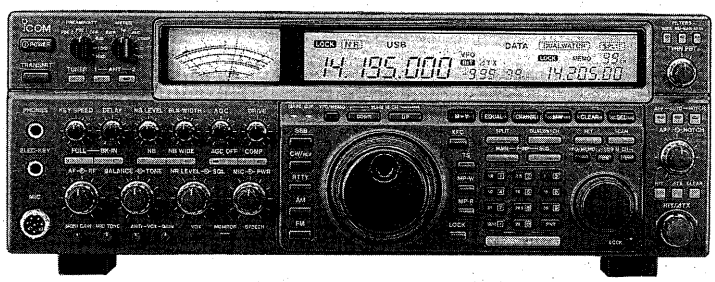
ICOM

INSTRUCTION MANUAL

HF TRANSCEIVER

IC-775DSP
IC-775



Icom Inc.

IMPORTANT

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

SAVE THIS INSTRUCTION MANUAL— This instruction manual contains important safety and operating instructions for the IC-775DSP and IC-775.

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 of personal injury, fire or electric shock.
DSP	The function requires the DSP unit. Utilized with the IC-775DSP and IC-775 with an optional UI-100 DSP UNIT. This manual uses "DSP-equipped type" for these transceivers.

PRECAUTIONS

⚠ **NEVER** apply AC voltage that exceeds the suggested voltage for each version. This could cause a fire or ruin the transceiver.

⚠ **NEVER** use non-rated fuses. Non-rated fuses could cause a fire or ruin the transceiver.

⚠ **NEVER** let metal, wire or other objects touch any internal components.

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

NEVER allow children to touch the transceiver.

⚠ **CAUTION!** The socket-outlet must be near the transceiver and must be easily accessible.

⚠ **ACHTUNG!** Die Steckdose muß nahe bei diesem Gerät angebracht und zugänglich sein.

AVOID using or placing the transceiver in areas with temperatures below −10℃ (+14℉) or above +60℃ (+140℉).

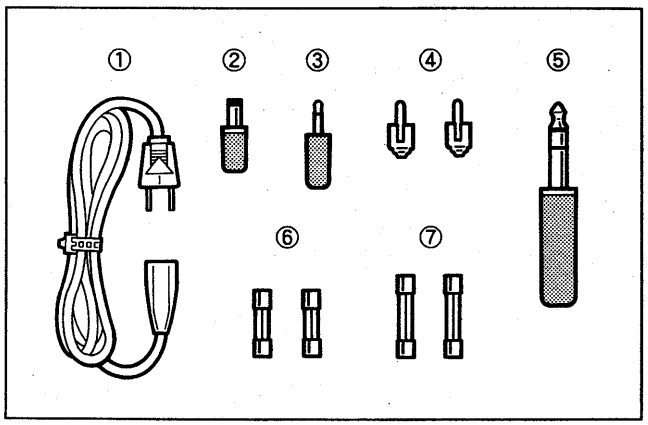
AVOID placing the transceiver in excessively dusty environments or in direct sunlight.

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

In 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 heatsink will become hot when operating the transceiver continuously for long periods.

UNPACKING



Accessories included with the transceiver: **Qty.**

① AC power cable ····· 1
② Mini DC power plug (for [DC OUT]) ····· 1
③ External speaker plug (for [EXT SP]) ····· 1
④ Pin plugs (RCA plugs) ····· 2
⑤ CW keyer plug ····· 1
⑥ Spare fuses (AC line)*¹ ····· 2
⑦ Spare fuses (13.8 V DC line)*² ····· 2

*¹ 12 A FGMB fuse for 100 – 120 V versions
5 A high breaking capacity fuse for 220 – 240 V versions
*² 2 A FGB fuse for 100 – 120 V versions
2 A high breaking capacity fuse for 220 – 240 V versions

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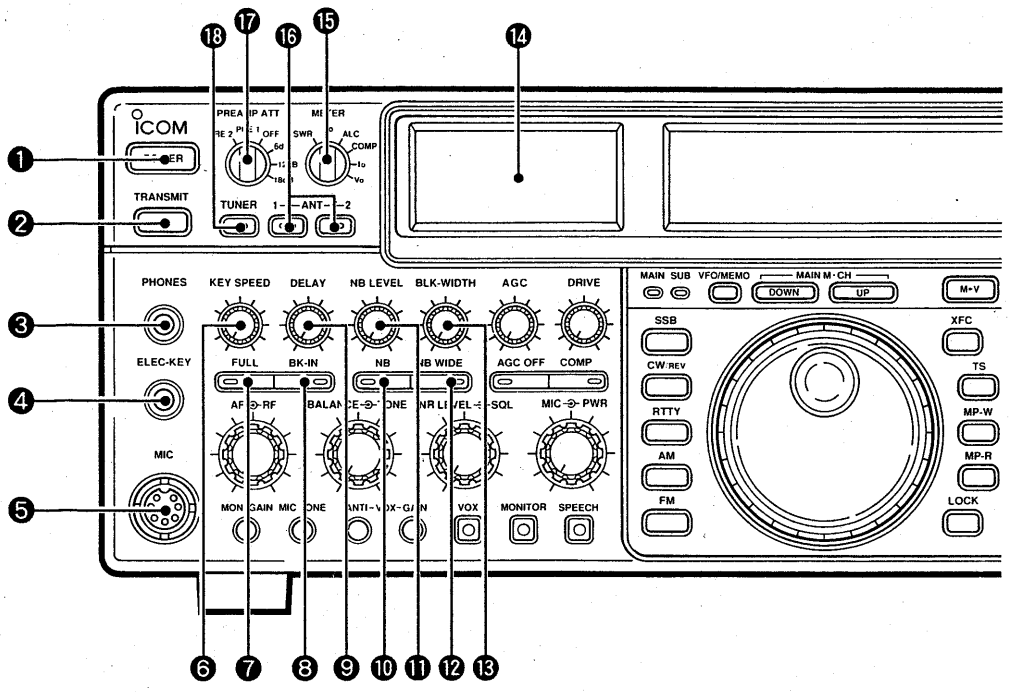
1 PANEL DESCRIPTION

■ Front panel



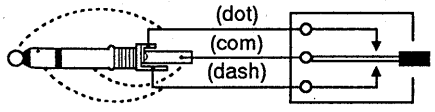
❶ POWER SWITCH [POWER]
Turns power ON and OFF.

NOTE: The function display does not appear immediately when the transceiver is extremely cold. The backlight intensity will take a few minutes to stabilize.

❷ TRANSMIT SWITCH [TRANSMIT]
Selects transmitting or receiving.

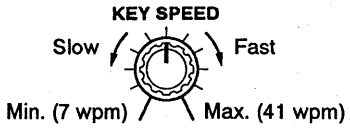
❸ HEADPHONE JACK [PHONES]
Accepts headphones with 4–16 Ω impedance.
- When headphones are connected, the internal speaker or connected external speaker does not function.

❹ ELECTRONIC KEYER JACK [ELEC-KEY] (p. 37)
Accepts a paddle to activate the internal electronic keyer.
- The electronic keyer can be bypassed to connect a straight key or external electronic keyer in P-set mode. (p. 42)
- A straight key jack is separately available on the rear panel. See [KEY] on p. 11.
- Keyer polarity (dot and dash) can be reversed in P-set mode. (p. 42)
- 3-channel memory keyer is available for your convenience. (p. 37)

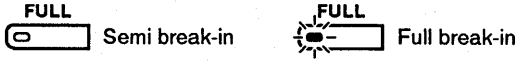


❺ MICROPHONE CONNECTOR [MIC]
Accepts an optional microphone described on p. 62.
- See p. 13 for microphone connector information.

❻ ELECTRONIC CW KEYER SPEED CONTROL [KEY SPEED]
Adjusts the internal electronic CW keyer's speed.



❼ FULL BREAK-IN SWITCH [FULL]
Selects full break-in or semi break-in operation for CW operation when [BK-IN] is turned ON.

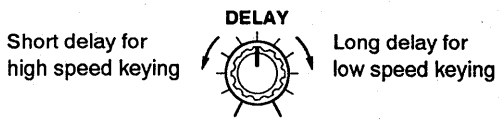


FUNCTION

Both **semi** and **full break-in** toggle transmit and receive with CW keying. Full break-in (QSK) can monitor the receive signal during keying.

❽ BREAK-IN SWITCH [BK-IN] (p. 23)
Turns the break-in operation for CW mode ON and OFF.

⑨ VOX/SEMI BREAK-IN DELAY CONTROL [DELAY] (p. 36)
Adjusts the transmit-to-receive switching delay time for VOX and CW semi break-in operations.

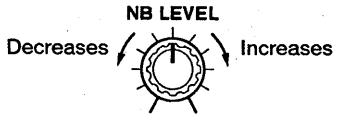


⑩ NOISE BLANKER SWITCH [NB] (p. 30)
Turns the noise blanker ON and OFF.

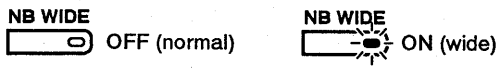
FUNCTION

The **noise blanker** reduces pulse-type noise such as that generated by automobile ignition systems. This function in not effective for AM and FM, or non-pulse-type noise.

⑪ NOISE BLANKER LEVEL CONTROL [NB LEVEL] (p. 30)
Adjusts the noise blanker threshold level.



⑫ NOISE BLANKER WIDE SWITCH [NB WIDE] (p. 30)
Selects the blanking time of the noise blanker circuit for a normal or wide blank width.
- This switch can be assigned to the noise reduction on/off switch in P-set mode. (p. 43)

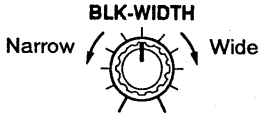


FUNCTION

The **wide blank width** effectively reduces wide pulse-type noise known as "woodpecker" noise and key clicks from strong CW signals on nearby frequencies.

⑬ BLANK WIDTH CONTROL [BLK-WIDTH] (p. 30)
Adjusts the blank width of the wide noise blanker circuit. To suppress echo noise from woodpecker signals, etc., rotate [BLK-WIDTH] clockwise. The setting is effective when [NB WIDE] is ON.

NOTE: When [BLK-WIDTH] is turned too far clockwise, receive audio is also blanked.



⑭ S/RF METER (p. 36)
Shows the signal strength while receiving. For transmit meter readings, see the following table.

⑮ METER SWITCH [METER] (p. 36)
Selects the S/RF meter functions during transmission as follows:

SWITCH POSITION	MEASUREMENT
[SWR]	Indicates the SWR over the transmission line.
[Po]	Indicates the relative RF output power in watts.
[ALC]	Indicates the ALC level. The ALC circuit begins to activate when the RF output power reaches a preset level.
[COMP]	Indicates the compression level when the speech compressor is in use.
[ID]	Indicates the drain's current of the final FET.
[VD]	Indicates the drain's terminal voltage of the final FET.

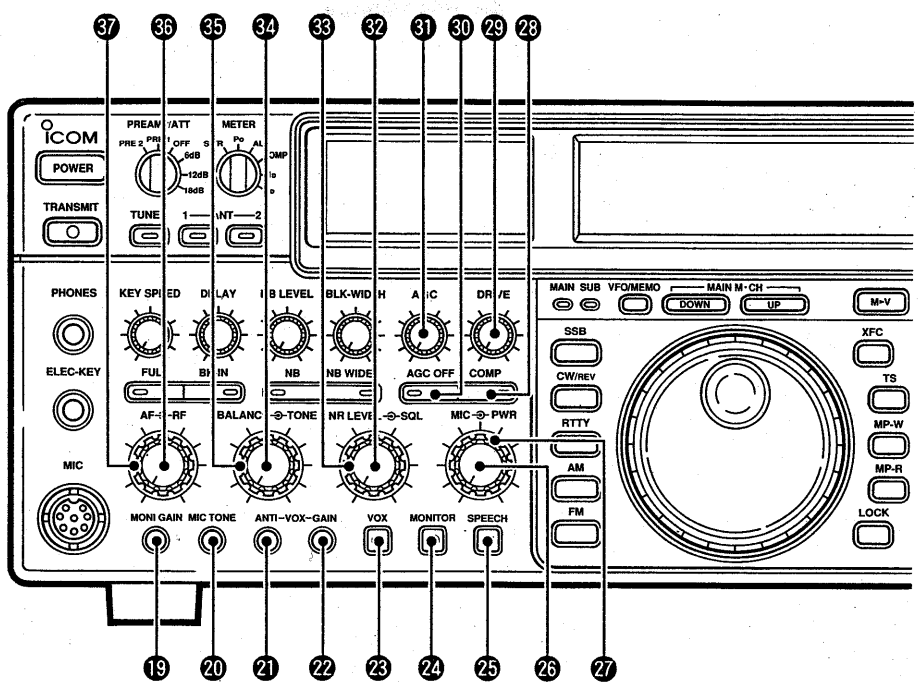
⑯ ANTENNA SWITCHES [ANT1]/[ANT2] (p. 45)
Select antenna 1 or 2.
- Antenna selection can be programmed depending on the band selection such as above the 21 MHz band and below the 18 MHz band, etc.

⑰ PREAMP/ATTENUATOR SWITCH [PREAMP/ATT]
Selects one of 2 receive RF preamps, one of 6 dB, 12 dB or 18 dB attenuators, or bypasses them.
- [PRE1] activates the 10 dB preamp for HF all bands.
- [PRE2] activates the 16 dB high-gain preamp for 21 MHz band and above.

FUNCTION

The **preamp** amplifies received signals in the front end circuit to improve the S/N ratio and sensitivity. Set this switch to [PRE1] or [PRE2] when receiving weak signals. The **attenuator** prevents a desired signal from distorting when very strong signals are near the desired frequency or when very strong electric fields, such as from a broadcasting station, are near your location.

⑱ ANTENNA TUNER SWITCH [TUNER] (p. 39)
- Turns the antenna tuner ON or OFF (bypass) when pushed momentarily.
- Starts to tune the antenna tuner manually when pushed for 2 sec.
  - When the tuner cannot tune the antenna, the tuning circuit is bypassed automatically after 20 sec.



⑲ **MONITOR GAIN CONTROL [MONI GAIN]** (p. 35)
Varies the volume of CW sidetone, optional voice synthesizer and monitor output (when [MONITOR] is pushed IN).

⑳ **MIC TONE CONTROL [MIC TONE]**
Adjusts the transmit audio response.

㉑ **ANTI-VOX CONTROL [ANTI-VOX]** (p. 36)
Adjusts the VOX deactivate level to prevent unwanted VOX control from the speaker audio.

㉒ **VOX GAIN CONTROL [VOX-GAIN]** (p. 36)
Adjusts the transmit/receive switching threshold level for VOX operation.

㉓ **VOX SWITCH [VOX]** (p. 36)
Turns the VOX function for phone (SSB, AM and FM) operation ON and OFF.

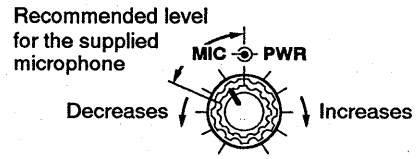
FUNCTION

The **VOX function** (voice operated transmission) starts transmission without pushing the transmit switch or PTT switch when you speak into the microphone; then, automatically returns to receive when you stop speaking.

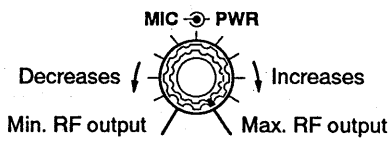
㉔ **MONITOR SWITCH [MONITOR]** (p. 35)
Monitors your transmitted IF signal.
- The CW sidetone functions when [MONITOR] is OFF in CW mode.

㉕ **SPEECH SWITCH [SPEECH]** (p. 44) *UT-66*
Announces the MAIN readout* frequency when an optional UT-66 is installed.
* SUB readout freq. when pushed together with [XFC].

㉖ **MIC GAIN CONTROL [MIC]** (inner control) (p. 36)
Adjusts microphone input gain.



㉗ **RF POWER CONTROL [PWR]** (outer control)
Continuously varies the RF output power from minimum (5 W* for QRP operation) to maximum (200 W*).
* AM mode: 5 W to 50 W



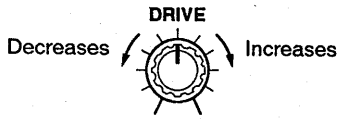
㉘ **SPEECH COMPRESSOR SWITCH [COMP]** (p. 36)
Turns the speech compressor ON and OFF.

FUNCTION

The **speech compressor** compresses the transmitter audio input to increase the average audio output level. Therefore, talk power is increased. This function is effective for long distance communication or when propagation conditions are poor.

㉙ DRIVE CONTROL [DRIVE] (p. 36)

Adjusts the output level of the transmitter's drive stage. Activates in CW, RTTY; and in SSB mode with [COMP] ON.



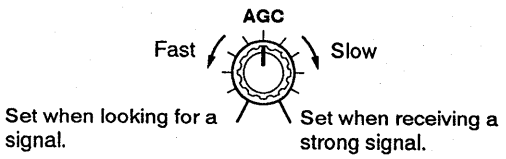
㉚ AGC OFF SWITCH [AGC OFF]

Deactivates the AGC circuit. Use when receiving a very weak signal near a strong signal.

NOTE: While [AGC OFF] is ON, the S-meter does not function.

㉛ AGC CONTROL [AGC]

Adjusts the time constant of the AGC circuit when [AGC OFF] is not turned ON.



FUNCTION

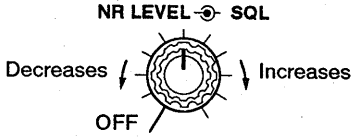
The **AGC** controls receiver gain to produce a constant audio output level even when the received signal strength is varied by fading, etc. Rotate [AGC] max. counterclockwise for tuning and adjust it clockwise depending on the receiving condition. [AGC] control does not function in FM mode.

㉜ NOISE REDUCTION LEVEL CONTROL [NR LEVEL] (inner control) (p. 29)

For (DSP) equipped type

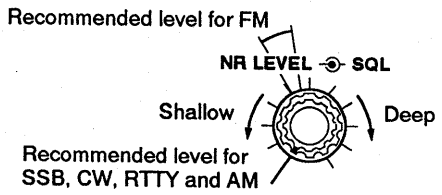
Adjusts the noise reduction level or turns the noise reduction OFF. Set for maximum readability.

- "NR" appears when the noise reduction is in use.
- No function for the IC-775 without a DSP unit.



㉝ SQUELCH CONTROL [SQL] (outer control)

- Adjusts the squelch threshold level. (p. 22)
  - Deep rotation of the control moves the S-meter pointer. The pointer shows the signal strength which can open the squelch.
- When CW pitch control is assigned to [SQL] in P-set mode, adjusts the received or monitored CW audio tone without changing the displayed frequency. (pgs. 29, 43)
  - The squelch cannot be closed in this case.



FUNCTION

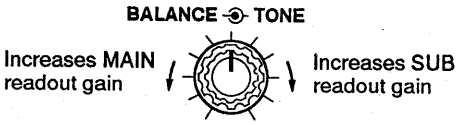
The **squelch** removes noise output from the speaker (closed condition) when no signal is received. The squelch is particularly effective for FM. It is also available for other modes.

SETTING PROCEDURE

Squelch setting: When operating in FM, first rotate the control fully counterclockwise. Then, rotate the control clockwise to the point where the noise just disappears. This is the best position. The squelch does not open for weak signals when it is set too deep.

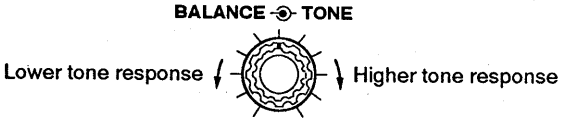
㉞ DUALWATCH BALANCE CONTROL [BALANCE] (inner control) (p. 35)

Adjusts the receiver gain balance of MAIN and SUB readout frequencies while in dualwatch.



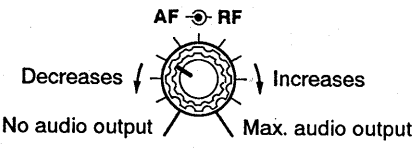
㉟ TONE CONTROL [TONE] (outer control)

Varies the receive audio response.



㊱ AF GAIN CONTROL [AF] (inner control) (p. 22)

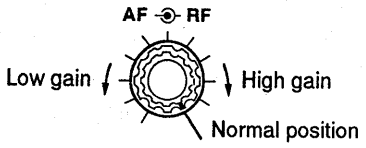
Varies the audio output level.

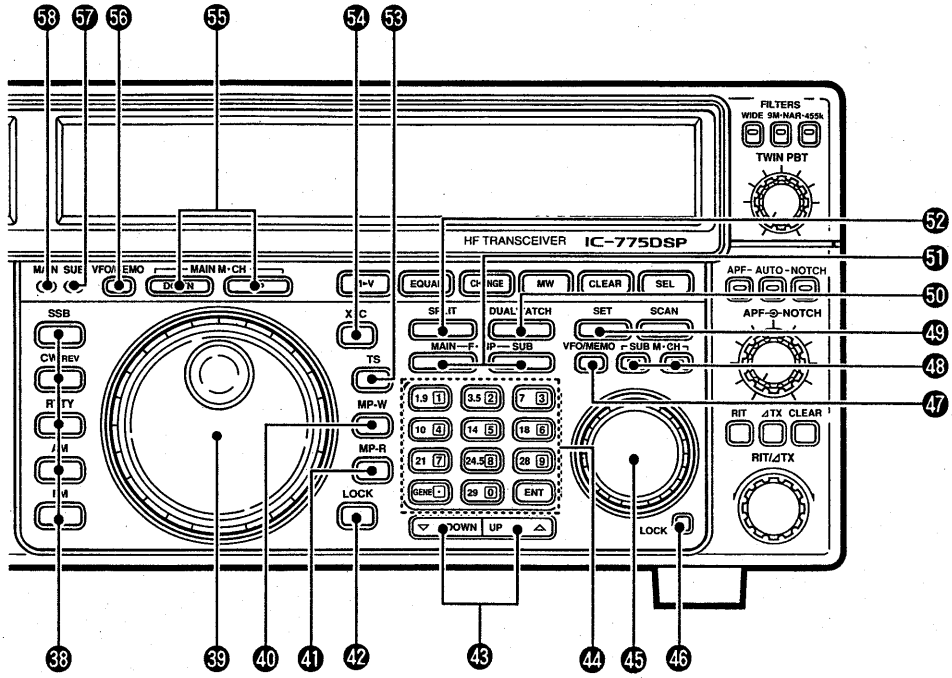


㊲ RF GAIN CONTROL [RF] (outer control)

Adjusts the receiver gain.

- This control should be set to the maximum clockwise position for normal use.
- Shallow rotation of the control moves the S-meter pointer. The pointer shows the signal strength which can be received.





㊳ MODE SWITCHES (pgs. 22, 23)
- Select the desired operating mode.
  - Announces the selected mode when an optional UT-66 is installed. (p. 44)

SSB
- Selects USB and LSB mode alternately.
- Selects USB/LSB DATA mode when pushed for 2 sec. in SSB modes.

CW/REV
- Selects CW and CW-R (CW reverse) mode alternately. (p. 31)
- Activates memory keyer when pushed for 2 sec. in CW modes. (p. 37)

- Select DATA modes when pushed for 2 sec., except in CW modes.
  - Data modes cut the [MIC] input depending on H-set mode condition. (p. 47)

㊴ MAIN DIAL (p. 25)
Changes the MAIN readout frequency, etc.

㊵ MEMO PAD-WRITE SWITCH [MP-W] (p. 27)
Programs the displayed frequency and operating mode into a memo pad.
- The 5 most recent entries remain in memo pads.
- The memo pad capacity can be expanded from 5 to 10 in H-set mode for your convenience. (p. 45)

㊶ MEMO PAD-READ SWITCH [MP-R] (p. 27)
Each push calls up a frequency and operating mode in a memo pad. The 5 (or 10) most recently programmed frequencies and operating modes can be recalled, starting from the most recent.

㊷ MAIN DIAL LOCK SWITCH [LOCK] (p. 40)
Turns the main dial lock function ON and OFF.
- The function electronically locks the main dial.
- "LOCK" appears above the MAIN readout while the function is ON.

㊸ UP/DOWN TUNING SWITCHES [△UP]/[▽DOWN] (p. 26)
Change the displayed frequency up or down in programmed steps (1 kHz to 1 MHz).

㊹ KEYPAD (p. 25)
- Pushing a key selects the operating band.
  - [GENE] selects the general coverage band.
- Pushing the same key 2 or 3 times calls up other stacked frequencies in the band.
  - Icom's TBSR (Triple Band Stacking Register) memorizes 3 frequencies in each band. (p. 25)
- After pushing MAIN or SUB [F-INP], enters your desired frequency. Pushing [ENT] is necessary at the end.
  - (e.g. to enter 14.195 MHz, push [F-INP][1][4][•][1][9][5][ENT].)

㊺ SUB DIAL (pgs. 33, 35)
Changes the SUB readout frequency during dual-watch or split frequency operation.

㊻ SUB DIAL LOCK SWITCH [LOCK] (p. 40)
Turns the sub dial lock function ON and OFF.
- The function electronically locks the sub dial.
- "LOCK" appears above the SUB readout while the function is ON.

㊼ VFO/MEMORY SWITCH for SUB readout [VFO/MEMO]
Toggles SUB readout operating mode between the VFO mode and memory mode.

㊽ MEMORY UP/DOWN SWITCHES for SUB readout [SUB M-CH DN]/[SUB M-CH UP]
- Select the memory channel number for SUB readout.
  - Memory channels can be selected both in the VFO and memory modes.
- Change the transmit frequency in programmed kHz steps while in channelized split operation. (p. 34)

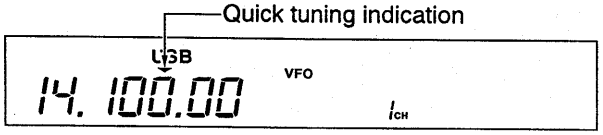
㊾ SET SWITCH [SET] (p. 41)
- Enters P-set (push-set) mode when pushed.
- Enters H-set (hold-set) mode when pushed and held for 2 sec.
  - The set modes are used to adjust infrequently changed settings.

㊿ DUALWATCH SWITCH [DUALWATCH] (p. 35)
- Turns the dualwatch function ON and OFF when pushed.
- Turns the dualwatch function ON and equalizes the SUB readout frequency to the MAIN readout when pushed for 2 sec. (p. 46)

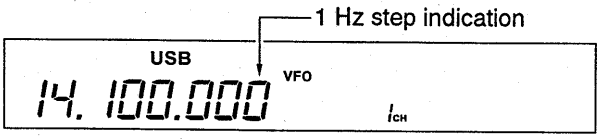
(51) FREQUENCY-INPUT SWITCHES [MAIN F-INP]/[SUB F-INP] (p. 25)
Enable the keypad to input a frequency.
- The frequency readout disappears when pushed; and the keypad can be used to enter a frequency directly.
- To cancel the frequency input, push this switch again.

(52) SPLIT SWITCH [SPLIT] (p. 33)
- Turns the split frequency function ON and OFF when pushed momentarily.
  - Transmit frequency and "SPLIT" appear in the SUB readout. The SUB readout blinks 4 times to show the SUB readout is used for transmitting when the function is ON.
- Turns the split frequency function ON and equalizes the SUB readout frequency (transmit frequency) to the receive frequency when pushed for 2 sec.
  - Split shift frequency can be pre-programmed to save time when DX'ing. (p. 33)
  - When pushed together with [XFC] for 2 sec., the MAIN readout frequency (receive frequency) is equalized to the transmit frequency.
- Once the split frequency function is ON, equalizes the transmit frequency to the receive frequency and enters channelized split operation when pushed for 2 sec.
- Activates the subaudible tone encoder and split frequency function when pushed in FM mode.

(53) QUICK TUNING SWITCH [TS] (p. 26)
- Turns the quick tuning step ON and OFF.
  - While this indicator is displayed, the frequency can be changed in programmed kHz steps.
  - The SUB readout frequency is also changed in the programmed kHz steps.



- When pushed for 2 sec., turns the 1 Hz step ON and OFF.
  - 1 Hz indication appears in the MAIN readout and the frequency can be changed in 1 Hz steps.
  - The SUB readout frequency can also be changed in 1 Hz steps.



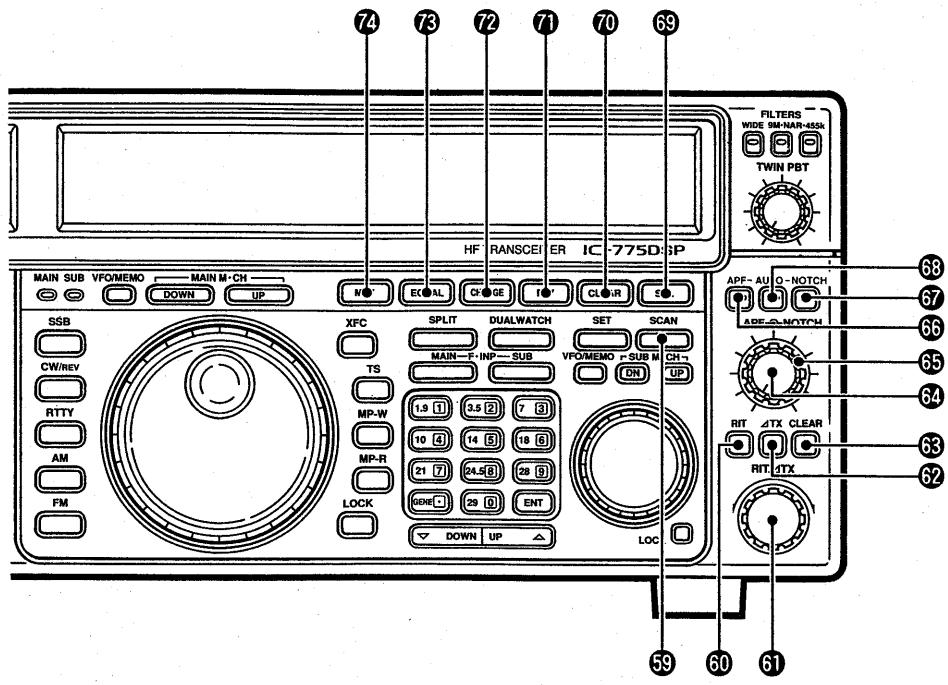
(54) TRANSMIT FREQUENCY CHECK SWITCH [XFC] (pgs. 33, 34, 38)
Monitors the transmit frequency when pushed and held when the split frequency function is ON.
- While pushing this switch, the transmit frequency can be changed with the main dial, keypad, memo pad, or the [△UP]/[▽DOWN] switches.

(55) MEMORY UP/DOWN SWITCHES for MAIN readout [MAIN M-CH DOWN]/[MAIN M-CH UP]
Select the memory channel number for MAIN readout. (p. 49)
- Memory channels can be selected both in the VFO and memory modes.

(56) VFO/MEMORY SWITCH for MAIN readout [VFO/MEMO] (p. 49)
Toggles MAIN readout operating mode between the VFO mode and memory mode.

(57) SUB TX/RX INDICATOR [SUB]
- Lights up in green while receiving a signal on the SUB readout and when the squelch is open.
- Lights up in red while transmitting on the SUB readout frequency during split frequency operation.

(58) MAIN TX/RX INDICATOR [MAIN]
- Lights up in green while receiving a signal on the MAIN readout and when the squelch is open.
- Lights up in red while transmitting on the MAIN readout frequency.



59 SCAN SWITCH [SCAN] (p. 53)
Starts and stops a scan.
- In the VFO mode, starts and stops programmed scan.
- In the memory mode, starts and stops memory scan.

60 RIT SWITCH [RIT] (p. 32)
Turns the RIT function ON and OFF.
- " RIT " is indicated when the function is ON.
- Use the [RIT/⊿TX] control to vary the RIT frequency.
- The RIT function can be turned ON even when the ⊿TX function is ON.
- The RIT range is ±9.999 kHz.
- The shift frequency is added to the operating frequency when pushed for 2 sec.

FUNCTION

RIT (Receiver Incremental Tuning) shifts the receive frequency up to ±9.999 kHz in 1 Hz steps (or 10 Hz steps) without shifting the transmit frequency.

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

61 RIT/⊿TX CONTROL [RIT/⊿TX] (p. 32)
Shifts the receive and/or transmit frequency while the RIT and/or ⊿TX functions are ON.
- Rotate the control clockwise to increase the receive/transmit frequency, or rotate the control counterclockwise to decrease the receive/transmit frequency.

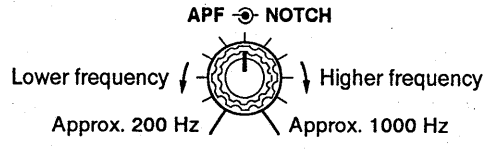
62 ⊿TX SWITCH [⊿TX] (p. 32)
Turns the ⊿TX function ON and OFF.
- "⊿TX" is indicated when the function is ON.
- Use the [RIT/⊿TX] control to vary the ⊿TX frequency.
- The ⊿TX function can be turned ON even when the RIT function is ON.
- The ⊿TX range is ±9.999 kHz.
- The shift frequency is added to the operating frequency when pushed for 2 sec.

FUNCTION

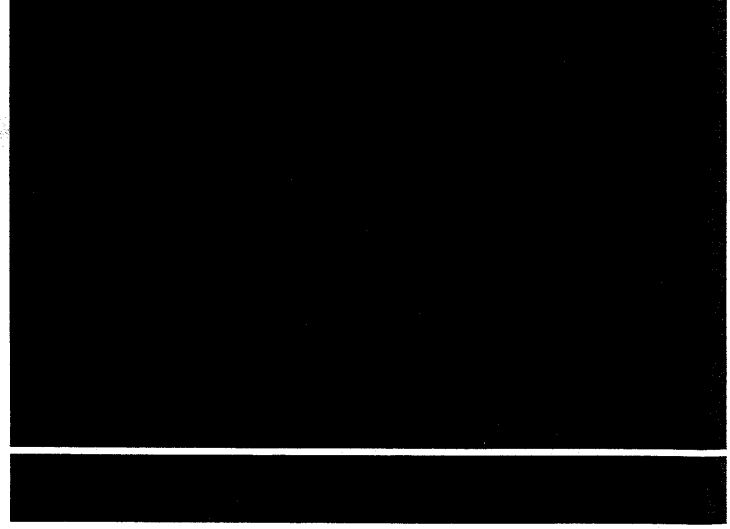
⊿TX shifts the transmit frequency up to ±9.999 kHz in 1 Hz steps (or 10 Hz steps) without shifting the receive frequency. This is useful for simple split frequency operation in CW, etc.

63 CLEAR SWITCH [CLEAR] (p. 32)
Clears the RIT/⊿TX shift frequency.

64 AUDIO PEAK FILTER CONTROL [APF] (inner control) (p. 30)
Varies the peak frequency of the audio peak filter to pick out a CW signal from interference while the [APF] switch is ON.
- For the DSP-equipped type, turn the auto audio peak filter OFF with [AUTO] or it will be difficult to receive signals. It has an 80 Hz passband width. (p. 30)



Count on us!



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