

## INTRODUCTION

### About this Instruction Manual (PDF format)

These Instruction Manual describe the details of the IC-2300H's features. And, this PDF formatted manual provides you with convenient functions, as follows.

#### Move to the previously read page.

Click [Previous view] at the left top on an each page, to move back to the previously read page.

#### Shows a term description

When the mouse cursor is moved over a term which is highlighted in yellow, the description of term is displayed.

The screen shots at the right column, correspond to the operating instructions and procedures shows both setting and operating example.

#### Shows the location of keys

When the cursor is moved over a term with a red underline, a red circle appears around the appropriate key(s) on the figure of HM-133V.

Example: When the cursor is moved over [CLR] in the description, a red circle appears around the appropriate key(s).

Previous view

10 POCKET BEEP AND TONE SQUELCH

#### ■ Tone scan

By monitoring a signal that is being operated with the pocket beep, tone or DTCS Squelch function turned ON, you can determine the tone frequency or DTCS code necessary to open the squelch.


- ① Set the channel to be checked for a tone frequency or code.
- ② Push [TONE] several times to select the tone type to be checked.
  - One of the icons "A", "B" or "C" appear.
- ③ Hold down [T-SCAN] (TONE) for 1 second to start the tone scan.
 

Term


Continually sweeping frequencies looking for signals. [Tone frequency is temporarily programmed into the memory or Call channel.]
- ④ The scan pauses when a CTCSS tone frequency or DTCS code is detected.
  - The detected CTCSS tone frequency or DTCS code is used for the tone encoder or decoder, depending on the tone condition or type selected in step ②.
    - No icon : Cannot be used for operation.
    - "A" : CTCSS tone encoder
    - "A+B" : DTCS tone encoder
    - "B" : CTCSS tone encoder/decoder
    - "C" : DTCS tone encoder/decoder
- ⑤ Push [V/MHz] to cancel the scan.

#### Using the HM-133V

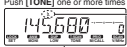
- ① Set the channel to be checked for a tone frequency.
- ② Select the tone type to be checked.
  - Push [FUNC] then push; [TONE] for repeater tone; [TSQ] for tone squelch; [DTCS] for DTCS squelch.
- ③ Push [FUNC] then [T-SCAN] to start the tone scan.
- ④ When the tone frequency is matched, the squelch opens and the tone frequency is programmed into the selected memory or Call channel.
- ⑤ Push [CLR] cancel the scan.



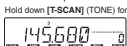
[i.e.]: Checking for the tone frequency on the 145.680 MHz.



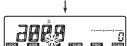
Push [TONE] one or more times to select the tone type.




Hold down [T-SCAN] (TONE) for 1 second.




During CTCSS tone scan




[i.e.]: Checking for the tone frequency on the 145.680 MHz.



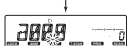
Push [FUNC] then [TONE] to select the tone type.



Push [FUNC] then [T-SCAN] to start the tone scan.



During CTCSS tone scan



## INTRODUCTION

### Functions and features of Adobe® Reader®

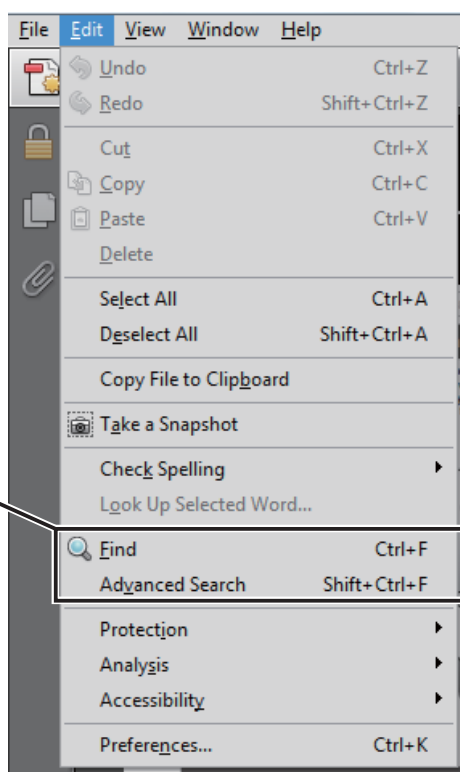
The following functions and features can be used with Adobe® Reader®.

#### • Keyword search

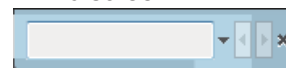
Click “Find (Ctrl+F)” or “Advanced Search (Shift+Ctrl+F)” in the Edit menu to open the search screen. This is convenient when searching for a particular word or phrase in this manual.

\*The menu screen may differ, depending on the Adobe® Reader® version.

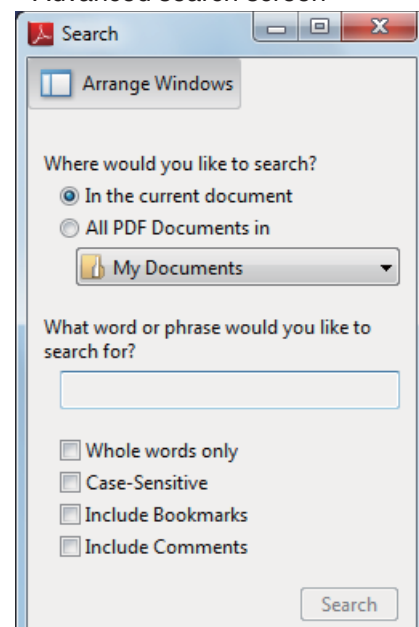
Click to open the find or search screen or advanced search screen.



#### • Find screen



#### • Advanced search screen

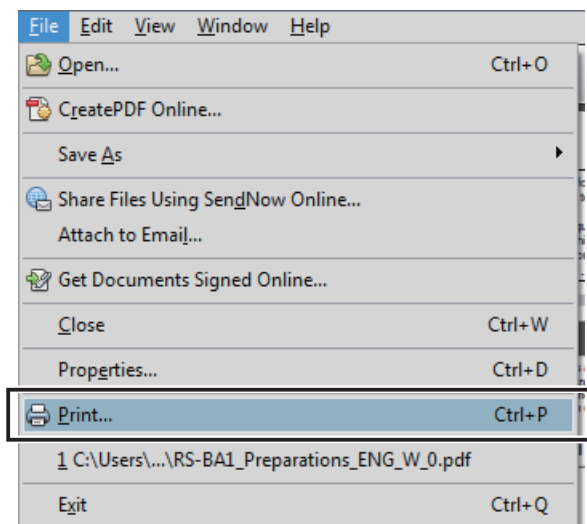


#### • Printing out the desired pages.

Click “Print (P)” in File menu, and then select the paper size and number of copies you want to print.

\*The printing setup may differ, depending on the printer. Refer to your printer’s instruction manual for details.

\*Select "A4" size to print out the page in the equalized size.

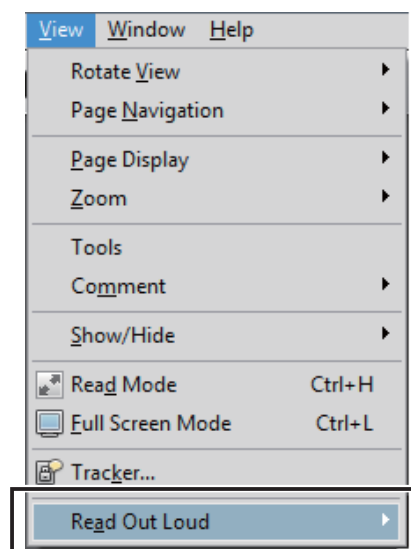


#### • Read Out Loud feature.

The Read Out Loud feature reads aloud the text in this Instruction Manual.

Refer to the Adobe® Reader® Help for the details.

(This feature cannot be used, depending on your PC environment including operating system.)



\*The screen may differ, depending on the Adobe® Reader® version.



## INSTRUCTION MANUAL

FM TRANSCEIVER

# IC-2300H

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.

### QUICK REFERENCE GUIDE

- 1 PANEL DESCRIPTION
- 2 SETTING A FREQUENCY
- 3 BASIC OPERATION
- 4 REPEATER SETTING
- 5 MEMORY OPERATION
- 6 CALL CHANNEL OPERATION
- 7 SCAN OPERATION
- 8 PRIORITY WATCH
- 9 DTMF MEMORY ENCODER
- 10 POCKET BEEP AND TONE SQUELCH
- 11 OTHER FUNCTIONS
- 12 SPECIFICATIONS
- 13 MAINTENANCE

Icom Inc.

## FOREWORD

Thank you for purchasing this Icom radio. The IC-2300H FM TRANSCEIVER is designed and built with Icom's state of the art technology and craftsmanship. With proper care this radio should provide you with years of trouble-free operation.

### ◆ FEATURES

- 65 W\* — high transmit output power  
(\*except Korea/Taiwan versions)
- Tone squelch, DTCS squelch standard
- Three color (amber, yellow & green) back-light LCD screen
- Remote control microphone available

## IMPORTANT

**READ ALL INSTRUCTIONS** carefully and completely before using the transceiver.

**SAVE THIS INSTRUCTION MANUAL**— This instruction manual contains important operating instructions for the IC-2300H.

## EXPLICIT DEFINITIONS

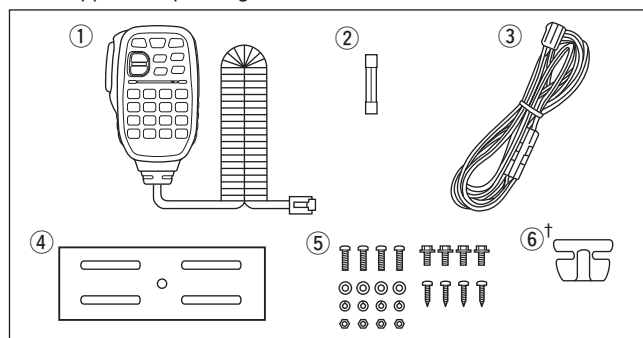
WORD	DEFINITION
<b>⚠ WARNING!</b>	Personal injury, fire hazard or electric shock may occur.
<b>CAUTION</b>	Equipment damage may occur.
<b>NOTE</b>	Recommended, only inconvenience. No risk of personal injury, fire or electric shock.

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## SUPPLIED ACCESSORIES

- ① Microphone (HM-133V) ..... 1
- ② Fuse (20 A) ..... 1
- ③ DC power cable (3 m) ..... 1
- ④ Mobile mounting bracket ..... 1
- ⑤ Mounting screws, nuts and washers ..... 1 set
- ⑥ Microphone hanger<sup>†</sup> ..... 1

<sup>†</sup>Not supplied, depending on the version.



## OPTIONS

**HM-133V** REMOTE-CONTROL MICROPHONE

**HM-154** HAND MICROPHONE

**SP-10** EXTERNAL SPEAKER

**OPC-440A** MIC EXTENSION CABLE

**OPC-589** ADAPTER CABLE

**OPC-1132A/OPC-347** DC POWER CABLES

**CS-2300H** CLONING SOFTWARE

**OPC-478/OPC-478UC** CLONING CABLES

**OPC-474** CLONING CABLE

## FCC INFORMATION

### • FOR CLASS B UNINTENTIONAL RADIATORS:

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.

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## PRECAUTIONS

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**⚠ WARNING RF EXPOSURE!** This device emits RadioFrequency (RF) energy. Extreme caution should be observed when operating this device. If you have any questions regarding RF exposure and safety standards, please refer to the Federal Communications Commission Office of Engineering and Technology's report on Evaluating Compliance with FCC Guidelines for Human Radio frequency Electromagnetic Fields (OET Bulletin 65).

**⚠ WARNING! NEVER** connect the transceiver to an AC outlet. This may pose a fire hazard or result in an electric shock.

**⚠ WARNING! NEVER** cut the DC power cable between the DC plug and fuse holder. If an incorrect connection is made after cutting, the transceiver may be damaged.

**⚠ WARNING! NEVER** operate the transceiver while driving a vehicle. Safe driving requires your full attention—anything less may result in an accident.

**⚠ WARNING! NEVER** connect the transceiver to a power source of more than 16 V DC or use reverse polarity. This could cause a fire or damage the transceiver.

**⚠ WARNING! NEVER** operate or touch the transceiver with wet hands. This may result in an electric shock or damage the transceiver.

**⚠ WARNING! NEVER** place the transceiver where normal operation of the vehicle may be hindered or where it could cause bodily injury.

**⚠ WARNING! NEVER** let metal, wire or other objects touch any internal part of the transceiver. This may result in an electric shock.

**CAUTION: NEVER** expose the transceiver to rain, snow or any liquids. The transceiver may be damaged.

**DO NOT** push the PTT when not actually intending to transmit.

**KEEP** the transceiver out of the reach of children.

During mobile operation, **DO NOT** operate the transceiver without running the vehicle's engine. When the transceiver's power is ON and your vehicle's engine is OFF, the vehicle's battery will soon become exhausted.

**BE CAREFUL!** The transceiver will become hot when operating it continuously for long periods of time.

**DO NOT** set the transceiver in a place without adequate ventilation. Heat dissipation may be affected, and the transceiver may be damaged.

**DO NOT** use or place the transceiver in direct sunlight or in areas with temperatures below  $-10^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$ ) or above  $+60^{\circ}\text{C}$  ( $+140^{\circ}\text{F}$ ).

**DO NOT** use harsh solvents such as benzine or alcohol when cleaning, as they will damage the transceiver's surfaces.

**USE** only Icom microphones (supplied or optional). Other manufacturer's microphones have different pin assignments and may damage the transceiver if attached.

Approved Icom optional equipment is designed for optimal performance when used with an Icom transceiver.

Icom is not responsible for the destruction or damage to an Icom transceiver in the event the Icom transceiver is used with equipment that is not manufactured or approved by Icom.

***For only U.S.A.***

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

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# QUICK REFERENCE GUIDE

## Installation

### Location

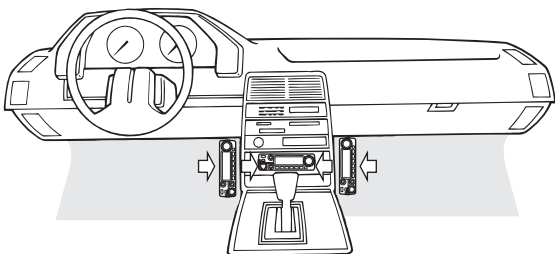
Select a location which can support the weight of the transceiver and does not interfere with driving in any way. We recommend the locations shown in the diagram below.

**⚠ WARNING! NEVER** place the transceiver where normal operation of the vehicle may be hindered or where it could cause bodily injury.

**⚠ WARNING! NEVER** place the transceiver where air bag deployment may be obstructed.

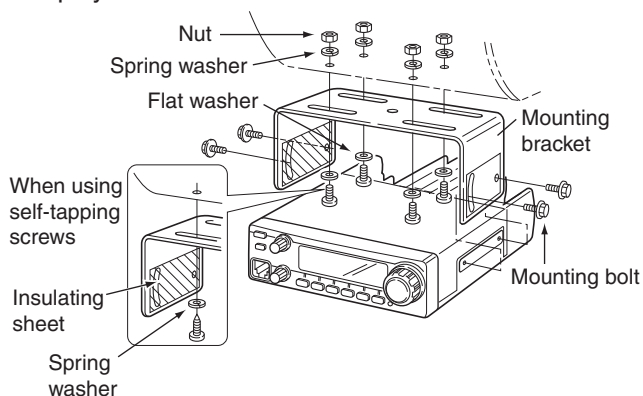
**DO NOT** place the transceiver where hot or cold air blows directly onto it.

**DO NOT** place the transceiver in direct sunlight.



### Using the mounting bracket

- Drill 4 holes where the mounting bracket is to be installed.
  - Approx. 5.5–6 mm (0.25 inch) when using nuts; approximately 2–3 mm (0.13 inch) when using self-tapping screws.
- Insert the supplied screws, nuts and washers through the mounting bracket and tighten.
- Adjust the angle for the clearest view of the function display.



### IMPORTANT!

Detailed installation notes for Icom mobile transceivers are available. Contact your Icom dealer or distributor.

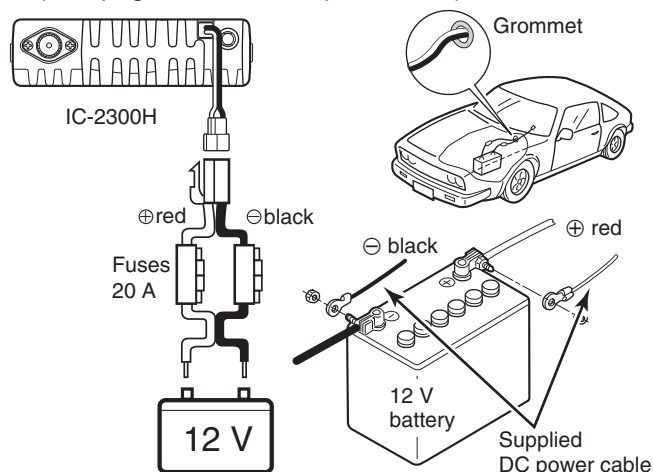
### Battery connection

**⚠ WARNING! NEVER** connect the transceiver directly to a 24 V battery.

**DO NOT** use the cigarette lighter socket for a power connection.

When passing the DC power cable through metal material, use a rubber grommet to prevent short circuiting.

### CONNECTING TO A DC POWER SUPPLY (See page 55 for fuse replacement.)



#### NOTE:

Use terminals for the cable connections.

Crimp



Solder

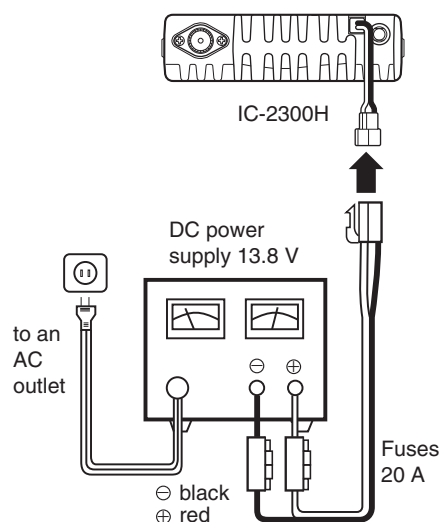


### DC power supply connection

Use a 13.8 V DC power supply with a capacity of at least 20 Amps.

Make sure the **ground** terminal of the DC power supply is connected to a secure earth.

### CONNECTING TO A DC POWER SOURCE



(See page 55 for fuse replacement.)

## QUICK REFERENCE GUIDE

◇ **Antenna installation**

## • Antenna location

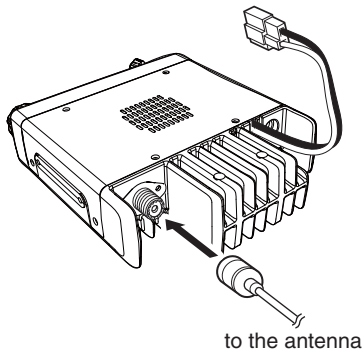
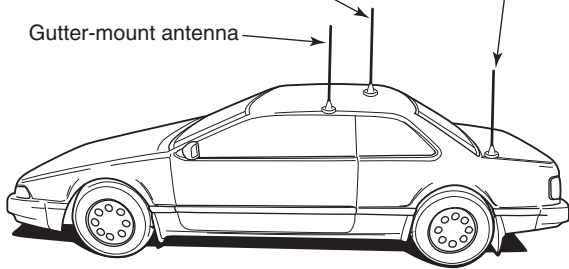
To obtain maximum performance from the transceiver, select a high-quality antenna and mount it in a good location. When you use a magnetic mount, use a non-radial antenna.

Roof-mount antenna

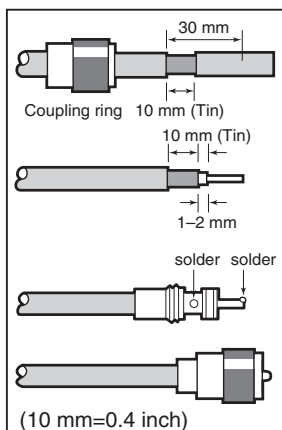
(Drill a hole or use a magnetic mount.)

Gutter-mount antenna

Trunk-mount antenna

• **Installing the antenna connector**

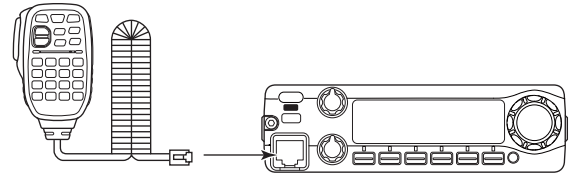
The antenna uses a PL-259 connector.

• **PL-259 CONNECTOR**

- ① Slide the coupling ring down. Strip the cable jacket and tin the ground shield.
- ② Strip the cable as shown at left. Tin the center conductor.
- ③ Slide the connector body on and solder it.
- ④ Screw the coupling ring onto the connector body.

◇ **Connecting the microphone**

Connect the microphone to the eight-pin modular socket on the front panel of the transceiver.



**NOTE:** There are many publications covering proper antennas and their installation. Check with your local dealer for more information and recommendations.

Count on us!



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