



FULL MANUAL

HF/50 MHz TRANSCEIVER

IC-7300

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ABOUT CE

Icom Inc.

Thank you for choosing this Icom product. The IC-7300 HF/50 MHz TRANSCEIVER is designed and built with Icom's state of the art technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation. We appreciate you making the IC-7300 your transceiver of choice, and hope you agree with Icom's philosophy of "technology first." Many hours of research and development went into the design of your IC-7300.

IMPORTANT

READ ALL INSTRUCTIONS carefully completely before using the transceiver.
SAVE THIS INSTRUCTION MANUAL— This instruction manual contains full operating instructions for the IC-7300.

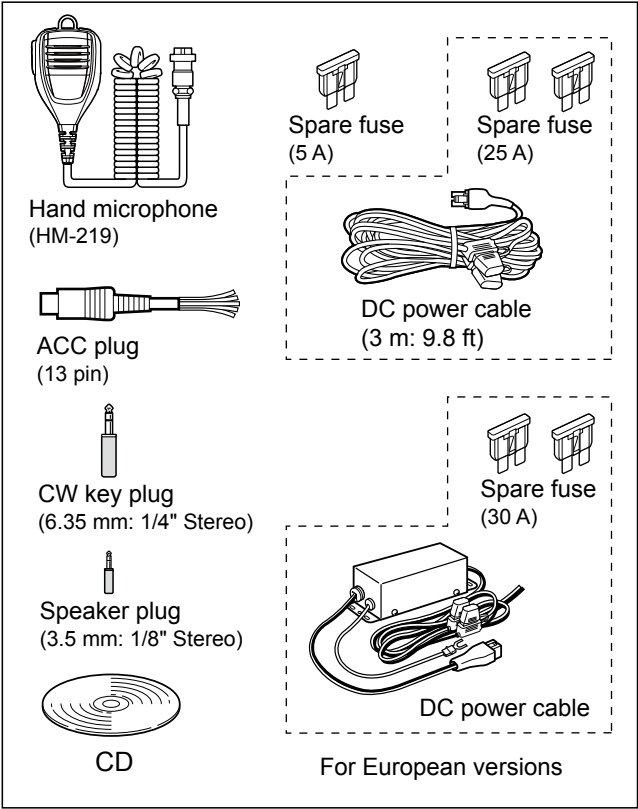
FEATURES

- **RF Direct Sampling System**
The IC-7300 employs an RF direct sampling system. RF signals are directly converted to digital data and processed in the FPGA. This system is a leading technology marking an epoch in amateur radio.
- **Real-Time Spectrum Scope**
The spectrum scope is class-leading in resolution, sweep speed and dynamic range. When you touch the scope screen on the intended signal, the touched area is magnified. The large 4.3 inch color TFT touch LCD offers intuitive operation.
- **New "IP+" Function**
The new IP Plus function improves 3rd order intercept point (IP3) performance. When a weak signal is received adjacent to strong interference, the AD converter is optimized against signal distortion.
- **Class Leading RMDR and Phase Noise Characteristics**
The RMDR is improved to about 97dB (typical value) and Phase Noise characteristics are also improved about 15dB (at 1 kHz frequency separation) compared to the IC-7200.
- **A 4.3 inch touch screen color display**
- **A built-in automatic antenna tuner**
- **Multi-function control for easy settings**

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠ DANGER!	Personal death, serious injury or an explosion may occur.
⚠ WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	Recommended for optimum use. No risk of personal injury, fire or electric shock.

SUPPLIED ACCESSORIES



① Different types of accessories may be supplied, or may not be supplied depending on the transceiver version.

This product includes RTOS "RTX" software, and is licensed according to the software license.

This product includes "zlib" open source software, and is licensed according to the open source software license.

This product includes "libpng" open source software, and is licensed according to the open source software license.

Refer to the Text files in the License folder of included CD for information on the open source software being used by this product.

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.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

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

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 IC-7300 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:
<http://www.icom.co.jp/world/support>

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All other products or brands are registered trademarks or trademarks of their respective holders.

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, or other natural disasters, disturbances, riots, war, or radioactive contamination.
- The use of Icom transceivers with any equipment that is not manufactured or approved by Icom.

ABOUT THE TOUCH SCREEN

◇ Touch operation

In the Full manual or Basic manual, the touch operation is described as shown below.



Touch

If the display is touched briefly, one short beep sounds.



Touch for 1 second

If the display is touched for 1 second, one short and one long beep sound.

◇ Touch screen precautions

- The touch screen may not properly work when the LCD protection film or sheet is attached.
- Touching the screen with your finger nails, sharp topped object and so on, or touching the screen hard may damage it.
- Tablet PC's operations such as flick, pinch in and pinch out cannot be performed on this touch screen.

◇ Touch screen maintenance

- If the touch screen becomes dusty or dirty, wipe it clean with a soft, dry cloth.
- When you wipe the touch screen, be careful not to push it too hard or scratch it with your finger nails. Otherwise you may damage the screen.

ABOUT THE SUPPLIED CD

The following items are included on the CD.

- **Full manual (English)**
Instructions for full operations in English, the same as this manual.
- **Basic manual (English)**
Instructions for basic operations in English.
- **Full manual (German)**
Instructions for full operations in German.
- **Basic manual (Multi-language)**
Instructions for basic operations in multiple languages.
- **Schematic diagram**
Includes the schematic and block diagrams.
- **HAM radio Terms (English)**
A glossary of HAM radio terms in English.
- **Adobe® Acrobat® Reader® Installer**
Installer for Adobe® Acrobat® Reader®.

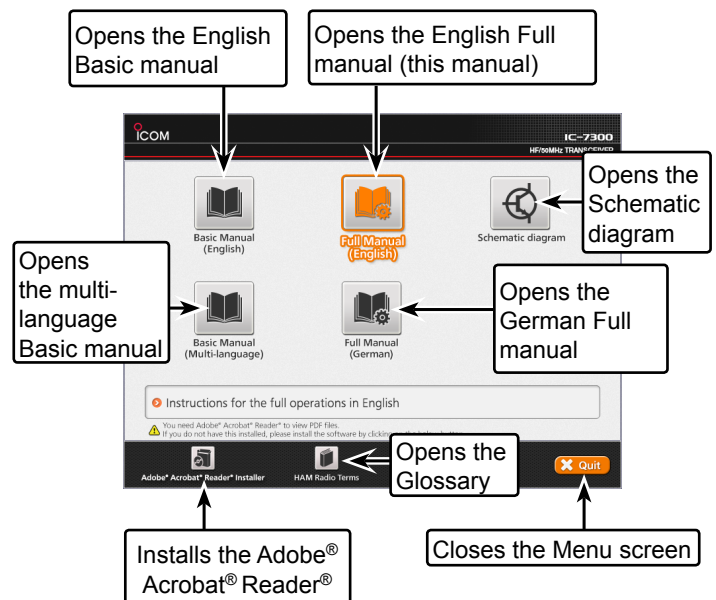
To read the manuals or Schematic diagram, Adobe® Acrobat® Reader® is required. If you have not installed it, please install the Adobe® Acrobat® Reader® on the CD or download it from Adobe Systems Incorporated's website.

A PC with the following Operating System is required.

- Microsoft® Windows® 10
- Microsoft® Windows® 8.1
- Microsoft® Windows® 7

Starting the CD

1. Insert the CD into the CD drive.
2. Double click "Menu.exe" on the CD.
 - Depending on the PC setting, the menu screen shown below is automatically displayed.
3. Click the desired button to open the file.
① To close the Menu screen, click [Quit].



① Different types of menu screen may be displayed, depending on the transceiver version.

Functions and features of Adobe® Acrobat® Reader®

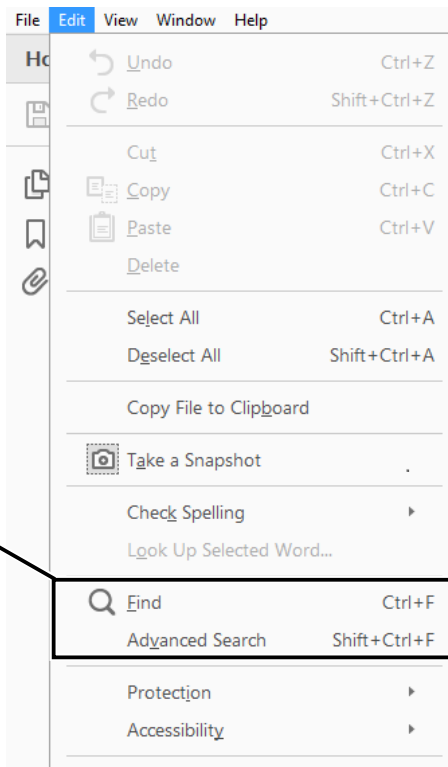
The following functions and features can be used with Adobe® Acrobat® Reader®.

• Keyword search

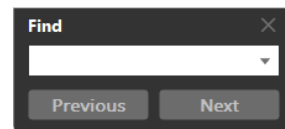
Click “Find (Ctrl+F)” or “Advanced Search (Shift+Ctrl+F)” in the Edit menu to open the search screen. This is convenient when searching for a particular word or phrase in this manual.

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

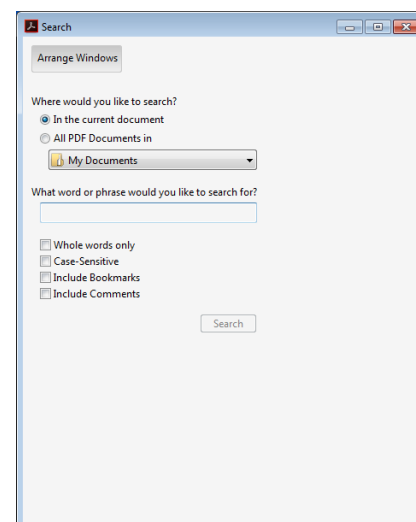
Click to open the find or search screen or advanced search screen.



• Find screen



• Advanced search screen

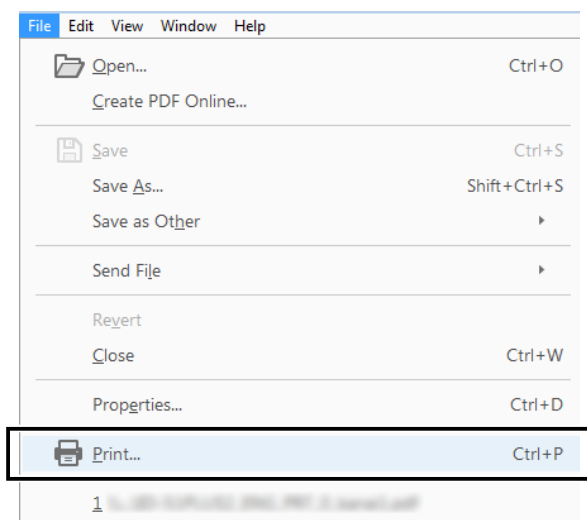


• Printing out the desired pages.

Click “Print” in File menu, and then select the paper size and page numbers 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.

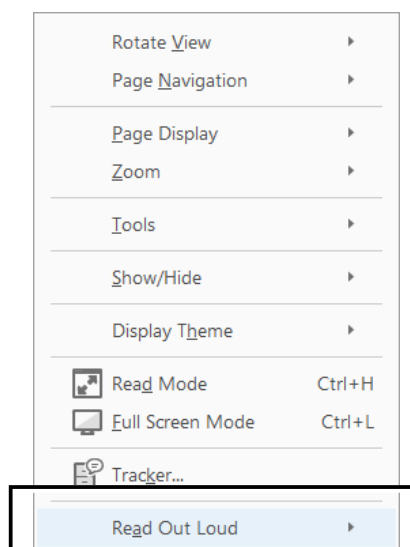


• Read Out Loud feature.

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

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

(This feature may not be usable, depending on your PC environment including the operating system.)



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

ABOUT THE INSTRUCTIONS

The Full and Basic manuals are described based on the following:

“ ” (Quotation marks):

Used to indicate icons, setting items, and screen titles displayed on the screen.

The screen titles are also indicated in uppercase letters.
(Example: FUNCTION screen)

[] (brackets):

Used to indicate keys.

Routes to the set modes and setting screens

Routes to the set mode, setting screen and the setting items are shown in the following manner.

MENU » SET > Display > Display Type

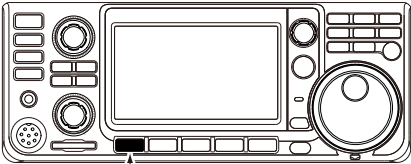
Instruction example

◇ **Selecting the display background**

1. Select the “Display Type” screen.
MENU » SET > Display > Display Type
2. Select the desired background between A and B by rotating and then pushing **(MULTI)**.
 - A: Black background (default)
 - B: Blue background
3. To close the DISPLAY screen, push **(EXIT)** several times.

Detailed instruction

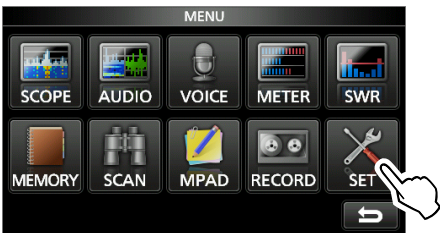
1. Push **(MENU)**.



Push

- Opens the MENU screen.

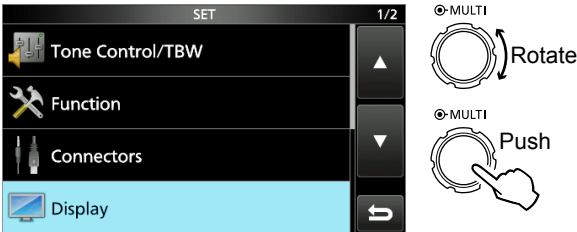
2. Touch **[SET]**.



MENU screen

- Opens the SET screen.

3. Rotate **(MULTI)**, and then push **(MULTI)** to select “Display.”

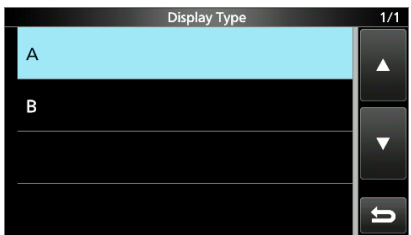


SET screen

4. Rotate **(MULTI)**, and then push **(MULTI)** to select “Display Type.”



DISPLAY screen



“Display Type” screen

PRECAUTIONS

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

⚠ **DANGER! NEVER** operate the transceiver near unshielded electrical blasting caps or in an explosive atmosphere. This could cause an explosion and death.

⚠ **WARNING RF EXPOSURE!** This device emits Radio Frequency (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** operate the transceiver with a headset or other audio accessories at high volume levels. If you experience a ringing in your ears, reduce the volume or discontinue use.

⚠ **WARNING! NEVER** apply AC power to the [DC13.8V] socket on the transceiver rear panel. This could cause a fire or damage the transceiver.

⚠ **WARNING! NEVER** apply more than 16 V DC to the [DC13.8V] socket on the transceiver rear panel. This could cause a fire or damage the transceiver.

⚠ **WARNING! NEVER** reverse the DC power cable polarity. This could cause a fire or damage the transceiver.

⚠ **WARNING! NEVER** remove the fuse holder on the DC power cable. Excessive current caused by a short could cause a fire or damage the transceiver.

⚠ **WARNING! NEVER** let metal, wire or other objects contact the inside of the transceiver, or make incorrect contact with connectors on the rear panel. This could cause an electric shock or damage the transceiver.

⚠ **WARNING! NEVER** operate or touch the transceiver with wet hands. This could cause an electric shock or damage to the transceiver.

⚠ **WARNING!** Immediately turn OFF the transceiver power and remove the DC power cable from the transceiver if it emits an abnormal odor, sound or smoke. Contact your Icom dealer or distributor for advice.

⚠ **WARNING! NEVER** put the transceiver on an unstable place where the transceiver may suddenly move or fall. This could cause an injury or damage the transceiver.

⚠ **WARNING! NEVER** operate the transceiver during a lightning storm. It may result in an electric shock, cause a fire or damage the transceiver. Always disconnect the power source and antenna before a storm.

CAUTION: NEVER expose the transceiver to rain, snow or any liquids.

CAUTION: NEVER change the internal settings of the transceiver. This could reduce transceiver performance and/or damage to the transceiver. The transceiver warranty does not cover any problems caused by unauthorized internal adjustments.

CAUTION: NEVER install or place the transceiver in a place without adequate ventilation, or block any cooling vents on the top, rear, sides or bottom of the transceiver. Heat dissipation may be reduced and damage the transceiver.

CAUTION: NEVER use harsh solvents such as Benzine or alcohol when cleaning, as they will damage the transceiver surfaces.

CAUTION: NEVER leave the transceiver in areas with temperatures below -10°C ($+14^{\circ}\text{F}$) or above $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$) for mobile operations.

CAUTION: NEVER place the transceiver in excessively dusty environments. This could damage the transceiver.

DO NOT place the transceiver against walls or putting anything on top of the transceiver. This may overheat the transceiver.

BE CAREFUL! The Main unit will become hot when operating the transceiver continuously for long periods of time.

CAUTION: If you use a linear amplifier, set the transceiver's RF output power to less than the linear amplifier's maximum input level, otherwise a high input could damage the linear amplifier.

CAUTION: Use only Icom supplied or optional microphones. Other manufacturer's microphones may have different pin assignments, and could damage the connector and/or the transceiver.

NEVER leave the transceiver in an insecure place to avoid use by unauthorized persons.

Turn OFF the transceiver's power and/or disconnect the AC power cable when you will not use the transceiver for a long period of time.

Turn OFF the transceiver's power and/or disconnect the DC power cable when you will not use the transceiver for long period of time.

The LCD display may have cosmetic imperfections that appear as small dark or light spots. This is not a malfunction or defect, but a normal characteristic of LCD displays.

Section 1

PANEL DESCRIPTION

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◇ Entering and editing characters 1-8

◇ Keyboard types..... 1-8

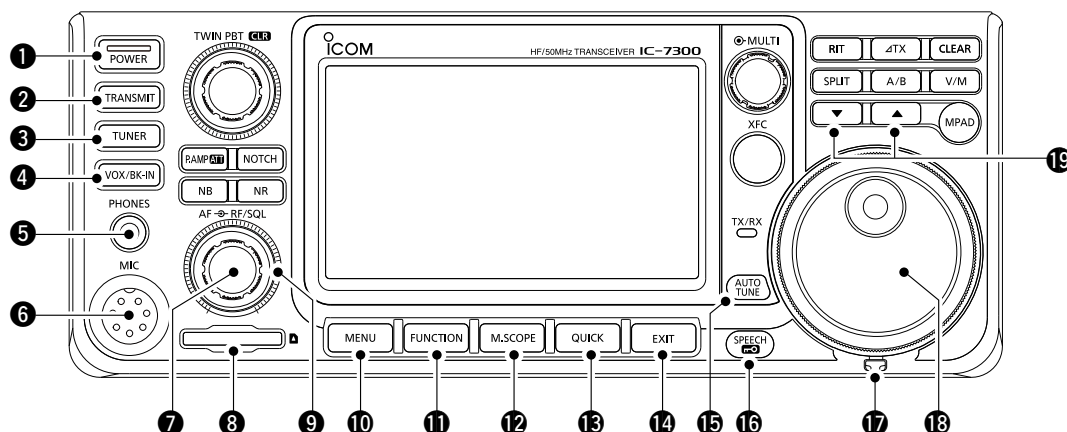
◇ Entering and editing 1-8

◇ Entering and editing example 1-9

1 PANEL DESCRIPTION

Front panel

This section describes the keys, controls and dials that you use to operate the IC-7300. Refer to the pages posted beside each key, control, or dial for details.



1 POWER KEY **POWER** (p. 3-2)

Turns the transceiver ON or OFF.

2 TRANSMIT KEY **TRANSMIT** (p. 3-10)

Toggles between transmit and receive.

3 ANTENNA TUNER KEY **TUNER** (p. 11-2)

Turns the antenna tuner ON or OFF, or activates the tuner.

4 VOX/BREAK-IN KEY **VOX/BK-IN**

Turns the VOX function (p. 4-10) and Break-in function (p. 4-15) ON or OFF.

5 HEADPHONE JACK **[PHONES]** (p. 2-2)

Connects to a standard stereo headphones.

6 MICROPHONE CONNECTOR **[MIC]** (p. 2-2)

Connects to the supplied or an optional microphone.

7 VOLUME CONTROL **AF-RF/SQ** (p. 3-2)

Adjusts the audio output level.

8 SD CARD SLOT **[SD CARD]** (p. 8-2)

Accepts an SD card.

9 RF GAIN CONTROL/SQUELCH CONTROL
AF-RF/SQ (p. 3-10)

Adjusts the RF gain and squelch threshold levels.

10 MENU KEY **MENU** (p. 1-7)

Opens the MENU screen.

11 FUNCTION KEY **FUNCTION** (p. 1-7)

Displays the FUNCTION screen.

12 MINI SCOPE KEY **M.SCOPE** (p. 5-2)

Displays the Mini Scope or Spectrum Scope.

13 QUICK KEY **QUICK** (p. 1-7)

Displays the QUICK MENU.

14 EXIT KEY **EXIT** (p. 1-7)

Exits a setting screen or returns to the previous screen.

15 AUTO TUNE KEY **AUTO TUNE** (p. 4-16)

Automatically tunes the operating frequency to a received CW signal.

16 SPEECH/LOCK KEY **SPEECH**

Announces the operating frequency or receiving mode (p. 13-2), or electronically locks **MAIN DIAL** (p.3-10).

17 FRICTION ADJUSTER (13-2)

Adjusts the friction of **MAIN DIAL**.

18 MAIN DIAL **MAIN DIAL** (p. 3-4)

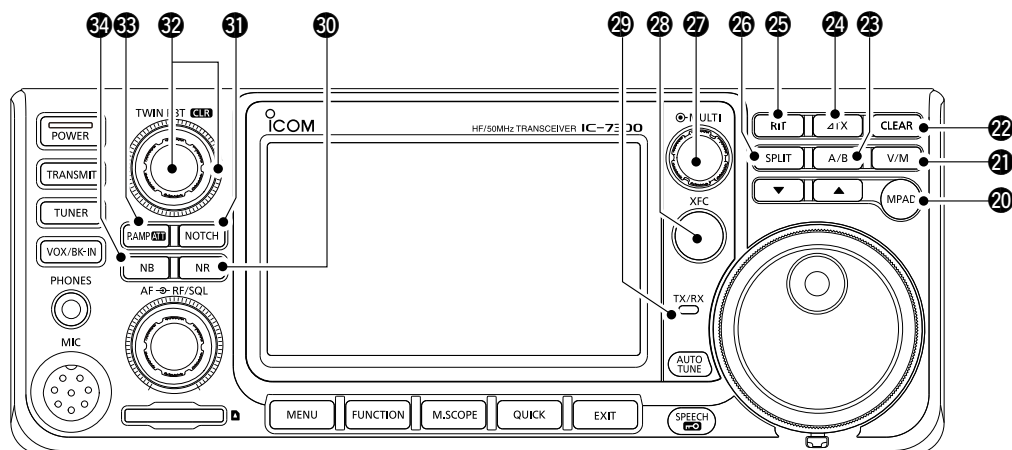
Changes the operating frequency.

19 MEMORY CHANNEL UP/DOWN KEY **▲/▼**
(p. 9-3)

Changes the Memory channel.

1 PANEL DESCRIPTION

Front panel (Continued)



20 MEMO PAD KEY **MPAD** (p. 9-6)

Sequentially calls up the contents in the Memo Pads, or saves the displayed contents into the Memo Pad.

21 VFO/MEMORY KEY **V/M** (p. 3-2)

Switches between the VFO and Memory mode, or copies the memory channel contents to the VFO.

22 CLEAR KEY **CLEAR**

Clears the RIT (p. 4-3) or Δ TX shift frequency (p. 4-11).

23 A/B KEY **A/B** (p. 3-2)

Switches between VFO A and VFO B, or sets the selected VFO's frequency to the other VFO.

24 Δ TX KEY **Δ TX** (p. 4-11)

Turns the Δ TX function ON or OFF.

25 RIT KEY **RIT** (p. 4-3)

Turns the Receiver Incremental Tuning (RIT) function ON or OFF.

26 SPLIT KEY **SPLIT** (p. 4-13)

Turns the Split function ON or OFF.

27 MULTI-FUNCTION CONTROL **MULTI** (p. 1-7)

Displays the Multi-function menu for various adjustments, or selects a desired item.

28 TRANSMIT FREQUENCY CHECK KEY **XFC** (p. 4-13)

Enables you to monitor the transmit frequency while holding it down in the Split mode.

29 TX/RX INDICATOR (p. 3-10)

Lights red while transmitting and lights green while receiving.

30 NOISE REDUCTION KEY **NR** (p. 4-9)

Turns the Noise Reduction function ON or OFF.

31 NOTCH KEY **NOTCH** (p. 4-9)

Turns the Notch filter ON or OFF.

32 TWIN PASSBAND TUNING CONTROL **TWIN PBT** (p. 4-5)

Adjusts the IF filter's passband width by rotating, and clears the setting by holding down for 1 second.

33 PREAMP/ATTENUATOR KEY **P.AMP/ATT** (p. 4-3)

Turns ON or OFF, and selects one of two receive RF preamplifiers or turns the Attenuator ON or OFF.

34 NOISE BLANKER KEY **NB** (p. 4-8)

Turns the Noise Blanker ON or OFF.

Count on us!