ICOM

INSTRUCTION MANUAL

HF/VHF/UHF
ALL MODE TRANSCEIVER

IC-7000

Icom Inc.

IMPORTANT

READ THIS INSTRUCTION MANUAL CAREFULLY before attempting to operate the transceiver.

SAVE THIS INSTRUCTION MANUAL. This manual contains important safety and operating instructions for the IC-7000.

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠ WARNING	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk or personal injury, fire or electric shock.

FOREWORD

We understand that you have a choice of many different radios in the market place. We want to take a couple of moments of your time to thank you for making the IC-7000 your radio 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-7000.

◇ *FEATURES*

- ❍ *IF DSP features*
- ❍ *All mode capability covering 160–2 m and 70 cm (depending on version)*
- ❍ *Compact with detachable front panel*
- ❍ *±0.5 ppm of high frequency stability*
- ❍ *Baudot RTTY demodulator*
- ❍ *Simple band scope function*
- ❍ *Selectable SSB transmission passband width (For both higher and lower pass frequency)*
- ❍ *Standard voice synthesizer/voice recorder*

Spurious signals may be received near the following frequencies. These are created in the internal circuit and does not indicate a transceiver malfunction:

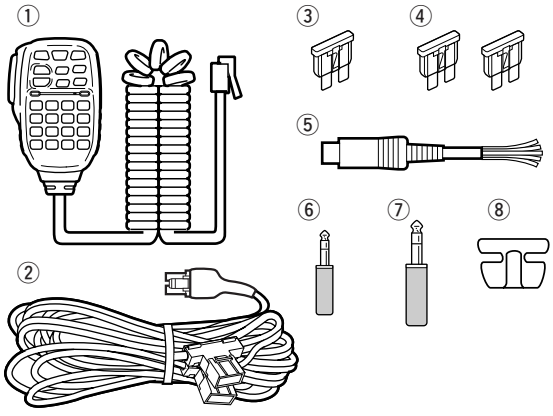
52.76497 MHz,
443.03535 MHz

SUPPLIED ACCESSORIES

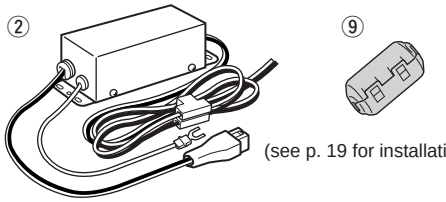
The transceiver comes with the following accessories.

	Qty.
① Hand microphone (HM-151)	1
② DC power cable* (OPC-1457)	1
or (OPC-1457R)	1
③ Spare fuse (ATC 5 A)	1
④ Spare fuse (ATC 30 A)	2
⑤ ACC cable	1
⑥ 3.5 (d) mm plug	1
⑦ 6.5 (d) mm Electronic keyer plug	1
⑧ Microphone hanger	1
⑨ Ferrite bead**	1

* Depending on versions.
**Not supplied with non-European versions.



For European versions



(see p. 19 for installation details)

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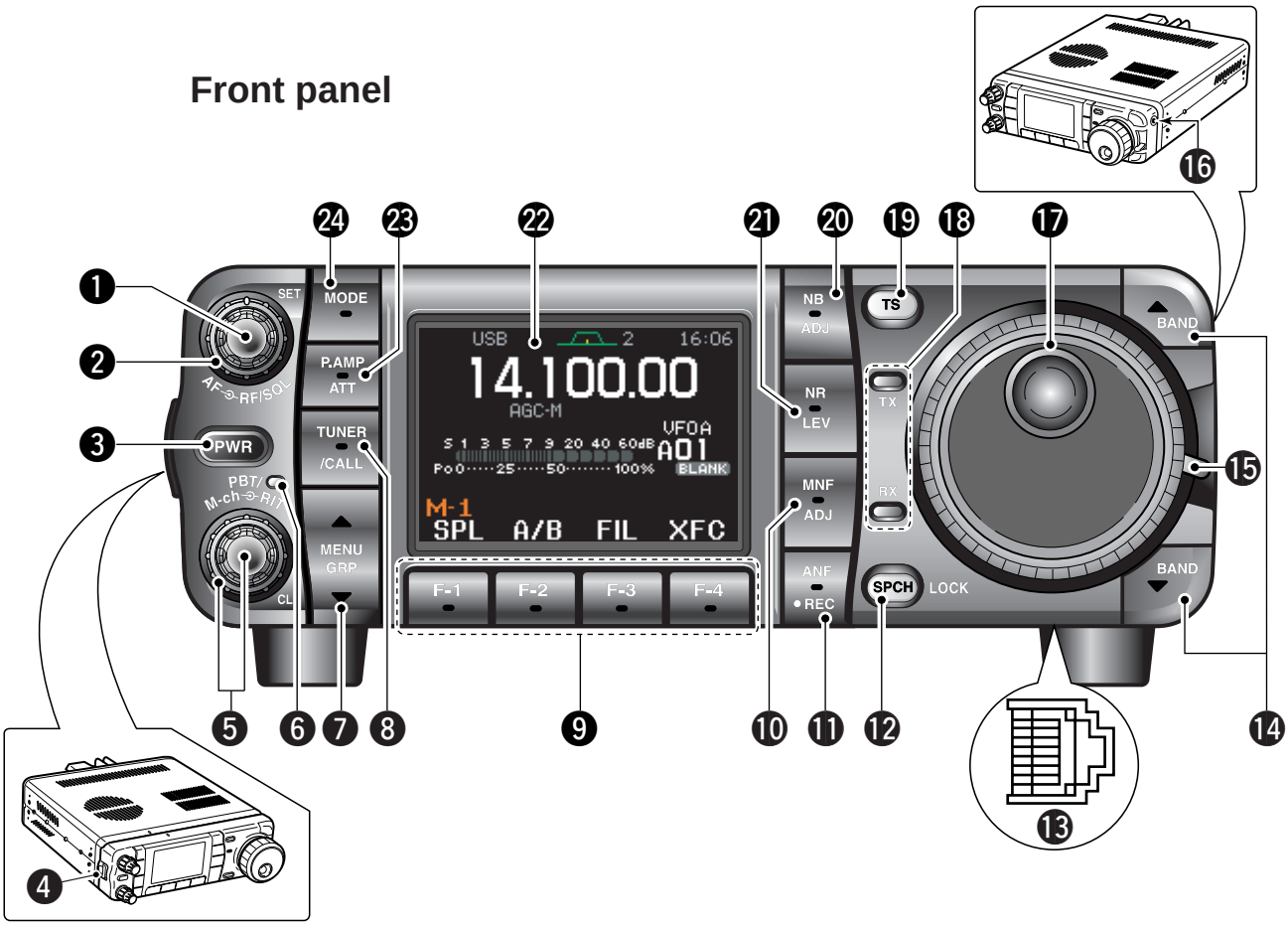
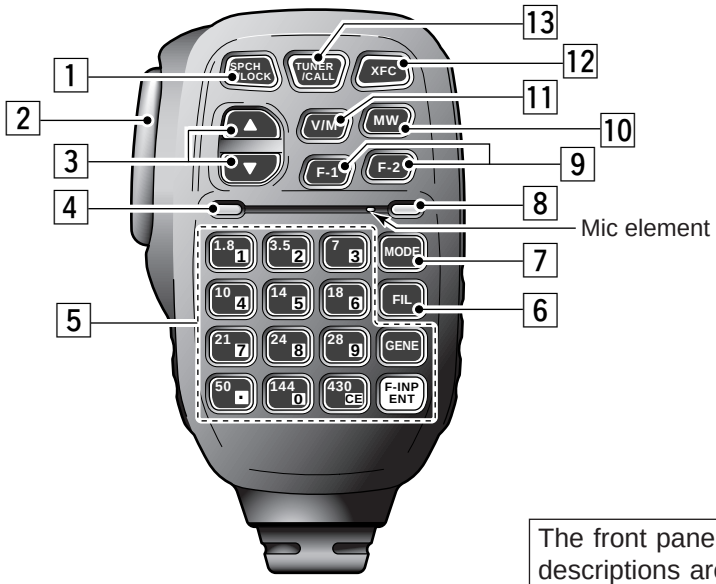
ILLUSTRATIONS

Front panel



HM-151



The front panel and HM-151's panel descriptions are descrived on pages 1 to 4, and on page 9, respectively (see the Chapter 1 'PANEL DESCRIPTION' for more details).

■ Front panel

❶ **AF GAIN CONTROL [AF]** (inner control; p. 33)

❷ **RF GAIN CONTROL/SQUELCH CONTROL [RF/SQL]** (outer control; p. 35)

❸ **POWER KEY [PWR]** (p. 25)

❹ **FRONT PANEL LATCH** (p. 16)

❺ **PASSBAND TUNING/M-ch/RIT CONTROLS [PBT/M-ch/RIT]** (pgs. 73, 77, 86, 100, 104)

❻ **TWIN PBT (M-ch/RIT) INDICATOR** (pgs. 73, 77, 86, 100)

❼ **MENU/GROUP KEYS [MENU/GRP]** (p. 151)

❽ **TUNER/CALL KEY [TUNER/CALL]** (pgs. 100, 114)

❾ **MULTI-FUNCTION KEYS [F1]/[F2]/[F3]/[F4]** (pgs. 5–8, 151)

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⓫ **AUTO NOTCH/VOICE RECORDER KEY [ANF/• REC]** (pgs. 80, 93)

⓬ **SPCH/LOCK KEY [SPCH/LOCK]** (pgs. 34, 37)

⓭ **MICROPHONE CONNECTOR** (p. 10)

⓮ **UP/DOWN (BAND) KEYS [▲(BAND)]/[▼(BAND)]**

⓯ **MAIN DIAL TENSION LATCH**

⓰ **HEADPHONE JACK [PHONES]** (p. 18)

⓱ **MAIN DIAL [DIAL]**

⓲ **RECEIVE/TRANSMIT INDICATORS [RX]/[TX]**

⓳ **TUNING STEP KEY [TS] (**pgs. 30–32)

⓴ **NOISE BLANKER KEY [NB/ADJ]** (p. 78)

㉑ **NOISE REDUCTION KEY [NR/LEV]** (p. 79)

㉒ **FUNCTION DISPLAY** (p. 13)

㉓ **PRE AMP/ATTENUATOR KEY [P.AMP/ATT]** (p. 72)

㉔ **MODE KEY [MODE]** (p. 34)

■ Microphone (HM-151)

1 **SPCH/LOCK KEY [SPCH/LOCK]** (p. 34, 37)

2 **PTT SWITCH [PTT]** (p. 37)

3 **UP/DOWN SWITCHES [▲]/[▼]**

4 **TRANSMIT INDICATOR** (p. 37)

5 **KEYPAD** (pgs. 28, 29)

6 **FILTER SELECTION [FIL]** (p. 75)

7 **MODE KEY [MODE]** (p. 34)

8 **POWER INDICATOR**

9 **PROGRAMMABLE FUNCTION KEYS [F-1]/[F-2]**

10 **MEMORY WRITE [MW]** (pgs. 101, 102)

11 **VFO/MEMORY SELECTION [V/M]** (pgs. 27, 100, 107)

12 **TRANSMIT FREQUENCY CHECK [XFC]** (pgs. 65, 89)

13 **TUNER/CALL KEY [TUNER/CALL]** (pgs. 100, 114)

PRECAUTIONS

⚠ **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 HIGH VOLTAGE! NEVER** touch an antenna or internal antenna connector during transmission. This may result in an electrical shock or burn.

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

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

⚠ **NEVER** apply more than 16 V DC, such as a 24 V battery, to the [DC13.8V] socket on the transceiver rear panel. This could cause a fire or damage the transceiver.

⚠ **NEVER** let metal, wire or other objects touch any internal part or connectors on the rear panel of the transceiver. This may result in an electric shock or this could cause a fire or damege the transceiver.

⚠ **NEVER** connect or use the supplied HM-151 (microphone) with other transceiver. This could cause damage to the transceiver. The HM-151 is designed for use with the IC-7000 **ONLY**.

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

AVOID using or placing the transceiver in areas with temperatures below –10°C (+14°F) or above +60°C (+140°F). Be aware that temperatures on a vehicle's dashboard can exceed +80°C (+176°F), resulting in permanent damage to the transceiver if left there for extended periods.

AVOID placing the transceiver in excessively dusty environments or in direct sunlight.

AVOID placing the transceiver against walls or putting anything on top of the transceiver. This will obstruct heat dissipation.

Place unit in a secure place to avoid inadvertent use by children.

During mobile operation, **NEVER** place the transceiver where air bag deployment may be obstructed.

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

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.

Make sure the transceiver power is OFF before starting the vehicle engine. This will avoid possible damage to the transceiver by ignition voltage spikes.

During maritime mobile operation, keep the transceiver and microphone as far away as possible from the magnetic navigation compass to prevent erroneous indications.

BE CAREFUL! The rear panel will become hot when operating the transceiver continuously for long periods.

BE CAREFUL! If a linear amplifier is connected, set the transceiver's RF output power to less than the linear amplifier's maximum input level, otherwise, the linear amplifier will be damaged.

Use Icom microphones only (supplied or optional). Other manufacturer's microphones have different pin assignments, and connection to the IC-7000 may damage the transceiver.

For U.S.A. only

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

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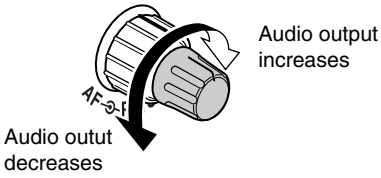
See the illustration of the Front panel on page i-2.

■ Front panel

❶ AF GAIN CONTROL [AF(SET)] (inner control; p. 33)

➥ Rotate to vary the audio output level from the speaker or headphones.



Push momentarily to enter the set mode menu.

- Push again to exit the set mode menu.

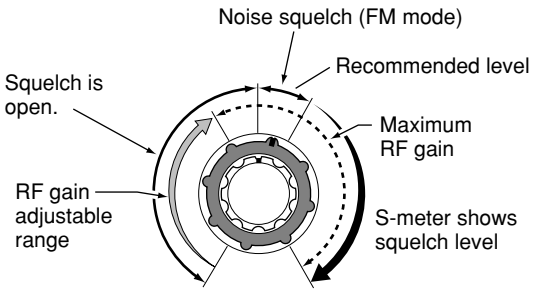
❷ RF GAIN CONTROL/SQUELCH CONTROL [RF/SQL] (outer control; p. 35)

Adjusts the RF gain and squelch threshold level. The squelch, when closed, mutes the speaker or headphones when no signal is received, reducing noise.

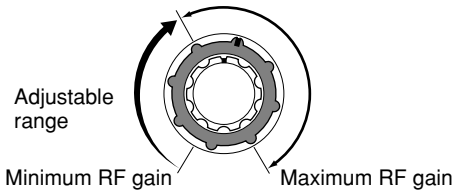
- The squelch is particularly effective for FM mode. It is also available in other modes.
- 12 to 1 o'clock position is recommended for any setting of the **[RF/SQL]** control.
- The control can be set to 'Auto' (RF gain control in SSB, CW and RTTY; squelch control in AM, FM and WFM) or squelch control (RF gain is fixed at maximum) in the miscellaneous (others) set mode as follows. (p. 129)

MODE	SET MODE SELECTION		
	Auto	SQL	RF + SQL
SSB, CW RTTY	RF GAIN	SQL	RF + SQL
AM, FM WFM	SQL	SQL	RF + SQL

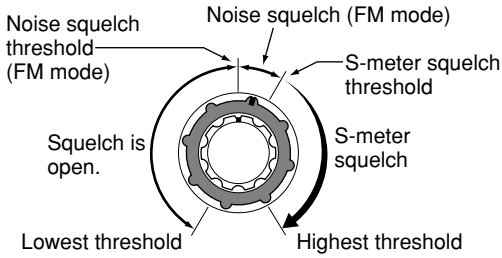
• When functioning as RF gain/squelch control



• When functioning as RF gain control
(Squelch is fixed open; SSB, CW, RTTY only)



• When functioning as squelch control
(RF gain is fixed at maximum.)



❸ POWER KEY [PWR] (p. 25)

➥ While transceiver's power is OFF, push to turn the power ON.

- Turn the DC power supply ON in advance.

➥ While transceiver's power is ON, push and hold for 1 sec. to turn the power OFF.

❹ FRONT PANEL LATCH (p. 16)

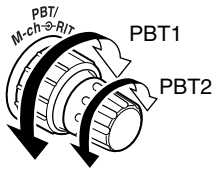
Pull away from the transceiver (towards yourself when looking at the front of the transceiver) to detach the front panel from the main body of the transceiver.

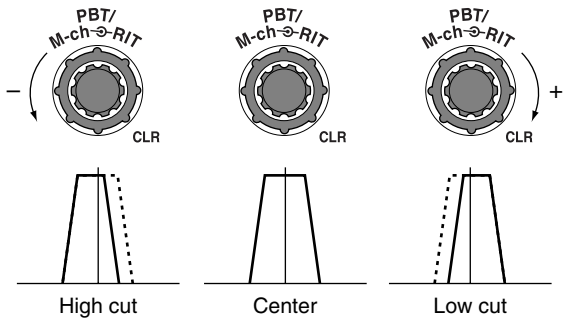
❺ PASSBAND TUNING/M-ch/RIT CONTROLS [PBT/M-ch/RIT]

➥ Push inner control to toggle the twin Passband Tuning (PBT) or memory channel/RIT function ON and OFF.

➥ While Twin PBT is selected (p. 77):

- Adjusts the receiver's DSP filter passband width.
  - Passband width and shift frequency are displayed on the LCD.
  - The default variable range is half of the IF filter passband width. 25 Hz step is available.
- Push and hold inner control for 1 sec. to return the PBT to default settings.



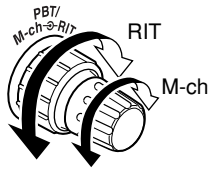


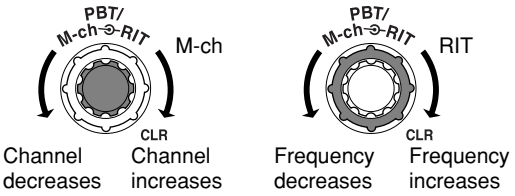
✔ What is the PBT control?

PBT electronically narrows the IF passband width to reject interference. This transceiver uses DSP to implement PBT.

➥While M-ch/RIT is selected:

- Rotate the inner control to select a memory channel number (p. 100).
- Push and hold inner control for 1 sec. to turn the RIT/⊿TX mode ON (pgs. 73, 86).
  - Push **[▼(MENU/GRP)]** to exit the RIT/⊿TX mode.
- While the RIT/⊿TX mode is OFF:
  Rotate outer control to select a memory bank (p. 104).
- While the RIT/⊿TX is ON:
  Rotate outer control to shift the receive or transmit frequency (pgs. 73, 86).
  - "RIT" or "⊿TX" indicators appear when the RIT or ⊿TX function is activate, respectively.
  - The shift frequency range is ± 9.999 kHz in 1 Hz steps (or ±9.99 kHz in 10 Hz steps).





- When the RIT or ⊿TX function is ON, push and hold **[F-1 RIT]** or **[F-2 ⊿TX]** for 1 sec. to add or subtract the frequency shift to the display frequency.

✔ What is the RIT function?

RIT (Receiver Incremental Tuning) shifts the receive frequency without shifting the transmit frequency.

This is useful for fine tuning for stations calling you off frequency or when you prefer to listen to slightly different-sounding voice characteristics, etc.

✔ What is the ⊿TX function?

The ⊿TX shifts the transmit frequency without shifting the receive frequency. This is useful for simple split frequency operation in CW, etc.

❻ TWIN PBT (M-ch/RIT) INDICATOR

(pgs. 73, 77, 86, 100)

➥Indicates the status of **[PBT/M-ch/RIT]** (❺) as the Twin PBT function or memory channel/RIT control.

- Indicator is green when the Twin PBT is selected.
- Indicator is off when the M-ch/RIT is selected.

❼ MENU/GROUP KEYS [MENU/GRP] (p. 151)

➥Push either key one or more times to select menus within a menu group (M, S or G (Graphic)).

➥Push and hold for 1 sec. to select one of the three menu groups: M-1 to M-3, S-1 to S-3 and G-1 (Scope) to G-3 (SWR meter).

❽ TUNER/CALL KEY [TUNER/CALL]

➥During HF/50 MHz operation (p. 114):

- Push momentarily to toggle the automatic antenna tuner function ON and OFF.
  - An optional antenna tuner must be connected.
  - "TUNE" indicator appears when the tuner is ON.
- Push and hold for 2 sec. to manually tune the antenna.
  - An optional antenna tuner must be connected.
  - "TUNE" indicator appears when the tuner is ON.

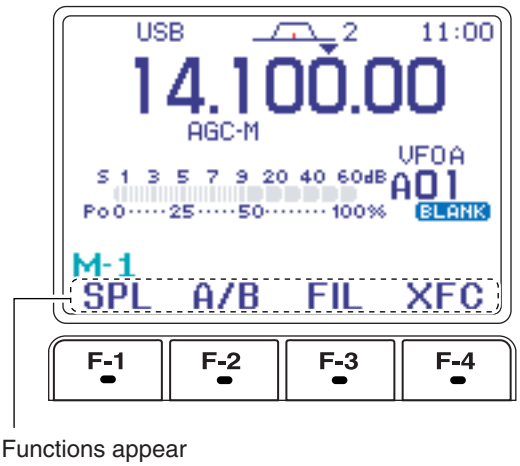
➥During 144/430 MHz operation (p. 100):
Push momentarily to select the call channel (or return to the previous channel/frequency when the call channel is already selected).

- "C1" is the 144 MHz call channel and "C2" is the 430 MHz call channel.

❾ MULTI-FUNCTION KEYS [F-1]/[F-2]/[F-3]/[F-4]

➥Push to select the function indicated in the LCD display above these keys. (pgs. 5–8, 151)

- Functions vary depending on the active menu.



See the illustration of the Front panel on page i-2.

Count on us!

IC-7000
#02
(Europe)

<Intended Country of Use>
■ GER □ FRA □ ESP ■ SWE
■ AUT ■ NED ■ POR ■ DEN
□ GBR ■ BEL ■ ITA ■ FIN
■ IRL ■ LUX □ GRE □ SUI
□ NOR

IC-7000
#03
(France)

<Intended Country of Use>
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□ IRL □ LUX □ GRE □ SUI
□ NOR

IC-7000
#04
(Spain)

<Intended Country of Use>
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□ IRL □ LUX □ GRE □ SUI
□ NOR

IC-7000
#09
(Italy)

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□ IRL □ LUX □ GRE □ SUI
□ NOR

IC-7000
#10
(UK)

<Intended Country of Use>
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□ AUT □ NED □ POR □ DEN
■ GBR □ BEL □ ITA □ FIN
□ IRL □ LUX □ GRE □ SUI
□ NOR

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