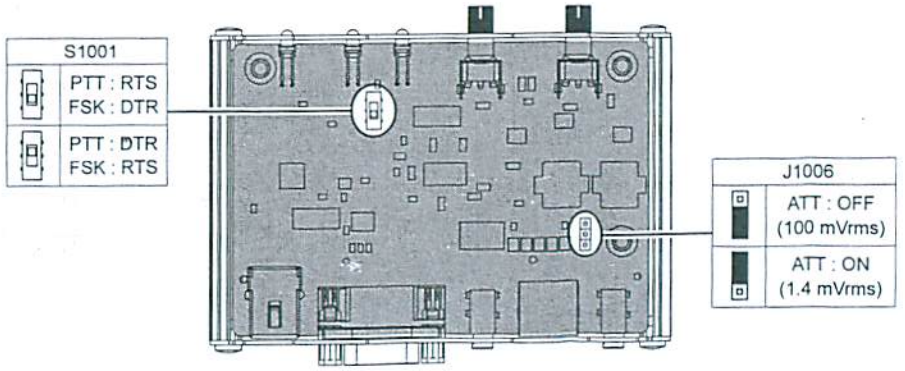



Figure 2

# Specifications

| | |
|---|---|
| **Supply Voltage:** | DC 5.0 V ±5%, Negative Ground |
| **Current Consumption:** | 130 mA |
| **Data Jack:** | PTT: Maximum output +25 V, 50 mA (open collector) |
| | FSK: Maximum output +25 V, 50 mA (open collector) |
| | DATA-IN: 100 mVrms @ 10 k Ohms |
| | DATA-OUT: 100 mVrms @ 600 Ohms |
| **FSK/PTT Jack:** | PTT: Maximum output +30 V, 250 mA (open drain) |
| | FSK: Maximum output +30 V, 250 mA (open drain) |
| **AUDIO Jack:** | AUDIO-IN: 100 mVrms @ 600 Ohms |
| | AUDIO-OUT: 100 mVrms @ 600 Ohms |
| **CAT/RS-232C Jack:** | RS-232C voltage level |
| **USB Connector:** | USB 1.1 or USB 2.0, USB bus power |
| **Case Size:** | 4.37" (W) x 1.0" (H) x 2.91" (D) (111 x 25.4 x 74.0 mm) |
| **Weight** (approx.): | 8.1 oz (230 g) |



# Note

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions; (1) this device may not cause harmful interference, and (2) this device must accept any interference including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❒ Increase the separation between the equipment and receiver.
- ❒ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ❒ Consult the dealer or an experienced radio/TV technician for help.