2 INSTALLATION AND CONNECTIONS

■ Unpacking

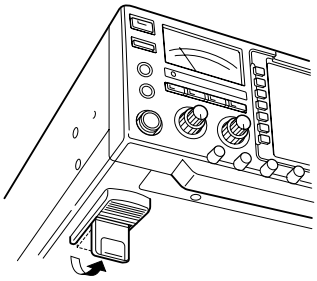
After unpacking, immediately report any damage to the delivering carrier or dealer. Keep the shipping cartons.

For a description and a diagram of accessory equipment included with the IC-756PROIII, see ‘Supplied accessories’ on p. i of this manual.

■ Selecting a location

Select a location for the transceiver that allows adequate air circulation, free from extreme heat, cold, or vibrations, and away from TV sets, TV antenna elements, radios and other electromagnetic sources.

The base of the transceiver has an adjustable stand for desktop use. Set the stand to one of two angles depending on your operating conditions.

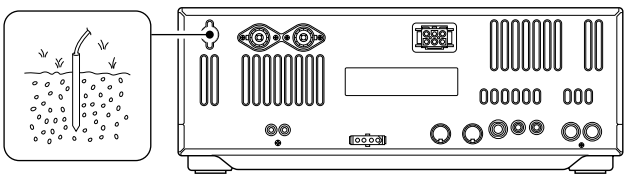


■ Grounding

To prevent electrical shock, television interference (TVI), broadcast interference (BCI) and other problems, ground the transceiver through the GROUND terminal on the rear panel.

For best results, connect a heavy gauge wire or strap to a long earth-sunk copper rod. Make the distance between the **[GND]** terminal and ground as short as possible.

⚠ **WARNING: NEVER** connect the **[GND]** terminal to a gas or electric pipe, since the connection could cause an explosion or electric shock.



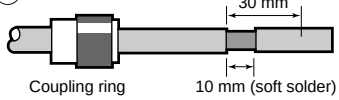
■ Antenna connection

For radio communications, the antenna is of critical importance, along with output power and sensitivity. Select antenna(s), such as a well-matched 50 Ω antenna, and feedline. 1.5:1 or better of Voltage Standing Wave Ratio (VSWR) is recommended for your desired band. Of course, the transmission line should be a coaxial cable.

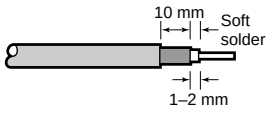
When using 1 antenna, use the **[ANT1]** connector.

CAUTION: Protect your transceiver from lightning by using a lightning arrestor.

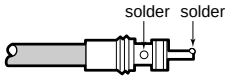
PL-259 CONNECTOR INSTALLATION EXAMPLE

① 

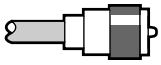
Slide the coupling ring down. Strip the cable jacket and soft solder.

② 

Strip the cable as shown at left. Soft solder the center conductor.

③ 

Slide the connector body on and solder it.

④ 
Screw the coupling ring onto the connector body.

30 mm ≈ 9/8 in 10 mm ≈ 3/8 in 1–2 mm ≈ 1/16 in

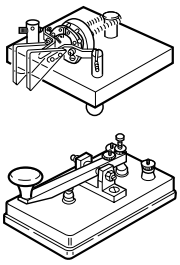
Antenna SWR

Each antenna is tuned for a specified frequency range and SWR may be increased out-of-range. When the SWR is higher than approx. 2.0:1, the transceiver’s power drops to protect the final transistor. In this case, an antenna tuner is useful to match the transceiver and antenna. Low SWR allows full power for transmitting even when using the antenna tuner. The IC-756PROIII has an SWR meter to monitor the antenna SWR continuously.

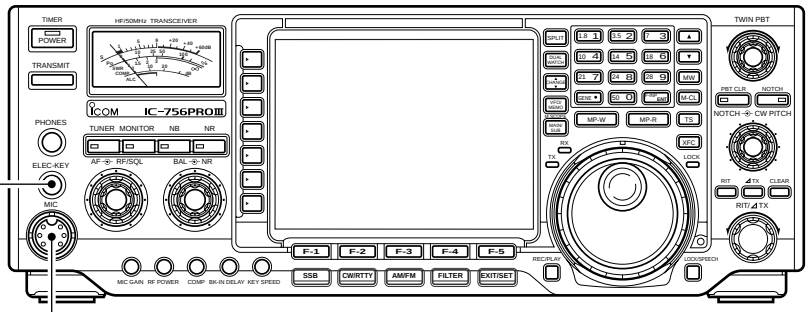
■ Required connections

•Front panel

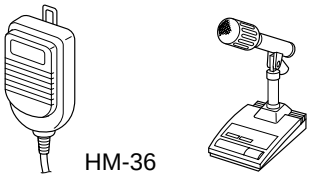
CW KEY



A straight key can be used when the internal electronic keyer is turned OFF in keyer set mode. (p. 43)



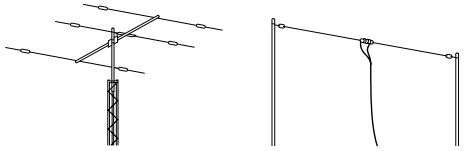
MICROPHONES (p. 116)



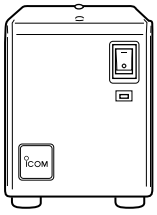
HM-36 SM-20

•Rear panel

ANTENNA 1, 2 (p. 13)
[Example]: ANT1 for 1.8–18 MHz bands
ANT2 for 21–50 MHz bands

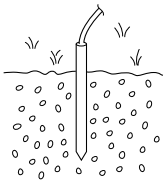


DC POWER SUPPLY (p.16)



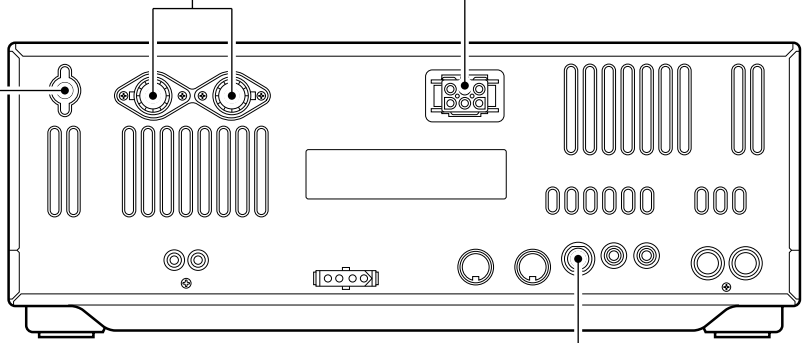
PS-125

GROUND (p. 13)

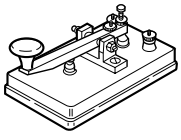


Use the heaviest gauge wire or strap available and make the connection as short as possible.

Grounding prevents electrical shocks, TVI and other problems.



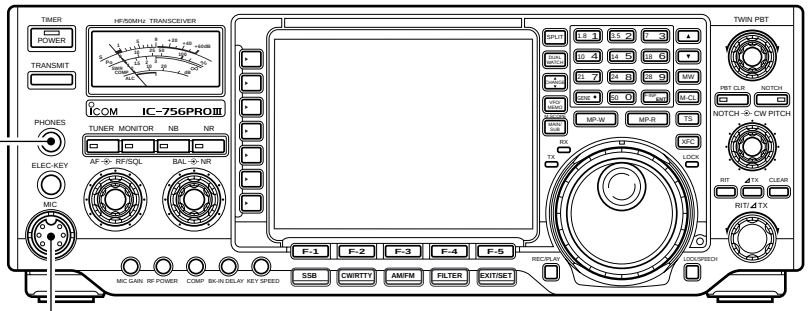
STRAIGHT KEY



■ Advanced connections

• Front panel

HEADPHONES

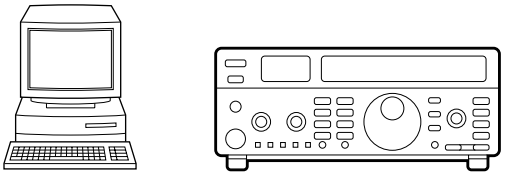


MIC
The AFSK modulation signal can be input from [MIC]. (p. 19)

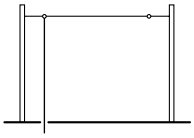
• Rear panel

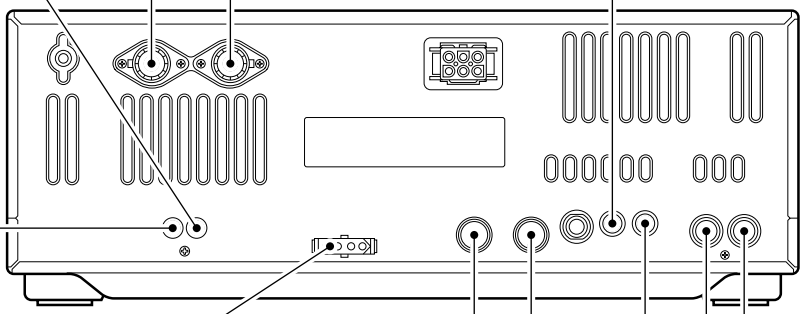
ANTENNA 1, 2 (pgs. 17, 18)
Connects a linear amplifier, antenna selector, etc.

[REMOTE] (p. 110)
Used for computer control and transceive operation.



RX ANTENNA

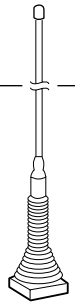




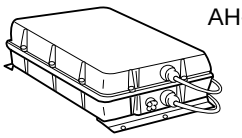
TRANSVERTER
(p. 18)
Connects a transverter for V/UHF band use.

ACC SOCKETS (pgs. 19, 20)

[SEND], [ALC]
(p. 17)
Used for connecting a non-Icom linear amplifier.



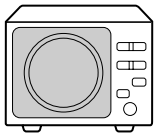
AH-2b



AH-4/AH-3
(p. 18)

When using the AH-4/AH-3, it must be connected to the [ANT1] connector.

EXTERNAL SPEAKER (p. 116)



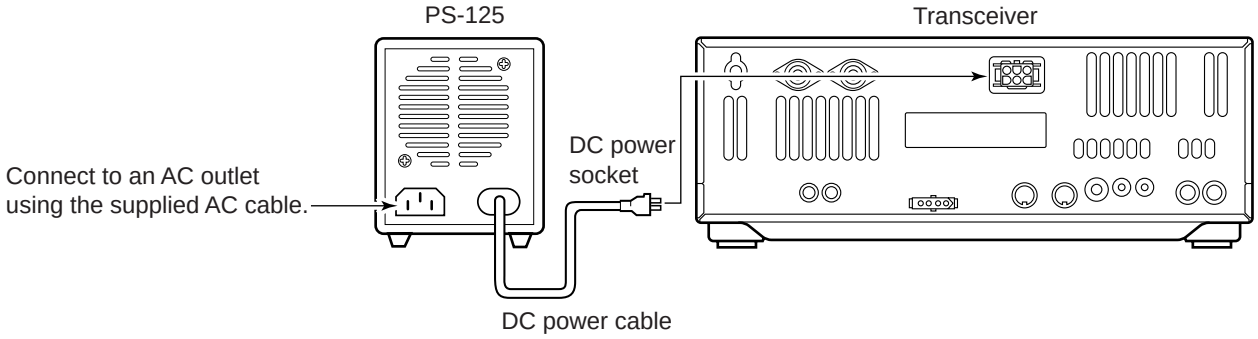
SP-23

■ Power supply connections

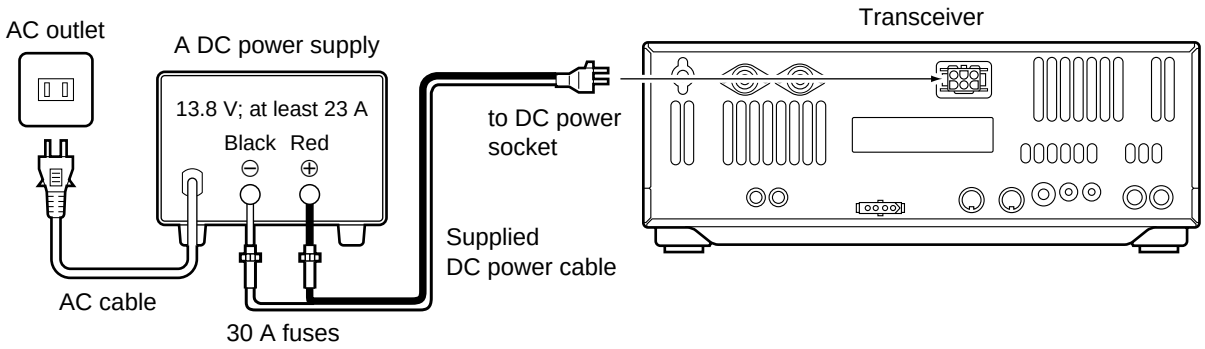
Use the optional PS-125 DC power supply with a 25 A capacity when operating the transceiver with AC power. Refer to the diagrams below.

CAUTION: Before connecting the DC power cable, check the following important items. Make sure:
- The **[POWER]** switch is OFF.
- Output voltage of the power source is 12–15 V when you use a non-Icom power supply.
- DC power cable polarity is correct.
  Red : positive ⊕ terminal
  Black : negative ⊖ terminal

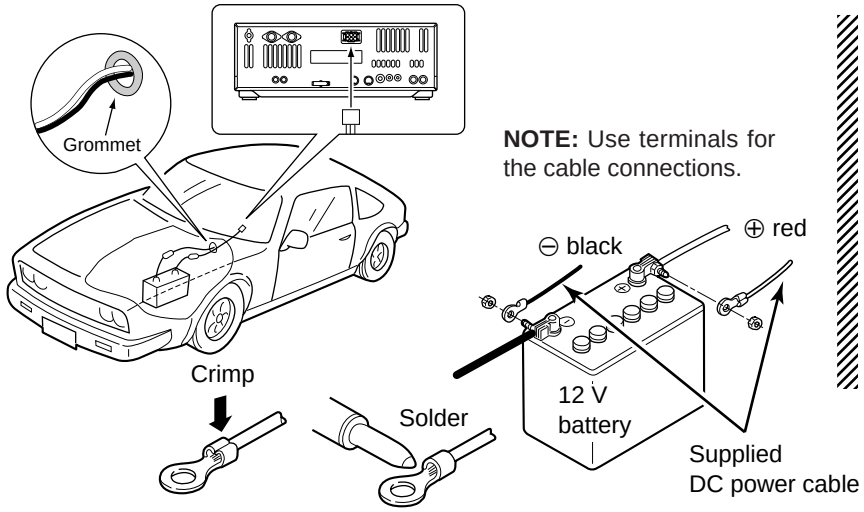
CONNECTING PS-125 DC POWER SUPPLY



CONNECTING A DC POWER SUPPLY



CONNECTING A VEHICLE BATTERY



NOTE: Use terminals for the cable connections.

⚠ **WARNING NEVER connect** to a battery without supplied DC fuses, otherwise a fire hazard may occur.

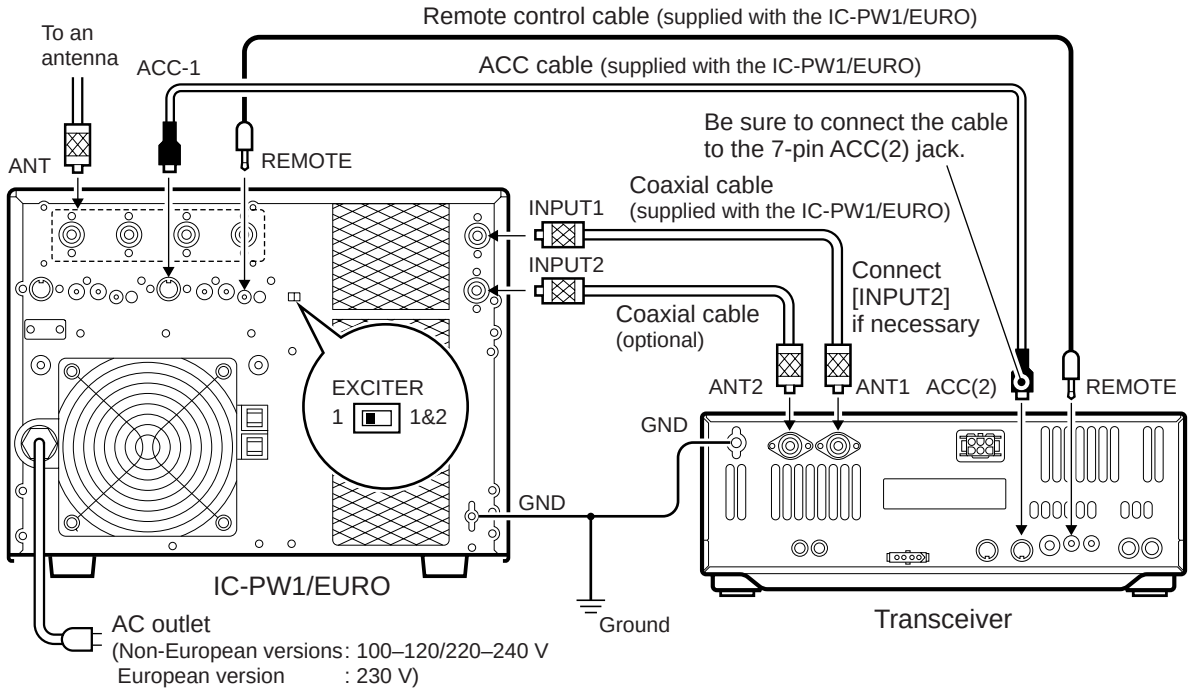
NEVER connect the transceiver directly to a 24 V battery.

IMPORTANT! Detailed installation notes for Icom mobile transceivers to be fitted into vehicles are available. Contact your Icom dealer or distributor.

■ Linear amplifier connections

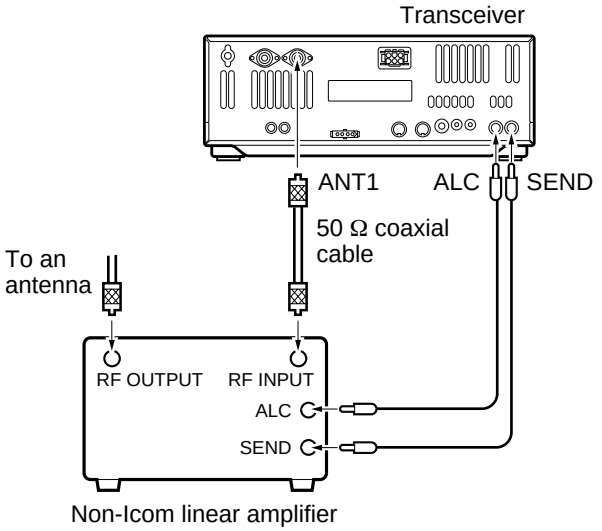
Use the **[ANT1]** connector when connecting a linear amplifier.

CONNECTING THE IC-PW1/EURO



Turn OFF the transceiver's antenna tuner while tuning the IC-PW1/EURO's tuner.

CONNECTING A NON-ICOM LINEAR AMPLIFIER



⚠ WARNING:

Set the transceiver output power and linear amplifier ALC output level referring to the linear amplifier instruction manual.

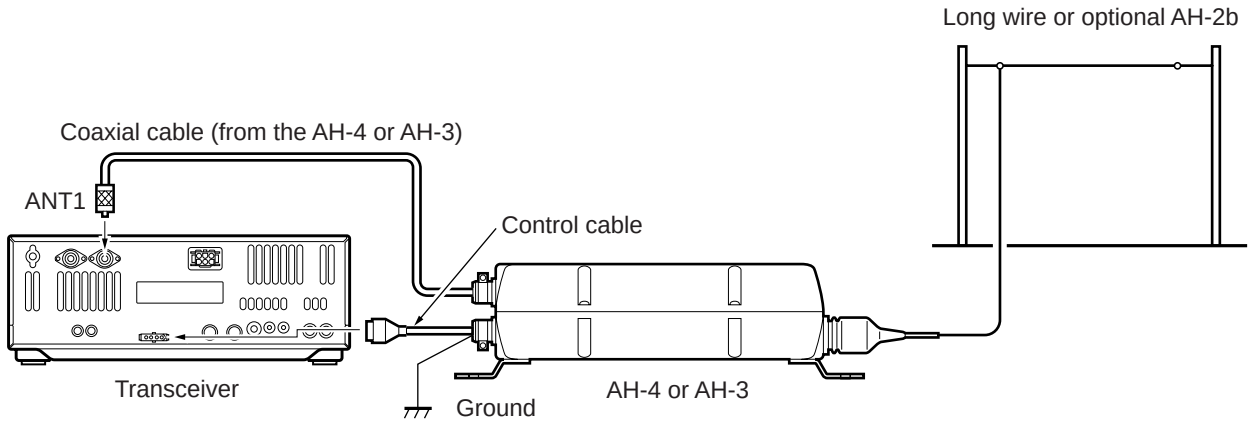
The ALC input level must be in the range 0 V to –4 V, and the transceiver does not accept positive voltage. Non-matched ALC and RF power settings could cause a fire or ruin the linear amplifier.

The specifications for the SEND relay are 16 V DC 0.5 A. If this level is exceeded, a large external relay must be used.

■ External antenna tuner connection

CONNECTING THE AH-4/AH-3

▨ The AH-4 or AH-3 must be connected to **[ANT1]**.

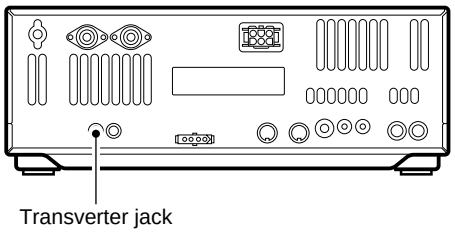


■ Transverter jack information

When 2 to 13.8 V is applied to pin 6 of **[ACC(2)]**, the **[XVERT]** jack is activated for transverter operation and the antenna connectors do not receive or transmit any signals. (p. 20)

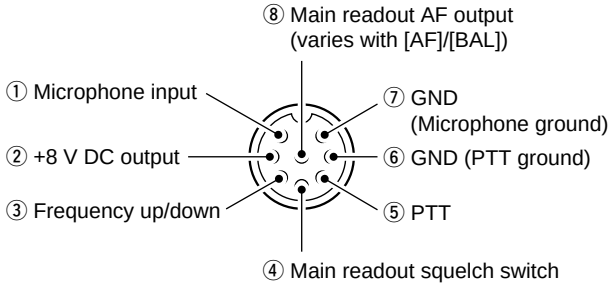
While receiving, the **[XVERT]** jack can be activated as an input terminal from an external transverter.

While transmitting, the **[XVERT]** jack outputs signals of the displayed frequency at –20 dBm (22 mV) as signals for the external transverter.



■ Microphone connector information

(Front panel view)



[MIC] Pin No.	FUNCTION	DESCRIPTION
②	+8 V DC output	Max. 10 mA
③	Frequency up	Ground
	Frequency down	Ground through 470 Ω
④	Squelch open	"Low" level
	Squelch closed	"High" level

▨ **CAUTION: DO NOT** short pin 2 to ground as this can damage the internal 8 V regulator.
NOTE: DC voltage is applied to pin 1 for microphone operation. Take care when using a non-Icom microphone.

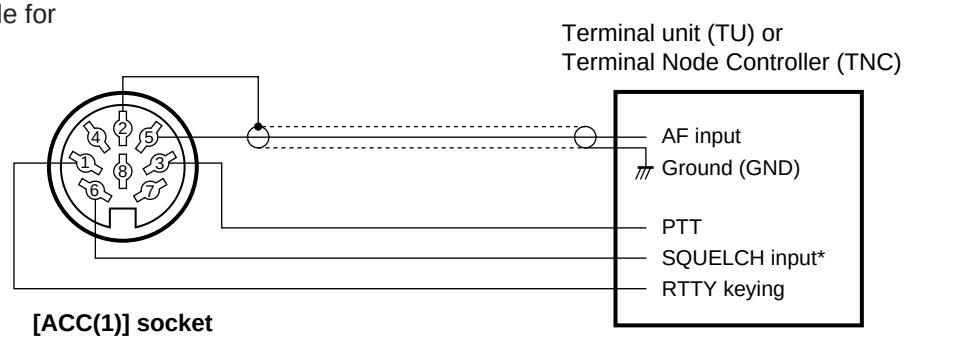
■ FSK and AFSK (SSTV) connections

To connect a terminal unit, TNC or scan converter, refer to the diagram below.

For RTTY operation:
Narrow filter settings may not pass RTTY signals. Be sure to select the appropriate IF filter settings corresponding to the signal width. (p. 61)

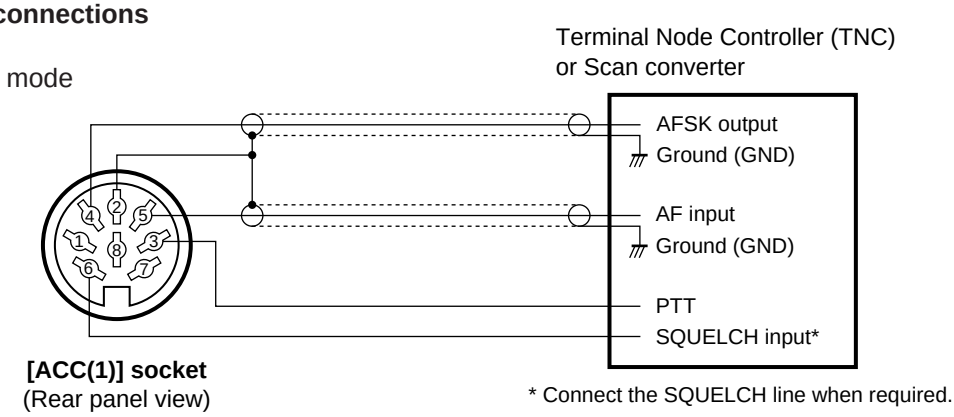
FSK (RTTY) connection

Use RTTY mode for operation



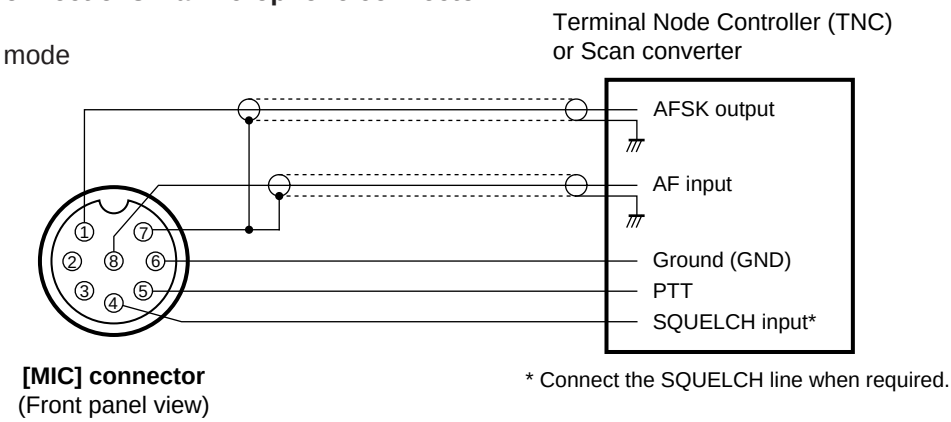
AFSK and SSTV connections

Use SSB or FM mode for operation



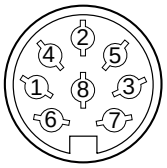
AFSK and SSTV connections via microphone connector

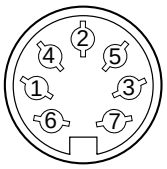
Use SSB or FM mode for operation



When connected to the **[MIC]** connector, **[MIC GAIN]** and **[AF]** control adjustment is required.

■ Accessory connector information

ACC (1)	PIN No.	NAME	DESCRIPTION	SPECIFICATIONS
 Rear panel view	1	RTTY	Controls RTTY keying	"High" level : More than 2.4 V "Low" level : Less than 0.6 V Output current : Less than 2 mA
	2	GND	Connects to ground.	Connected in parallel with ACC(2) pin 2.
	3	SEND	Input/output pin. Goes to ground when transmitting. When grounded, transmits.	Ground level : –0.5 V to 0.8 V Output current : Less than 20 mA Input current (Tx) : Less than 200 mA Connected in parallel with ACC(2) pin 3.
	4	MOD	Modulator input. Connects to a modulator.	Input impedance : 10 kΩ Input level : Approx. 100 mV rms
	5	AF	AF detector output. Fixed, regardless of **[AF]** position in default settings. (see notes below)	Output impedance : 4.7 kΩ Output level : 100–300 mV rms
	6	SQLS	Squelch output. Goes to ground when squelch opens.	SQL open : Less than 0.3 V/5 mA SQL closed : More than 6.0 V/100 µA
	7	13.8 V	13.8 V output when power is ON.	Output current : Max. 1 A Connected in parallel with ACC(2) pin 7.
	8	ALC	ALC voltage input.	Control voltage : –4 V to 0 V Input impedance : More than 10 kΩ Connected in parallel with ACC(2) pin 5.

ACC (2)	PIN No.	NAME	DESCRIPTION	SPECIFICATIONS
 Rear panel view	1	8 V	Regulated 8 V output.	Output voltage : 8 V ±0.3 V Output current : Less than 10 mA
	2	GND	Same as ACC(1) pin 2.	
	3	SEND	Same as ACC(1) pin 3.	
	4	BAND	Band voltage output. (Varies with amateur band)	Output voltage : 0 to 8.0 V
	5	ALC	Same as ACC (1) pin 8.	
	6	TRV	Activates **[XVERT]** input/output when "HIGH" voltage is applied.	Input impedance : More than 10 kΩ Input voltage : 2 to 13.8 V
	7	13.8 V	Same as ACC(1) pin 7.	

If the CW side tone level limit or beep level limit is in use, the CW side tone or beep tone decreases from the fixed level when the **[AF]** control is rotated above a specified level, respectively. (p. 96)