

## ■ Operation

1. Turn ON the transceiver.
2. Select an operating frequency.
3. Push **[FUNCTION]**.
4. Touch ② at the bottom of the screen.
5. Touch **[TUNER]**.
  - The transceiver automatically starts transmitting and tuning. The tuner reduces the SWR to less than 2:1 after 2 ~ 3 seconds of tuning.
  - ① While tuning, a side tone is heard, and "TUNE" blinks.
  - ① Touching **[TUNER]** turns the AH-705 ON or OFF (bypassed).
6. After tuning, "TUNE" is displayed.
  - ① If the tuner cannot reduce the SWR to less than 2:1 after 15 seconds of tuning, the indicator goes out.
  - ① When a long wire antenna cannot be tuned, the indicator goes out. In that case, the tuner is bypassed, and the wire is directly connected.
  - ① To manually tune the antenna, touch **[TUNER]** for 1 second.

⚠ **DANGER HIGH VOLTAGE! NEVER** touch the antenna element while tuning or transmitting. This could cause an electrical shock or burn.

### NOTE:

- When the wire antenna cannot be tuned, check the wire length and connection. The AH-705 cannot tune a wire that is a  $\frac{1}{2}\lambda$  long or on a multiple of that frequency.
- The AH-705 uses latching relays with low power consumption. The latching relays themselves memorize the operating state, but they may not hold the settings after a strong impact to the tuner. If the SWR significantly changes during operation, retune the antenna.

**TIP:** If your IC-705 version is 1.20 or later:

- The transmit power is set to 5 W while tuning.\*
- You can turn the Tune Memory function ON or OFF.\* The Tune Memory function saves the latching relay combination for quicker antenna tuning.
- You can update the antenna tuner's firmware using the transceiver. Updating the firmware adds new functions and/or improves performance parameters. You can download the latest firmware from the Icom website.  
<https://www.icomjapan.com/support/>

\* Only when "Tuner Select" is set to "AH-705" (default).  
① See the transceiver's instruction manual for details.

## ■ Specifications

- Frequency range: 1.8 ~ 54 MHz
  - 1.8 MHz band: with an antenna longer than 30 m, 98.4 ft
  - 3.5 MHz band and above: with an antenna longer than 7 m, 23 ft
- Maximum input power: 10 W
- Input impedance: 50  $\Omega$
- Tuning power required: 5 ~ 10 W
- Automatic tuning time: Approximately 2 to 3 seconds (general conditions)  
Maximum 15 seconds
- Power supply: 3.0 V for two AA (LR6) size alkaline batteries  
13.8 V DC ( $\pm 15\%$ ) for external DC power
- Current drain: Standby Less than 1 mA  
Tuning Less than 300 mA
- Usable temperature range:  $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$ ,  $14^{\circ}\text{F} \sim 140^{\circ}\text{F}$
- VSWR: 1 : 2.0 or less (except antennas one half wave or a multiple of a one half wave in length)
- Number of tuned memories: 45 memories
- Dimensions: 190 (W)  $\times$  105 (H)  $\times$  40 (D) mm,  
7.5 (W)  $\times$  4.1 (H)  $\times$  1.6 (D) inches (Projections not included)
- Weight (approximate): 450 g, 15.8 oz (Without batteries)

① All stated specifications are typical and subject to change without notice or obligation.

## ■ FCC information

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:

- Reorient or relocate the receiving antenna.
- 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.

**CAUTION:** Changes or modifications to this device, not expressly approved by Icom Inc., could void your authority to operate this device under FCC regulations.

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 received, including interference that may cause undesired operation.

# ICOM INSTRUCTIONS

## AUTOMATIC ANTENNA TUNER AH-705

## ■ Important

**SAVE THESE INSTRUCTIONS**— These instructions contain important operating instructions for the AH-705.

## ■ Features

- IP54\* dust protection and splash resistance construction  
\* Only when the jack covers are attached.
- You can use the AH-705 with AA (LR6) size alkaline batteries, or an external DC power source.
- The AH-705 provides reliable matching from 1.8 MHz to 54 MHz, using a long wire element.

## ■ Disposal

 The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

## ■ About CE and DOC

 Hereby, Icom Inc. declares that the versions of AH-705 which have the "CE" symbol on the product, comply with the essential requirements of the Radio Equipment Directive, 2014/53/EU, and the restriction of the use of certain hazardous substances in electrical and electronic equipment Directive, 2011/65/EU. The full text of the EU declaration of conformity is available at the following internet address:  
<https://www.icomjapan.com/support/>

## ■ Explicit definitions

WORD	DEFINITION
⚠ <b>DANGER!</b>	Personal death, serious injury or an explosion may occur.
⚠ <b>WARNING!</b>	Personal injury, fire hazard or electric shock may occur.
<b>CAUTION</b>	Equipment damage may occur.
<b>NOTE</b>	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

Icom is not responsible for the destruction, damage to, or performance of any Icom or non-Icom equipment, if the malfunction is because of:

- Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightning, other natural disasters, disturbances, riots, war, or radioactive contamination.
- The use of Icom antenna tuners with any equipment that is not manufactured or approved by Icom.

Thank you for choosing this Icom product.  
**READ ALL INSTRUCTIONS** carefully and completely before using this product.

## ■ Precautions

- ⚠ **DANGER HIGH RF VOLTAGE! NEVER** touch an antenna or antenna connector while transmitting or tuning. This could cause an electrical shock or burn.
- ⚠ **DANGER HIGH RF VOLTAGE! NEVER** install the antenna tuner at any place that person easily touch the antenna or antenna connector while transmitting or tuning. This could cause an electrical shock or burn.
- ⚠ **WARNING! NEVER** use the antenna tuner during a lightning storm. It may result in an electric shock, cause a fire or damage the tuner. Always disconnect the power source and antenna before a storm.
- ⚠ **WARNING! NEVER** touch the antenna tuner with wet hands. This may result in an electrical shock or damage the tuner.
- ⚠ **WARNING! NEVER** apply AC power to the [DC IN] jack on the antenna tuner. This could cause a fire or damage the tuner.
- ⚠ **WARNING! NEVER** apply more than 16 V DC to the [DC IN] jack on the antenna tuner. This could cause a fire or damage the tuner.
- ⚠ **WARNING! NEVER** reverse the DC power cable polarity. This could cause a fire or damage the antenna tuner.
- ⚠ **WARNING! NEVER** let metal, wire or other objects contact the inside of the antenna tuner, or make incorrect contact with connectors. This could cause an electric shock or damage the tuner.
- ⚠ **WARNING! NEVER** operate the antenna tuner without a solid ground. Always connect the ground wire to the ground terminal.
- CAUTION: DO NOT** transmit or tune without an antenna connected. This could cause damage to the antenna tuner.
- CAUTION: DO NOT** put the antenna tuner in any unstable place, such as on a slanted surface or a place that vibrates. This may cause an injury and/or damage the tuner.
- CAUTION: DO NOT** use harsh solvents such as Benzine or alcohol to clean the antenna tuner, as they can damage the tuner's surfaces. If the tuner becomes dusty or dirty, wipe it clean with a dry, soft cloth.
- KEEP** the antenna tuner away from heavy rain, and never immerse it in water. The tuner meets IP54\* requirements for dust-protection and splash resistance. However, once the tuner has been dropped, dust-protection and splash resistance cannot be guaranteed because of possible damage to the tuner's case or the waterproof seal.
- \* Only when the jack covers are attached.

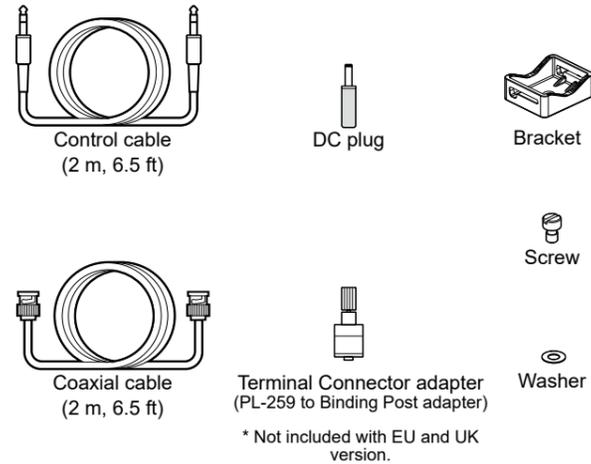
**DO NOT** place or leave the antenna tuner in excessively dusty environments.

## ◆ Battery cautions

- ⚠ **DANGER! NEVER** incinerate used battery cells since the internal battery gas may cause them to rupture.
- CAUTION:** Remove the alkaline batteries when the antenna tuner will not be used for a long period of time. Otherwise, the installed alkaline batteries may leak and damage the tuner.
- When installing batteries, confirm that they are all the same brand, type and capacity. **DO NOT** mix new and old batteries together. **DO NOT** use batteries whose insulated covering is damaged.

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## ■ Supplied accessories



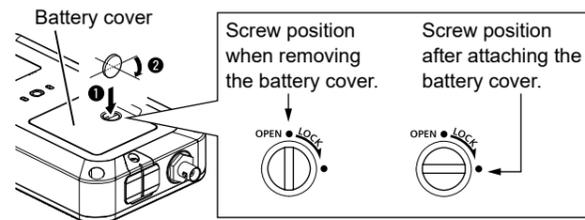
ⓘ Alkaline batteries, a strap or cord for mounting, and a power cable are not supplied.

## ■ About power supply

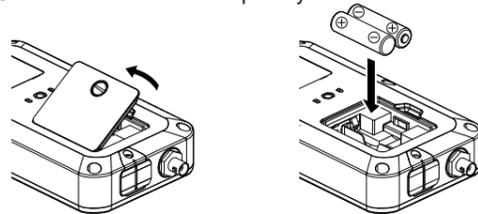
### ◇ Using the alkaline batteries

The AH-705 uses two AA (LR6) size alkaline batteries.

1. Use a coin or standard screwdriver (❶), and turn the screw clockwise one quarter turn (❷).



2. Open the battery cover, and install two AA (LR6) size alkaline batteries.
  - ❶ Install only alkaline batteries.
  - ❶ **BE SURE** to observe the correct polarity.

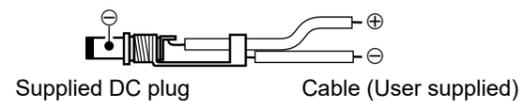


3. Securely attach the battery cover.

### ◇ Using an external DC power source

⚠ **WARNING! NEVER** reverse the DC power cable polarity.

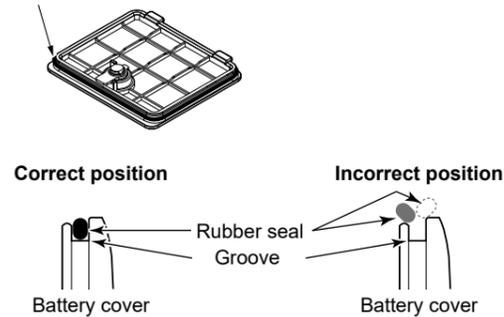
1. Build a power cable for the external DC power source.



## ■ Options

- **OPC-2474 CONTROL CABLE**  
Cable length: 5 m (16.4 ft)
- **OPC-2475 COAXIAL CABLE**  
Cable length: 5 m (16.4 ft)

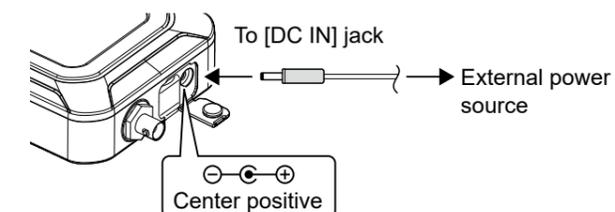
Be sure that the rubber seal is correctly seated in the groove, and there is no dust or other material on it.



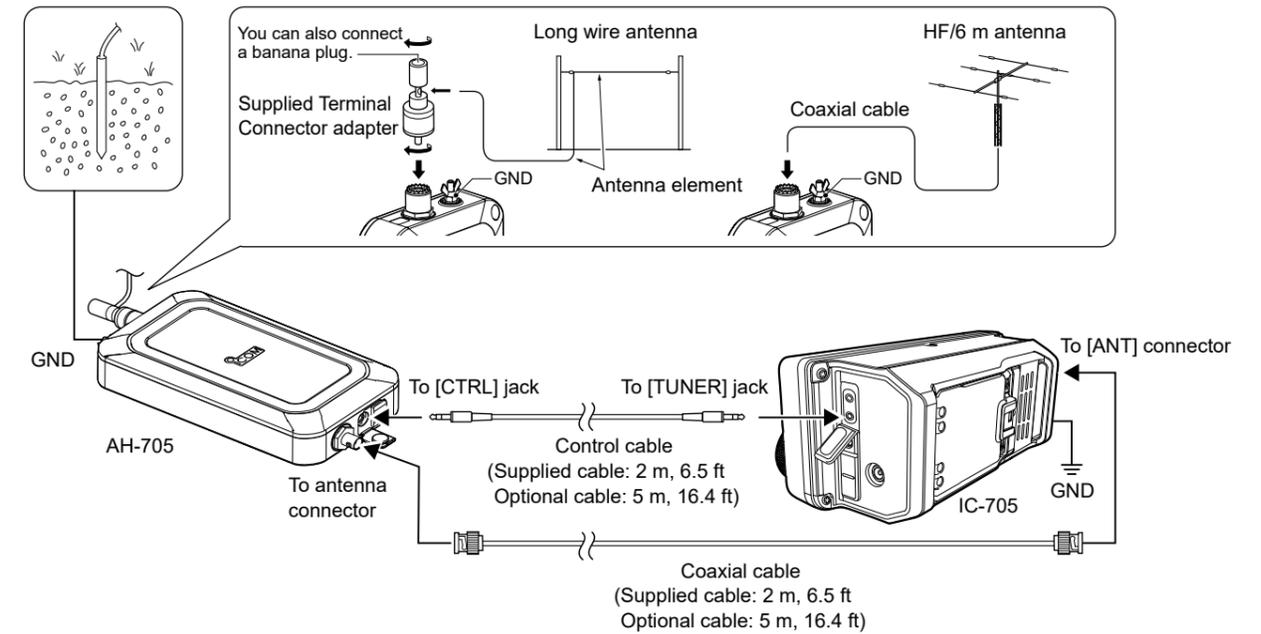
### NOTE:

- Disconnect the control cable from the antenna tuner when the tuner will not be used for some time. Otherwise, the installed alkaline batteries will become exhausted.
- When the batteries are almost exhausted, the antenna tuner is automatically turned OFF. Replace all batteries with new alkaline batteries.

2. Connect the antenna tuner to an external DC power source.
  - ❶ Confirm that the external DC power source is OFF before connecting the DC power cable.



## ■ Connection



**NOTE:** The antenna tuner must have an adequate ground connection. Otherwise, the overall efficiency of the transceiver and antenna tuner installation will be reduced. Interference, RF feedback, and electrical shocks from other equipment could also occur.

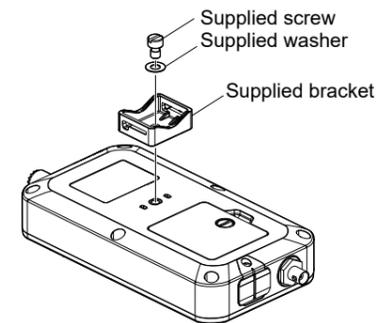
For best results, connect a heavy gauge wire or strap to a long ground rod. Make the distance between the [GND] terminal and ground as short as possible.

- A long wire connected to the [GND] terminal can be used as a counterpoise.

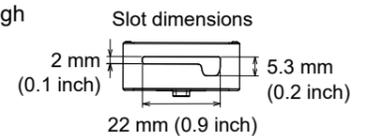
## ■ Installation

Install the antenna tuner on a pole, as shown below.

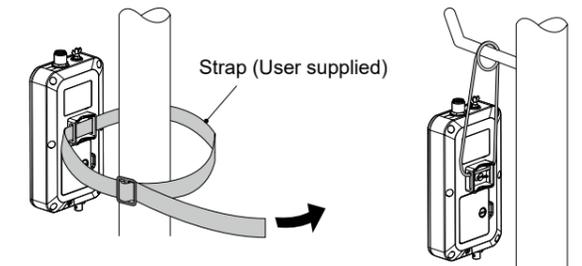
1. Attach the supplied bracket to the back of the antenna tuner, by using a coin or standard screwdriver.



2. Thread the strap through the bracket slots.

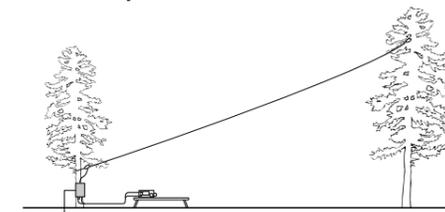


3. Mount the antenna tuner on a pole.



You can hang the antenna tuner, by threading a piece of cord through the bracket.

### Installation example:



### NOTE:

- Keep the antenna tuner as far away from the transceiver as possible.
- **DO NOT** expose the tuner to rain, snow, or any liquids, when the jack covers are detached. Dust-protection and splash resistance cannot be guaranteed.
- Using the tuner with a Loop antenna that is not suitable for the operating frequency cannot be guaranteed.