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 **CAUTION!:** The transceiver weighs approx. 24 kg (53 lb). Always have two people available to carry, lift or turn over the transceiver.

■ 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-7700, see 'Supplied accessories' on p. iii of this manual.

■ Main dial attachment

The main dial is shipped unattached to the transceiver to prevent possible damage to the dial shaft or rotary encoder during shipping. Please attach the dial as described below.

⚠ CAUTION!: NEVER hold any controller knob(s), such as the main dial, when carrying or lifting the transceiver. This will damage the dial shaft or rotary encoder.

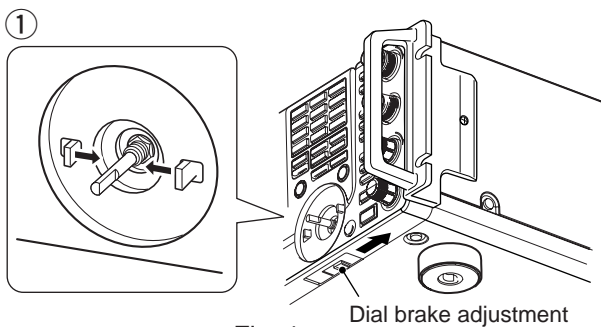


Fig. 1

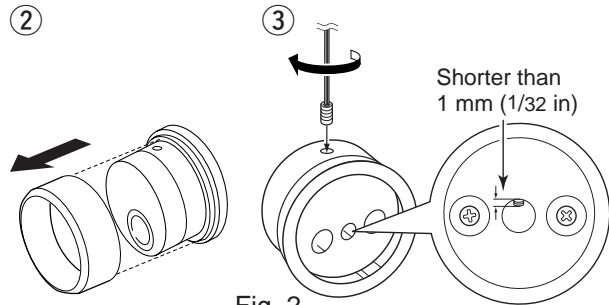


Fig. 2

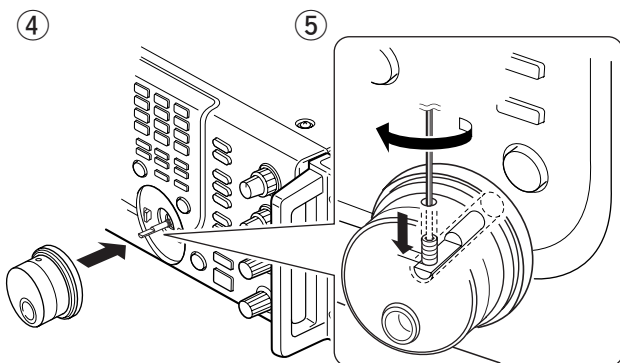


Fig. 3

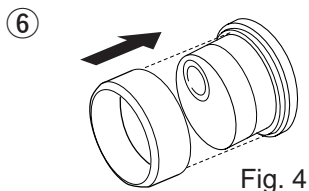
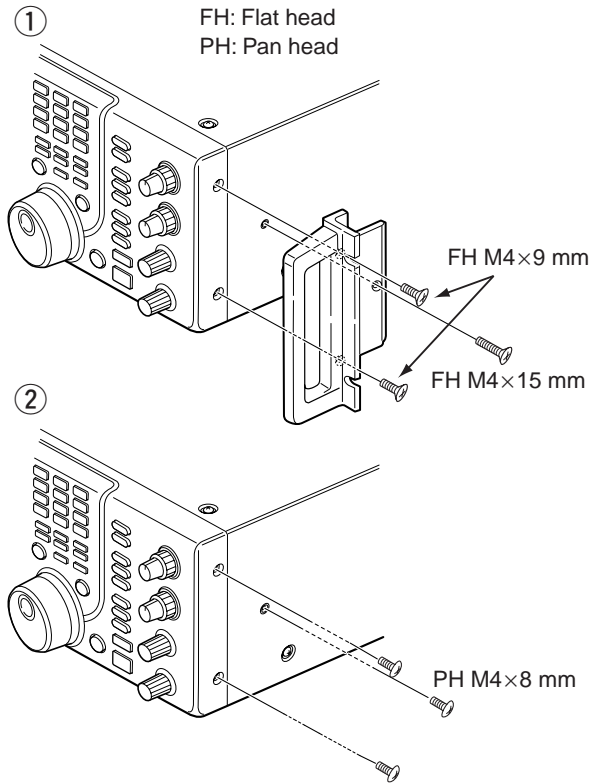


Fig. 4

- ① Slide the dial brake adjustment to the right position (Fig. 1).
 - The dial brakes move inward as shown.
- ② Remove the rubber cover of the main dial (Fig. 2).
- ③ Insert the main dial set-screw into the screw hole of the main dial, then tighten the screw until the screw extends into the shaft hole out slightly using supplied hexagonal wrench (2 mm) (Fig. 2).
 - Be careful that the screw does not extend out more than 1 mm (1/32 in).
- ④ Attach the main dial as illustrated (Fig. 3).
 - Be careful to match the correct orientation of the flat face of the shaft and the screw hole of the dial knob.
- ⑤ Tighten the screw using supplied hexagonal wrench as illustrated (Fig. 3).
- ⑥ Install the rubber cover of the main dial (Fig. 4). Then adjust the main dial brake as desired.

✓ When re-packing and shipping the transceiver: Slide the dial brake adjustment to the right position, then detach the main dial when re-packing and shipping the transceiver at any time.

■ Rack mounting handle detachment

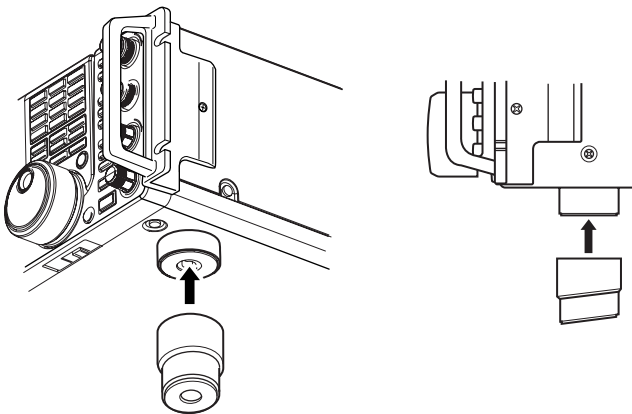


The rack mounting handles are supplied attached to the transceiver to stabilize the transceiver in the shock absorber material in the box. If you want to remove them, use the supplied screws as described below.

- ① Remove the six screws from the rack mounting handles on both side and remove the rack mounting handles.
- ② Tighten the supplied six screws (PH M4×8) on both sides of the front panel and side panel to hide the screw holes on both sides.

✓ **When re-packing and shipping the transceiver:** Attach the rack mounting handles using original screws when re-packing and shipping the transceiver at any time.

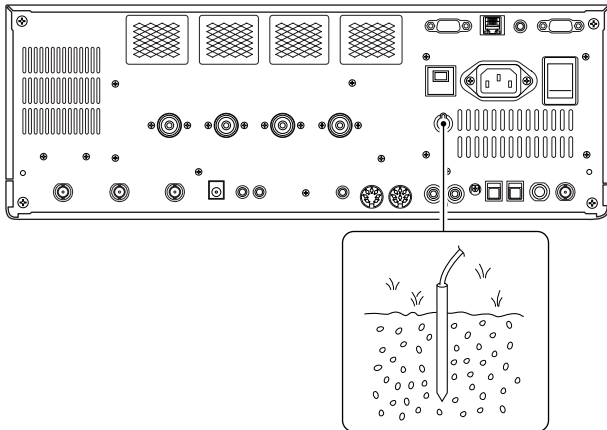
■ Selecting a location



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 feet for desktop use. Set the feet to one of two angles depending on your operating preference.

■ Grounding



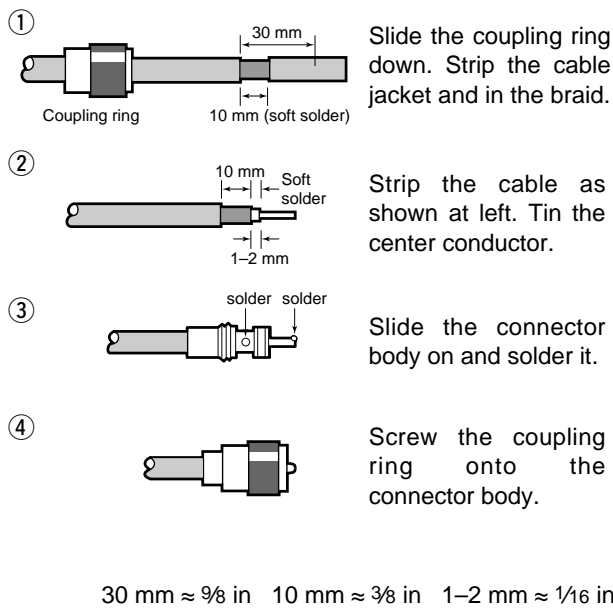
To prevent electrical shock, television interference (TVI), broadcast interference (BCI) and other problems, ground the transceiver through the GROUND terminal on the rear panel.

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

PL-259 CONNECTOR INSTALLATION EXAMPLE



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

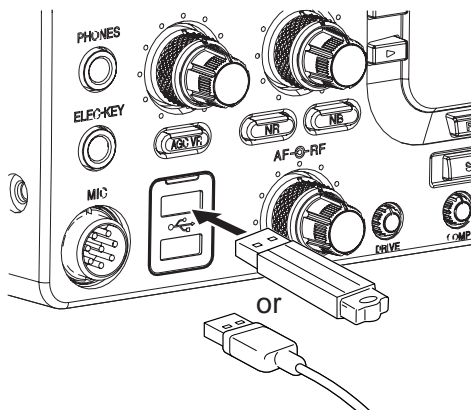
When using 1 antenna, use the [ANT1] connector.

⚠ CAUTION: Protect your transceiver from lightning by using a lightning arrester.

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 transistors. In this case, an antenna tuner is useful to match the transceiver and antenna. Low SWR allows full power for transmitting. The IC-7700 has an SWR meter to monitor the antenna SWR continuously.

■ USB-Memory connection (USB-Memory: Not supplied by Icom)



Connect the USB-Memory* to the USB connector.

- Unmount operation is necessary before removing the USB-Memory* (p.12-25).

⚠ Make sure to connect the USB-Memory correctly. **NEVER** connect or remove the USB-Memory when the read/write indicator lights or blinks.

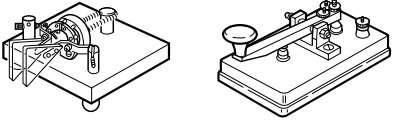
⚠ A USB keyboard* or USB hub* can also be connected to the USB connector.

*: USB-Memory, USB keyboard or USB hub is not supplied by Icom.

Required connections

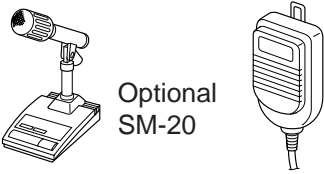
Front panel

CW key

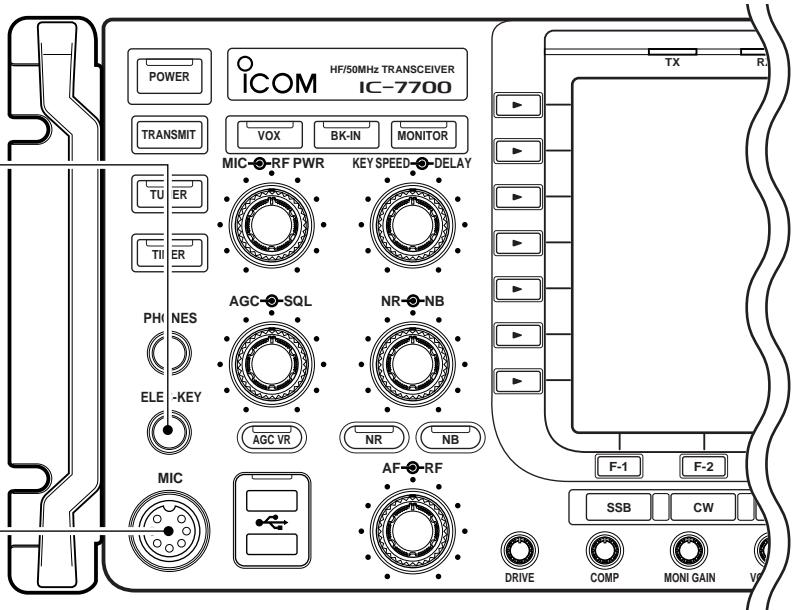


A straight or bug key can be used when the internal electronic keyer is turned OFF in keyer set mode. (p. 4-12)

Microphones (p. 2-10)

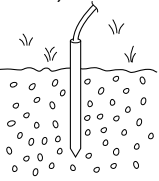


Optional SM-20 Optional HM-36



Rear panel

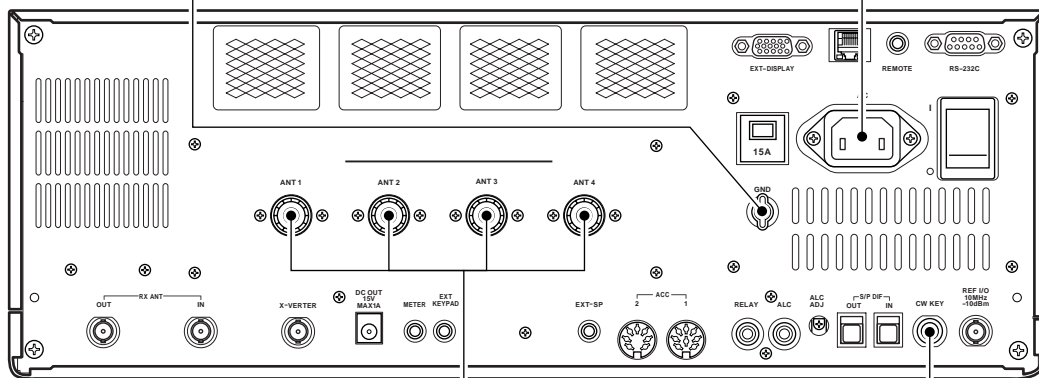
Ground
(p. 2-4)



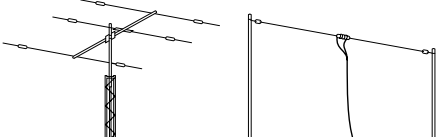
Use the heaviest gauge wire or strap available and make the connection as short as possible.

Grounding prevents electrical shocks, TVI and other problems.

AC outlet
⚠ **WARNING:**
Use the supplied AC power cable only.

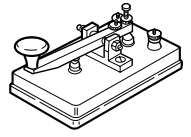


Antenna 1, 2, 3, 4 (p. 2-4)
[Example]: ANT1 for 1.8—18 MHz bands, ANT 2 for 21—28 MHz bands, ANT3 for 50 MHz band, ANT 4 for receive antenna.



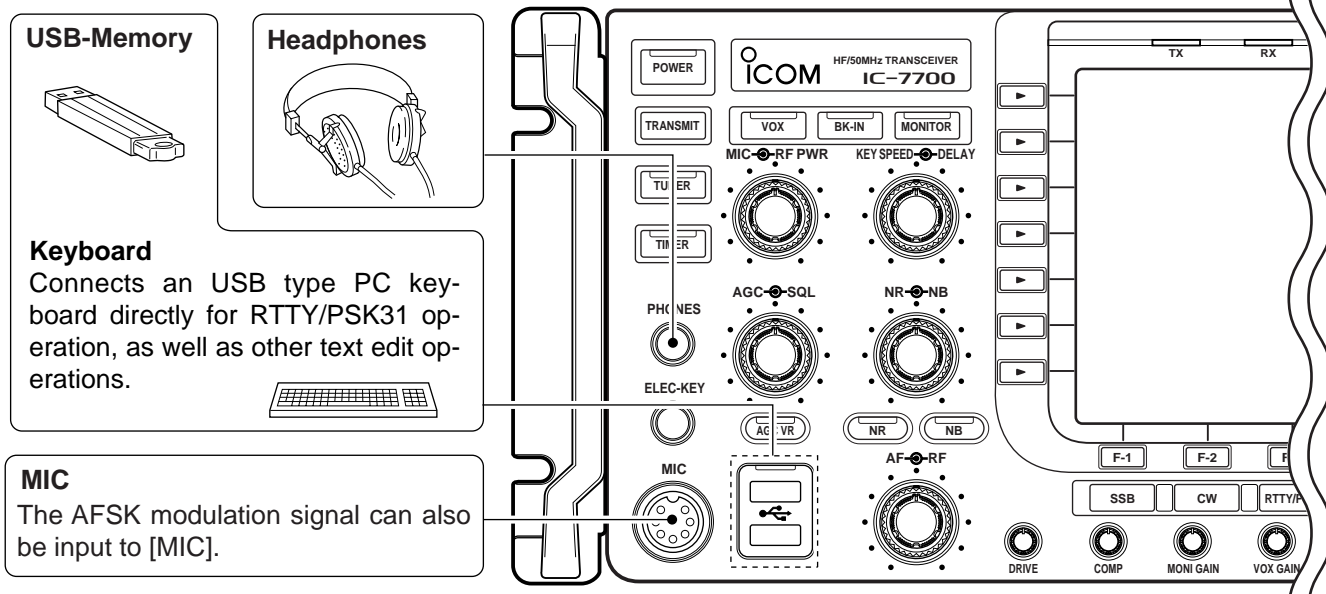
NOTE: Attach the supplied antenna connector cap when no antenna or external equipment is connected.

Straight key

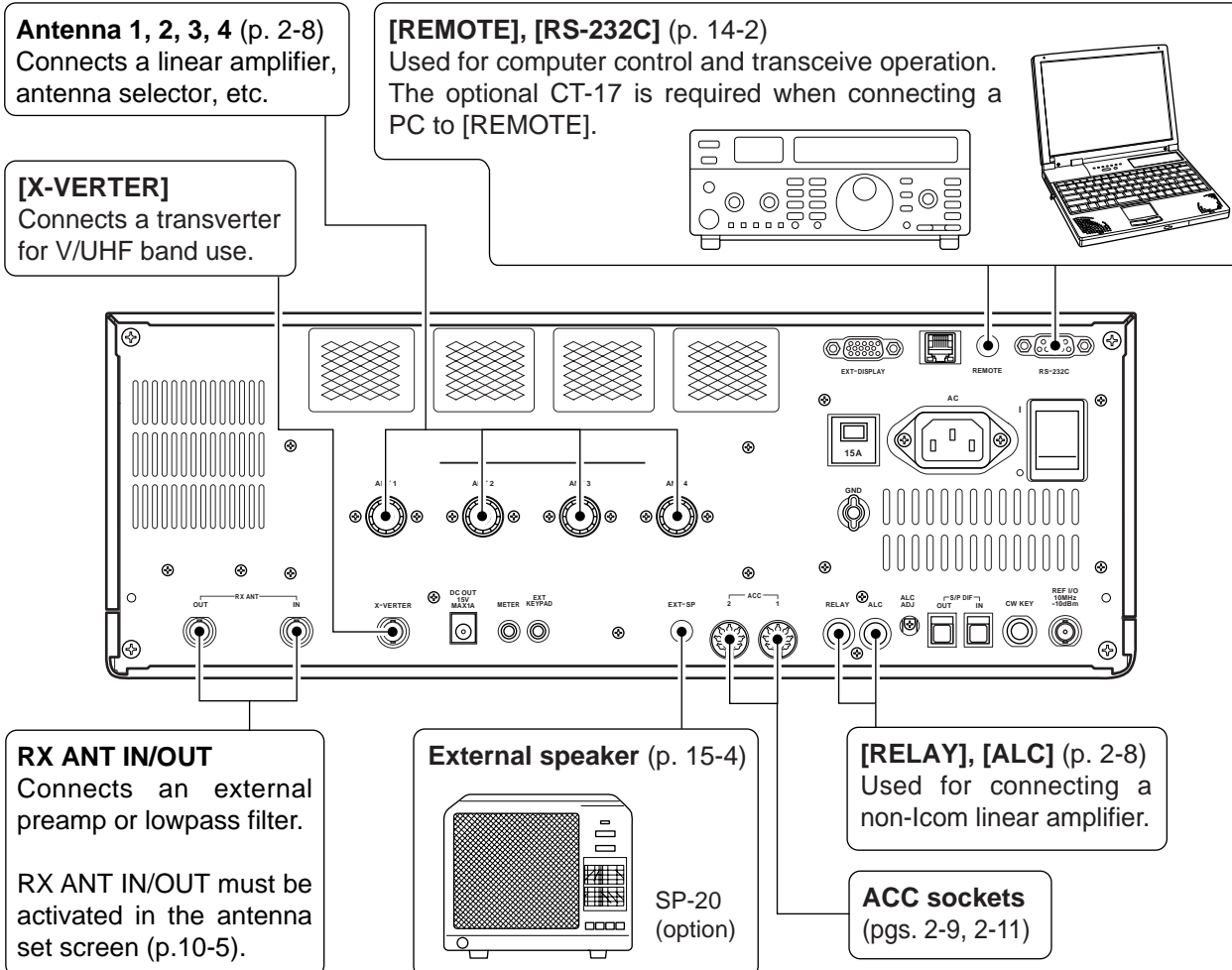


Advanced connections

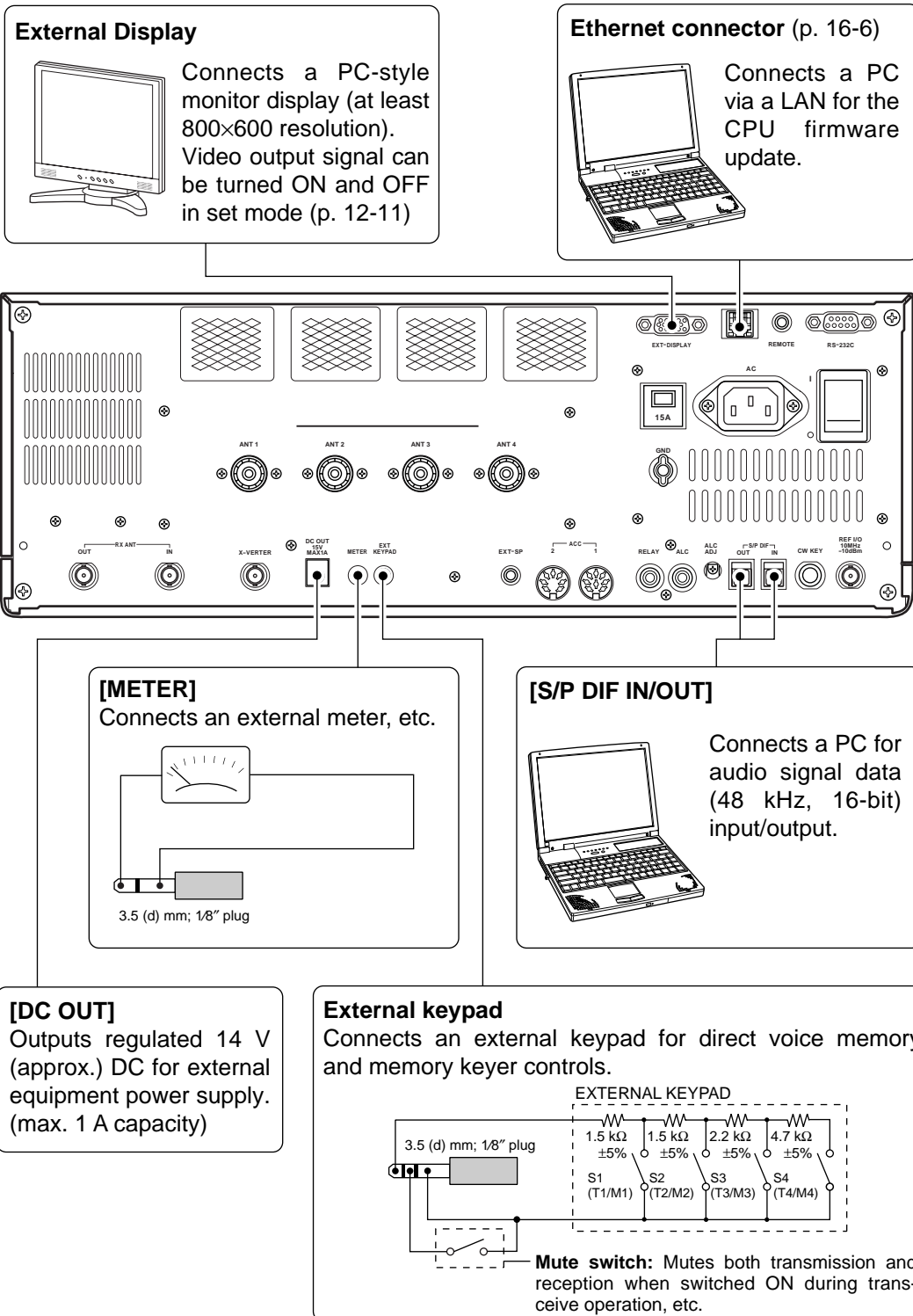
Front panel



Rear panel— 1

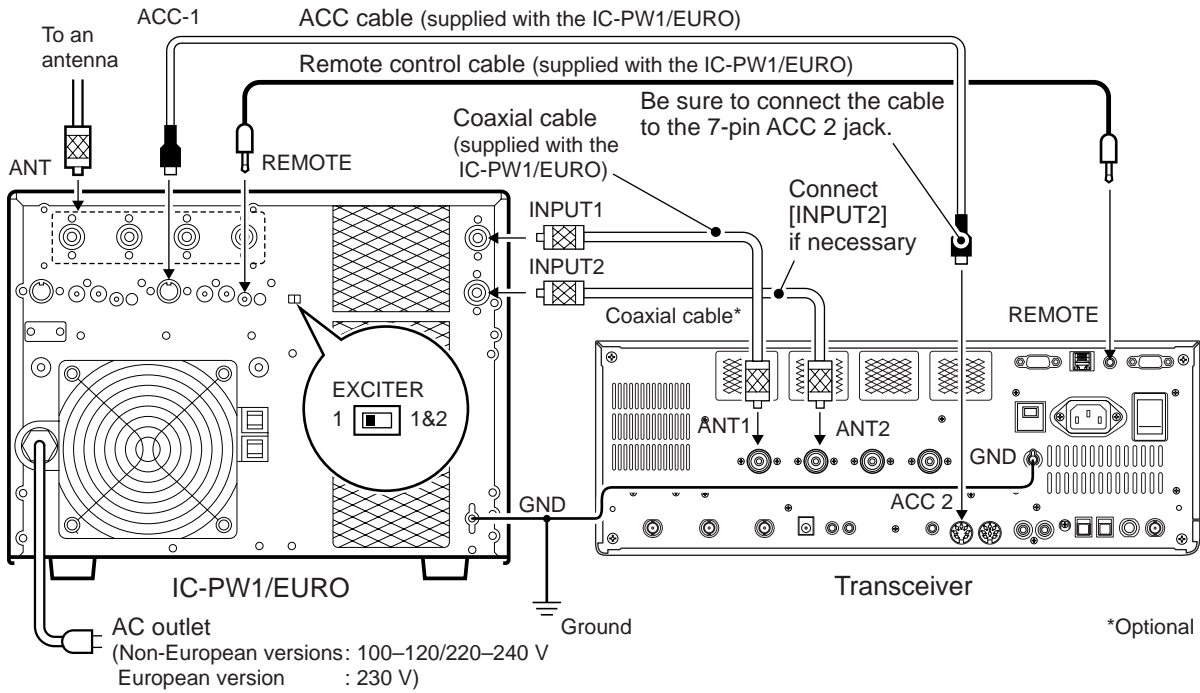


◇ Rear panel— 2

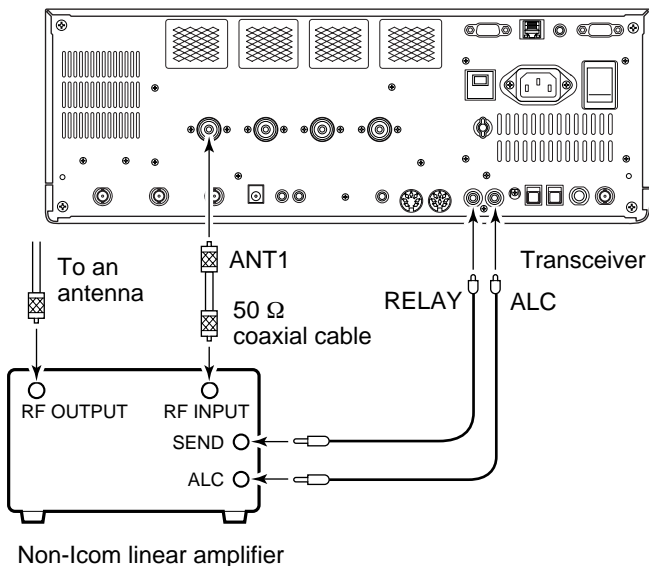


■ Linear amplifier connections

◇ Connecting the IC-PW1/EURO



◇ Connecting a non-Icom linear amplifier



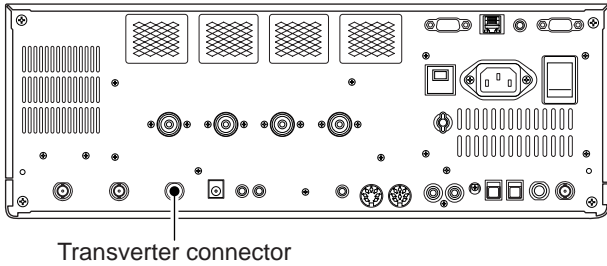
⚠ WARNING:

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

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

The maximum signal level of [RELAY] jack is 16 V/0.5 A DC with initial setting, and 250 V/200 mA with “MOSFET” setting (see p. 12-8 for details). Use an external relay unit if your non-Icom linear amplifier requires control voltage and/or current greater than specified.

■ Transverter jack information



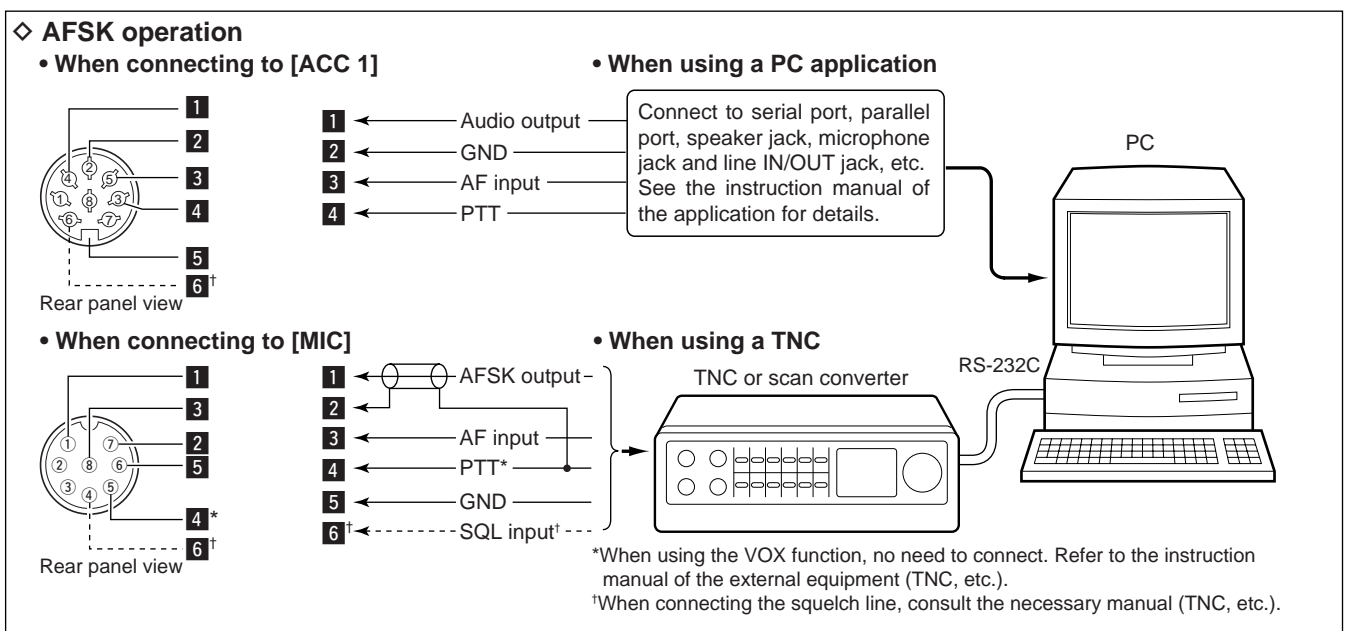
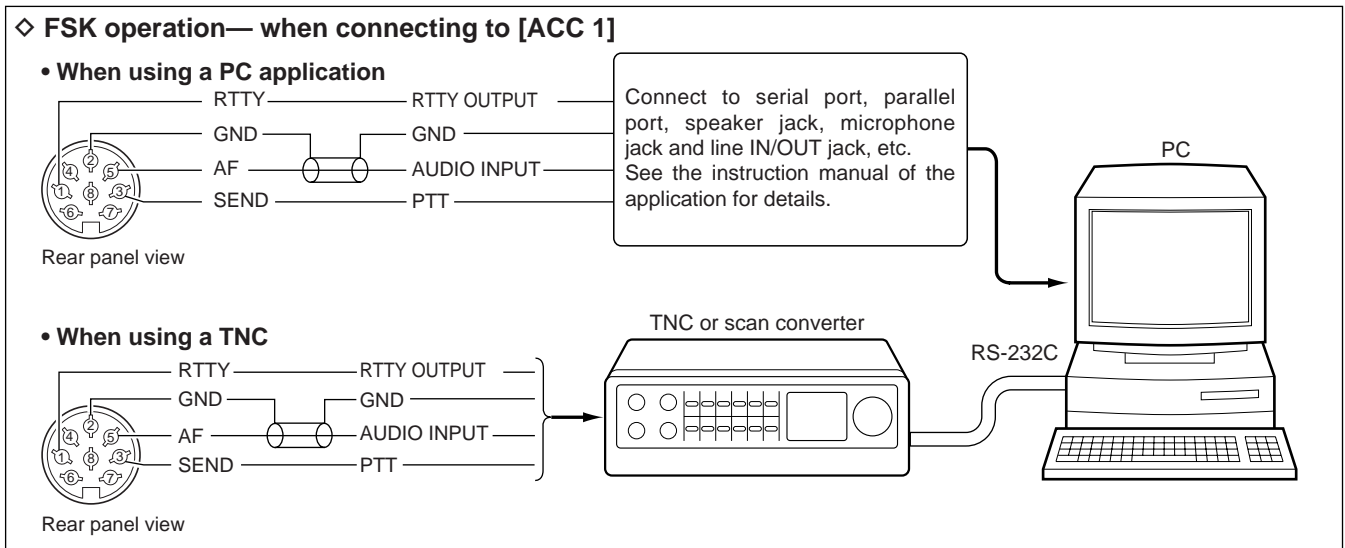
When 2 to 13.8 V is applied to pin 6 of [ACC 2], the [X-VERTER] connector is activated for transverter operation and the antenna connectors do not receive or transmit any signals.

While receiving, [X-VERTER] connector can be activated as an input terminal from an external transverter.

While transmitting, the [X-VERTER] connector outputs signals of the displayed frequency at -20 dBm (22 mV) as signals for the external transverter.

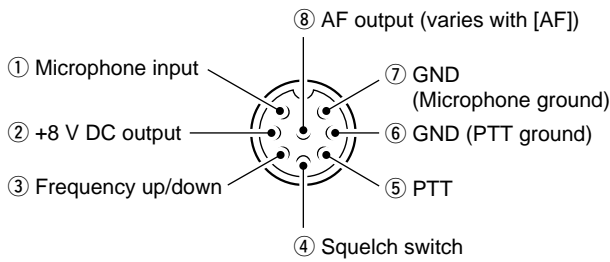
■ FSK and AFSK (SSTV) connections

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



Microphone connector information

(Front panel view)



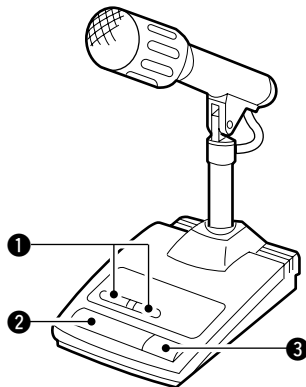
[MIC] Pin No.	FUNCTION	DESCRIPTION
②	+8 V DC output	Max. 10 mA
③	Frequency up	Ground
	Frequency down	Ground through 470 Ω
④	Squelch open	"Low" level
	Squelch closed	"High" level

CAUTION: DO NOT short pin 2 to ground as this can damage the internal 8 V regulator.

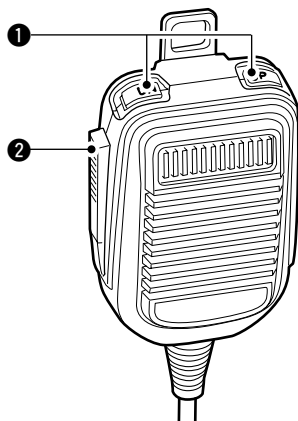
NOTE: DC voltage is applied to pin 1 for microphone operation. Use caution when using a non-lcom microphone.

Microphones (options)

◇ SM-20



◇ HM-36



① UP/DOWN SWITCHES [UP]/[DN]

Change the selected readout frequency or memory channel.

- Continuous pushing changes the frequency or memory channel number continuously.
- While pushing [XFC], the transmit readout frequency can be controlled while in split frequency operation.
- The [UP]/[DN] switch can simulate a key paddle. Preset in the keyer set mode. (p. 4-12)

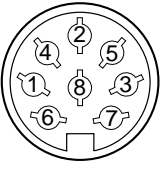
② PTT SWITCH

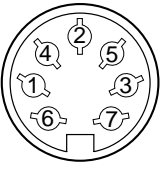
Push and hold to transmit; release to receive.

③ PTT LOCK SWITCH (available for SM-20 only)

Push to toggle between transmit and receive.

■ Accessory connector information

ACC 1	PIN No.	NAME	DESCRIPTION	SPECIFICATIONS
	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
	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 [X-VERTER] 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.	

NOTE: 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. (p. 12-6)