FUNCTIONS FOR RECEIVE Section 5

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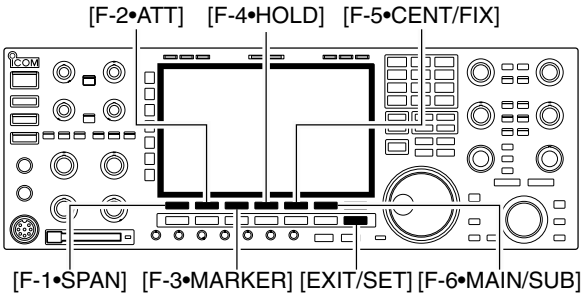
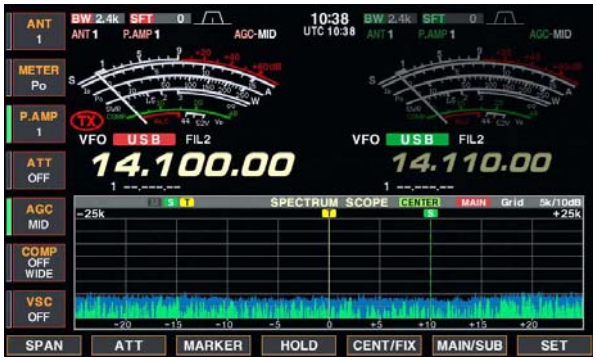
■ Spectrum scope screen

This function allows you to display the conditions of the selected band, as well as relative strengths of signals. The IC-7800 has two modes for the spectrum indication— one is center mode, and anther one is fix mode.

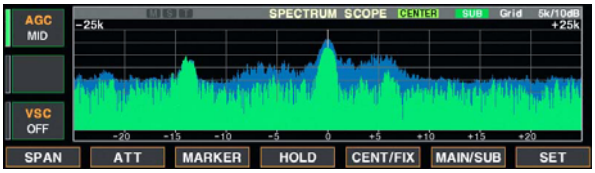
In addition, the IC-7800 has a mini scope screen for regular scope indication.

◇ Center mode





• **Observed indication example**



Displays signals around the set frequency within the selected span. The set frequency is always displayed at the center of the screen.

① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
② Push [F-1•SCOPE] to select the scope screen.
③ Push [F-5•CENT/FIX] to select the center mode.
- "CENTER" is displayed when center mode is selected.

④ Push [F-1•SPAN] several times to select the scope span.
- ±2.5, ±5.0, ±10, ±25, ±50, ±100 and ±250 kHz are available.
- Sweeping speed is selectable for each span independently in scope set mode. (pgs. 5-5, 5-6)

⑤ Push [F-2•ATT] several times to activate an attenuator or turn the attenuator OFF.
- 10, 20 and 30 dB attenuators are available.

⑥ Push [F-6•MAIN/SUB] to select main band.
- The spectrum scope with sub band selection is activated during dualwatch or split frequency operation only.

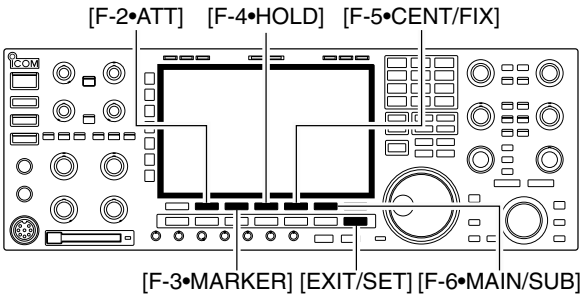
⑦ Push [F-3•MARKER] several times to select the marker (sub readout or transmit frequency) or turn the marker OFF.
- "T" displays the marker at the transmit frequency.
- "S" displays the marker at the sub readout frequency.
- "<<" or ">>" appears when the marker is out of range.
- The spectrum scope shows the transmit signal waveform while transmitting. This can be deactivated in scope set mode. (p. 5-4)
- The spectrum scope shows the peak level holding function. Peak levels are displayed in the background of the current spectrum in a different color until the receive frequency changes. This can be deactivated and the waveform color can be set in scope set mode. (p. 5-5)

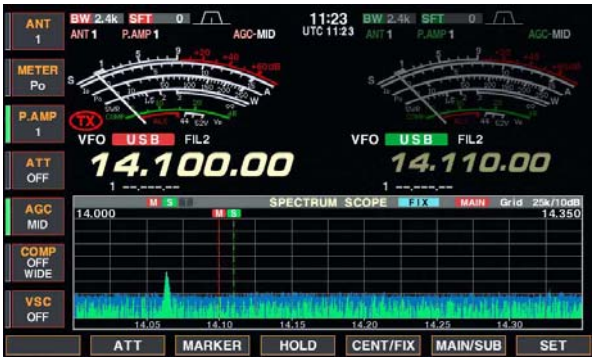
⑧ Push [F-4•HOLD] to freeze the current spectrum waveform.
- "HOLD" appears while the function is in use.
- The peak hold function can be deactivated in scope set mode.

⑨ Push [EXIT/SET] to exit the scope screen.

NOTE: If a strong signal is received, a ghost waveform may appear. Push [F-2•ATT] several times to activate the spectrum scope attenuator in this case. Spurious signal waveform may be displayed. They are made in internal scope circuit and does not indicate a transceiver malfunction.

◇ Fix mode





Displays signals within the specified frequency range. The selected frequency band conditions can be grasped at a glance when using this mode.

① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
② Push [F-1•SCOPE] to select the scope screen.
③ Push [F-5•CENT/FIX] to select the fix mode.
- "FIX" is displayed when fix mode is selected.

④ Push [F-2•ATT] several times to activate an attenuator or turn the attenuator OFF.
- 10, 20 and 30 dB attenuators are available.

⑤ Push [F-6•MAIN/SUB] to select main band.
- The spectrum scope with sub band selection is activated during dualwatch or split frequency operation only.

⑥ Push [F-3•MARKER] several times to select the marker (sub readout or transmit frequency) or turn the marker OFF.
- "M" displays the marker at the main readout frequency. (always displayed)
- "T" displays the marker at the transmit frequency.
- "S" displays the marker at the sub readout frequency.
- "<<" or ">>" appears when the marker is out of range.
- The spectrum scope shows the transmit signal waveform while transmitting. This can be deactivated in scope set mode. (p. 5-4)
- The spectrum scope shows the peak level holding function. Peak levels are displayed in the background of the current spectrum in a different color until the receive frequency changes. This can be deactivated and the waveform color can be set in scope set mode. (p. 5-5)

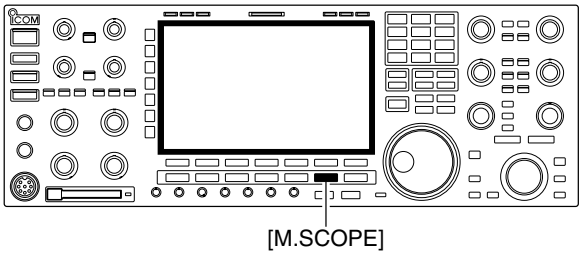
⑦ Push [F-4•HOLD] to freeze the current spectrum waveform.
- "HOLD" appears while the function is in use.
- The peak hold function can be deactivated in scope set mode.

⑧ Push [EXIT/SET] to exit the scope screen.

NOTE: If a strong signal is received, a ghost waveform may appear. Push [F-2•ATT] several times to activate the spectrum scope attenuator in this case.

The scope band width can be specified for each operating frequency band independently in scope set mode. (pgs. 5-6 to 5-8)

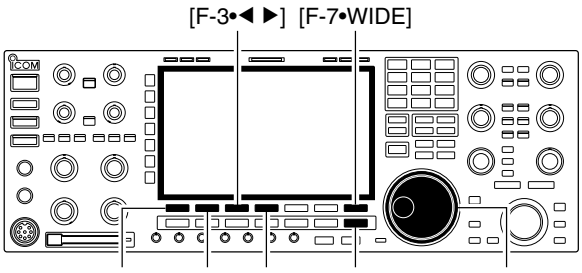
◇ Mini scope screen indication



The mini scope screen can be displayed with another screen indication, such as set mode menu, decoder screen, memory list screen, etc. simultaneously.

① Set the scope mode (center or fix), marker, attenuator, span, etc. in advance. (pgs. 5-2, 5-3)
② Push [M.SCOPE] to toggle the mini scope indication ON and OFF.
- The S/RF meter type during mini scope indication can be selected in display set mode (Meter Type (Wide Screen) item). (p. 12-11)

◇ Scope set mode



This set mode is used to set the waveform color, sweeping speed, scope range for fix mode, etc.

① During spectrum scope indication ON, push [F-7•SET] to select scope set mode screen.
- Push [F-7•WIDE] to toggle the screen size between normal and wide.

② Push [F-1•▲] or [F-2•▼] to select the desired set item.
③ Set the desired condition using the main dial.
- Push [F-4•DEF] for 1 sec. to select the default condition or value.
- Push [F-3•◄ ►] to select the set contents for some items.

④ Push [EXIT/SET] to exit from set mode.

Scope during Tx (CENTER Type)	ON
Turn the transmitting signal waveform indication ON and OFF.	**NOTE:** The transmitting signal waveform indication is available for the center mode only.

◇ Scope set mode (continued)

Max Hold	ON

Turn the peak level holding function ON and OFF.

CENTER Type Display	Filter Center

Select the center frequency of the spectrum scope indication (center mode only).

- Filter center : Shows the selected filter's center frequency at the center.
- Carrier Point Center : Shows the selected operating mode carrier point frequency at the center.
- Carrier Point Center (Abs. Freq.) : In addition to the carrier point center setting above, the actual frequency is displayed for the bottom of the scope.

Waveform Color (Current)	0	204	102

Set the waveform color for the currently receiving signals.

- The color is set in RGB format.
- Push [F-3•◀ ▶] to select R (Red), G (Green) and B (Blue), and rotate the ratio from 0 to 255 range.
- The set color is indicated in the box beside the RGB scale.

Waveform Color (Max Hold)	0	102	153

Set the waveform color for the receiving signals maximum level.

- The color is set in RGB format.
- Push [F-3•◀ ▶] to select R (Red), G (Green) and B (Blue), and rotate the ratio from 0 to 255 range.
- The set color is indicated in the box beside the RGB scale.

Sweep Speed (± 2.5k)	MID

Select the sweeping speed for the ±2.5 kHz span selection from SLOW, MID and FAST.

NOTE: The waveform may be displayed incorrectly with "FAST" setting.

(± 5k)	MID

Select the sweeping speed for the ±5 kHz span selection from SLOW, MID and FAST.

NOTE: The waveform may be displayed incorrectly with "FAST" setting.

(± 10k)	FAST

Select the sweeping speed for the ±10 kHz span selection from SLOW, MID and FAST.

(± 25k)	FAST

Select the sweeping speed for the ±25 kHz span selection from SLOW, MID and FAST.

◇ Scope set mode (continued)

(± 50k)	FAST
Select the sweeping speed for the ±50 kHz span selection from SLOW, MID and FAST.	

(±100k)	FAST
Select the sweeping speed for the ±100 kHz span selection from SLOW, MID and FAST.	

(±250k)	FAST
Select the sweeping speed for the ±250 kHz span selection from SLOW, MID and FAST.	

Fixed Edges (0.03 – 1.60)	0.750 – 1.250 MHz
Set the scope edge frequencies for fix mode scope with below 1.6 MHz band selection.	• Set the frequencies within 0.030 to 1.600 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

(1.60 – 2.00)	1.800 – 2.000 MHz
Set the scope edge frequencies for fix mode scope when 1.6 to 2 MHz band is selected.	• Set the frequencies within 1.600 to 2.000 MHz range in 1 kHz steps.

(2.00 – 6.00)	3.500 – 4.000 MHz
Set the scope edge frequencies for fix mode scope when 2 to 6 MHz band is selected.	• Set the frequencies within 2.000 to 6.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

(6.00 – 8.00)	7.000 – 7.300 MHz
Set the scope edge frequencies for fix mode scope when 6 to 8 MHz band is selected.	• Set the frequencies within 6.000 to 8.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

◇ Scope set mode (continued)

(8.00 – 11.00)	10.100 – 10.150 MHz
Set the scope edge frequencies for fix mode scope when 8 to 11 MHz band is selected.	• Set the frequencies within 8.000 to 11.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

(11.00 – 15.00)	14.000 – 14.350 MHz
Set the scope edge frequencies for fix mode scope when 11 to 15 MHz band is selected.	• Set the frequencies within 11.000 to 15.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

(15.00 – 20.00)	18.068 – 18.168 MHz
Set the scope edge frequencies for fix mode scope when 15 to 20 MHz band is selected.	• Set the frequencies within 15.000 to 20.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

(20.00 – 22.00)	21.000 – 21.450 MHz
Set the scope edge frequencies for fix mode scope when 20 to 22 MHz band is selected.	• Set the frequencies within 20.000 to 22.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

(22.00 – 26.00)	24.890 – 24.990 MHz
Set the scope edge frequencies for fix mode scope when 22 to 26 MHz band is selected.	• Set the frequencies within 22.000 to 26.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

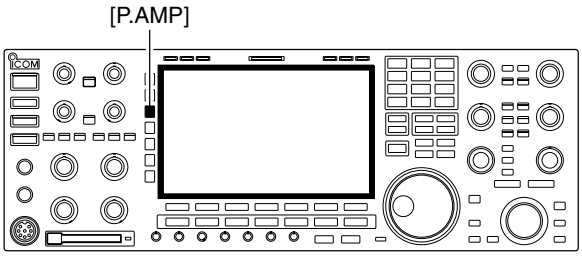
◇ Scope set mode (continued)

(26.00 – 30.00)	28.000 – 28.500 MHz
Set the scope edge frequencies for fix mode scope when 26 to 30 MHz band is selected.	• Set the frequencies within 26.000 to 30.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

(30.00 – 45.00)	30.000 – 30.500 MHz
Set the scope edge frequencies for fix mode scope when 30 to 45 MHz band is selected.	• Set the frequencies within 30.000 to 45.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

(45.00 – 60.00)	50.000 – 50.500 MHz
Set the scope edge frequencies for fix mode scope when 45 to 60 MHz band is selected.	• Set the frequencies within 45.000 to 60.000 MHz range in 1 kHz steps. Up to 500 kHz band width can be specified, so either edge frequency will be set to the difference between higher and lower frequencies become 5 to 500 kHz automatically while setting another edge frequency.

■ Preamplifier



The preamp amplifies received signals in the front end circuit to improve the S/N ratio and sensitivity. Set this to preamp 1 or preamp 2 when receiving weak signals.

➥ Push [P.AMP] several times to set the preamp OFF, preamp 1 ON or preamp 2 ON.

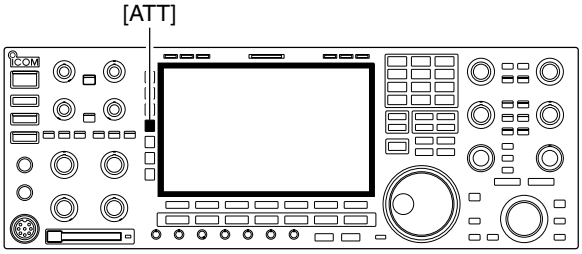
P.AMP 1	For all HF bands
P.AMP 2	High gain preamp for 24 MHz band and above

✔ About the "P.AMP2"

The "P.AMP 2" is a high gain receive amplifier. When the "P.AMP 2" is used during times of strong electric fields, distortion sometimes results. In such cases, use the transceiver with the "P.AMP 1" or "P.AMP OFF" setting.

The "P.AMP 2" is most effective when:
- Used on bands above 24 MHz and when electric fields are weak.
- Receive sensitivity is insufficient during low gain, or while using a narrow band antenna (such as small loop, a Beverage antenna or a short Yagi antenna, etc.) is used.

■ Attenuator



The attenuator prevents a desired signal from distortion when very strong signals are near the desired frequency or when very strong electric fields, such as from broadcasting stations, are near your location.

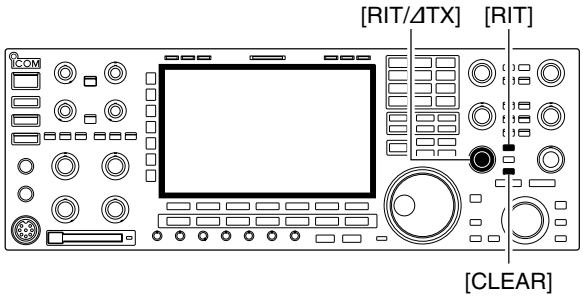
➥ Push [ATT] several times to set the attenuator 6 dB, 12 dB, 18 dB or attenuator OFF.

➥ Push [ATT] for 1 sec. several times to set the attenuator 3 dB, 6 dB, 9 dB, 12 dB, 15 dB, 18 dB, 21 dB or attenuator OFF.

ATT 3dB	3 dB attenuation	ATT 15dB	15 dB attenuation
ATT 6dB	6 dB attenuation	ATT 18dB	18 dB attenuation
ATT 9dB	9 dB attenuation	ATT 21dB	21 dB attenuation
ATT 12dB	12 dB attenuation		

■ RIT function

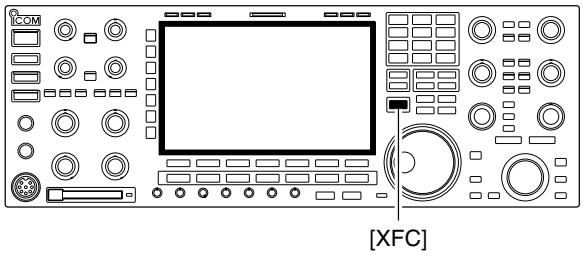
The RIT (Receive Increment Tuning) function compensates for off-frequencies of the communicating station.
The function shifts the receive frequency up to ±9.99 kHz in 10 Hz steps without moving the transmit frequency.



① Push [RIT] to turn the RIT function ON and OFF.
- "RIT" and the shifting frequency appear when the function is ON.

② Rotate the [RIT/ΔTX] control.
- Push [CLEAR] for 1 sec. to reset the RIT frequency.
- Push [CLEAR] momentarily to reset the RIT frequency when the quick RIT/ΔTX clear function is ON. (p. 12-17)
- Push [RIT] for 1 sec. to add the shift frequency to the operating frequency.

◇ RIT monitor function



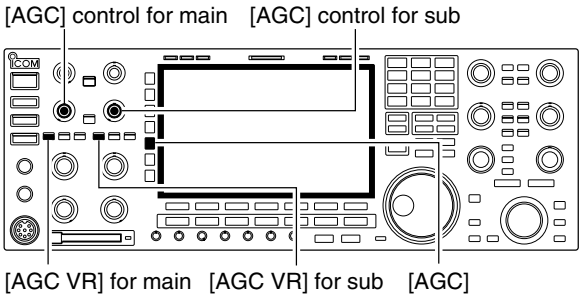
When the RIT function is ON, pushing and holding [XFC] allows you to monitor the operating frequency directly (RIT is temporarily cancelled).

✔ For your convenience— Calculate function

The shift frequency of the RIT function can be added/subtracted to the displayed frequency.

➥ While displaying the RIT shift frequency, push [RIT] for 1 sec.

■ AGC function



The AGC (auto gain control) controls receiver gain to produce a constant audio output level even when the received signal strength is varied by fading, etc.

The transceiver has 3 AGC characteristics (time constant; fast, mid, slow) for non-FM mode.

The FM mode AGC time constant is fixed as 'FAST' (0.1 sec.) and AGC time constant cannot be selected.

◇ Selecting the preset value

① Select non-FM mode.
② Push [AGC] several times to select AGC fast, AGC medium (MID) or AGC slow.

◇ Adjusting the AGC time constant

① Select non-FM mode.
② Push [AGC VR], then rotate [AGC] control to adjust the AGC time constant.
• [AGC VR] indicator above the switch lights green.

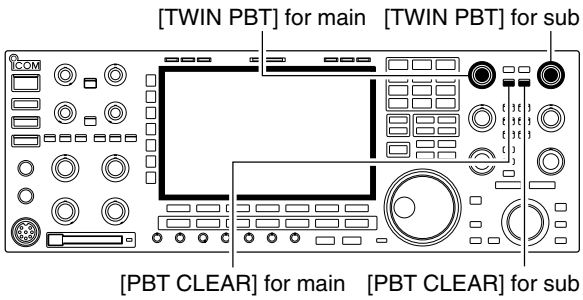
◇ Setting the AGC time constant preset value

① Select the desired mode except FM mode.
② Push [AGC] for 1 sec. to enter AGC set mode.
③ Push [AGC] several times to select FAST time constant.
④ Rotate the main dial to set the desired time constant for 'AGC FAST.'
• AGC time constant can be set between 0.1 to 8.0 sec. (depends on mode) or turned OFF.
• Push [F-4•DEF] for 1 sec. to select a default value.
⑤ Push [AGC] to select medium time constant.
⑥ Rotate the main dial to set the desired time constant for 'AGC MID.'
• AGC time constant can be set between 0.1 to 8.0 sec. (depends on mode) or turned OFF.
• Push [F-4•DEF] for 1 sec. to select a default value.
⑦ Push [AGC] to select slow time constant.
⑧ Rotate the main dial to set the desired time constant for 'AGC SLOW.'
• AGC time constant can be set between 0.1 to 8.0 sec. (depends on mode) or turned OFF.
• Push [F-4•DEF] for 1 sec. to select a default value.
⑨ Select another mode except FM. Repeat steps ③ to ⑧ if desired.
⑩ Push [EXIT/SET] to exit the AGC set mode screen.

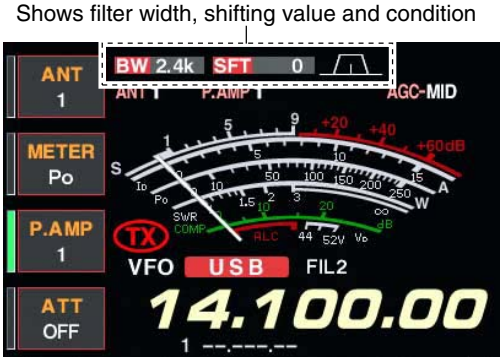
• Selectable AGC time constant (unit: sec.)

Mode	Default	Selectable AGC time constant
SSB	0.3 (FAST)	0.1, 0.2, 0.3, 0.5, 0.8, 1.2, 1.6, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0
	2.0 (MID)	
	6.0 (SLOW)	
CW	0.1 (FAST)	0.1, 0.2, 0.3, 0.5, 0.8, 1.2, 1.6, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0
	0.5 (MID)	
	1.2 (SLOW)	
RTTY PSK	0.1 (FAST)	0.1, 0.2, 0.3, 0.5, 0.8, 1.2, 1.6, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0
	0.5 (MID)	
	1.2 (SLOW)	
AM	3.0 (FAST)	0.3, 0.5, 0.8, 1.2, 1.6, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0
	5.0 (MID)	
	7.0 (SLOW)	
FM	0.1 (FAST)	Fixed

■ Twin PBT operation



Shows filter width, shifting value and condition



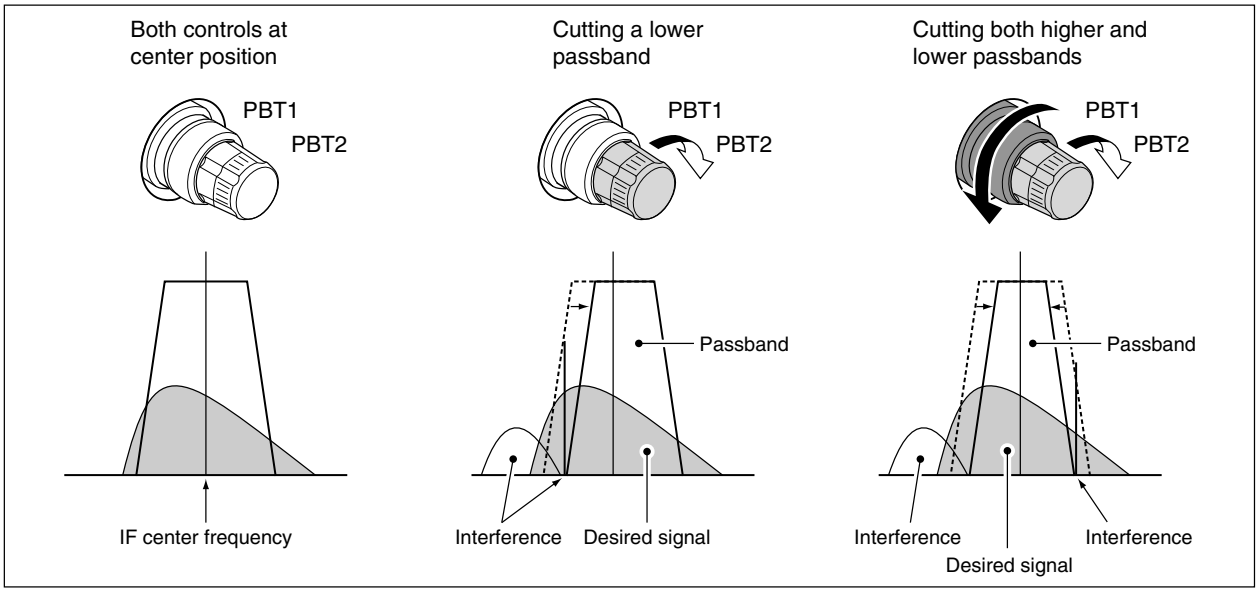
General PBT (Passband Tuning) function electronically narrows the IF passband width by shifting the IF frequency to slightly outside of the IF filter passband to reject interference. This transceiver uses the DSP circuit for the PBT function. Moving both [TWIN PBT] controls to the same position shifts the IF.

➥ The LCD shows the passband width and shift frequency graphically.
➥ Push [FILTER] for 1 sec. to enter the filter set screen. Current passband width and shift frequency is displayed in the filter set screen.
➥ To set the [TWIN PBT] controls to the center positions, push [PBT CLR] for 1 sec.

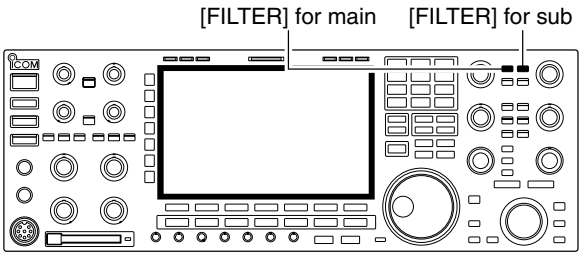
The variable range depends on the passband width and mode. The edge of the variable range is half of the passband width, and PBT is adjustable in 25 or 50 Hz steps.

- [TWIN PBT] should normally be set to the center positions (PBT setting is cleared) when there is no interference.
- When PBT is used, the audio tone may be changed.
- Not available for FM mode.
- While rotating [TWIN PBT], noise may occur. This comes from the DSP unit and does not indicate an equipment malfunction.

• PBT operation example



■ IF filter selection



The transceiver has 3 passband width IF filters for each mode.

For SSB, CW and PSK modes, the passband width can be set within 50 to 3600 Hz in 50 or 100 Hz steps. A total of 41 passband widths are available.

For RTTY mode, the passband width can be set within 50 to 2700 Hz in 50 or 100 Hz steps. A total of 32 passband widths are available.

For AM mode, the passband width can be set within 200 Hz to 10 kHz in 200 Hz steps. A total of 50 passband widths are available.

For FM mode, the passband width is fixed and 3 passband widths are available.

The filter selection is automatically memorized in each mode.
The PBT shift frequencies are automatically memorized in each filter.

◇ IF filter selection

① Select the desired mode.
② Push [FILTER] several times to select the IF filter 1, 2 or 3.
- The selected passband width and filter number is displayed in the LCD.

◇ Filter passband width setting (except FM mode)

① Push [FILTER] for 1 sec. to enter filter set screen.
② Select any mode except FM.
- Passband widths for FM modes are fixed and cannot be set.

③ Push [FILTER] several times to select the desired IF filter.
④ While pushing [F-1•BW], rotate the main dial to set the desired passband width.
- In SSB, CW and PSK modes, the passband width can be set within the following range.
  50 to 500 Hz 50 Hz steps
  600 to 3600 Hz 100 Hz steps
- In RTTY mode, the passband width can be set within the following range.
  50 to 500 Hz 50 Hz steps
  600 to 2700 Hz 100 Hz steps
- In AM mode, the passband width can be set within the following range.
  200 Hz to 10 kHz 200 Hz steps
- Push [F-4•DEF] for 1 sec. to select the default value.

⑤ Repeat steps ② to ④ if desired.
⑥ Push [EXIT/SET] to exit filter set screen.

The PBT shift frequencies are cleared when the passband width is changed.

This filter set screen graphically displays the PBT shift frequencies and CW pitch operations.

◇ Roofing filter selection

The IC-7800 has 6 kHz roofing filter. The roofing filter allows you an interference reduction from nearby strong signals.

① Push [FILTER] for 1 sec. to enter filter set screen.
② Select any mode except FM.
③ Push [F-6•ROOFING] to select the desired filter from 15 kHz (regular 1st IF filter) and 6 kHz (roofing filter).
• Push [F-4•DEF] for 1 sec. to select a default value.
④ Push [EXIT•SET] to exit filter set screen.

◇ DSP filter shape

The type of DSP filter shape for each SSB, SSB data and CW can be selected independently from soft and sharp.

① Push [FILTER] for 1 sec. to enter filter set screen.
② Select SSB, SSB data or CW mode.
③ Push [F-7•SHAPE] to select the desired filter shape from soft and sharp.
④ Push [EXIT•SET] to exit filter set screen.

The filter shape can be set for each band (HF and 50 MHz bands), mode, as well as the passband width setting (CW only) independently as your default setting in filter shape set mode.

◇ Filter shape set mode

The type of DSP filter shape for each SSB, SSB data and CW can be selected independently from soft and sharp.

① Push [FILTER] for 1 sec. to enter filter set screen.
② Push [F-7•SHAPE] for 1 sec. to enter filter shape set mode.
③ Push [F-1•▲] or [F-2•▼] to select the desired item.
④ Rotate the main dial to select the filter shape from soft and sharp.
⑤ Push [EXIT/SET] to exit filter shape set mode.

HF SSB (600Hz –)	SHARP
Select the filter shape for SSB mode in HF bands.	The set filter shape is automatically used only when the IF filter that 600 Hz or wider setting is set.

SSB-D (600Hz –)	SHARP
Select the filter shape for SSB data mode in HF bands.	The set filter shape is automatically used only when the IF filter that 600 Hz or wider setting is set.

◇ Filter shape set mode (continued)

CW (– 500Hz)	SHARP
Select the filter shape for CW mode in HF bands.	The set filter shape is automatically used only when the IF filter that 500 Hz or narrower setting is set.

CW (600Hz –)	SHARP
Select the filter shape for CW mode in HF bands.	The set filter shape is automatically used only when the IF filter that 600 Hz or wider setting is set.

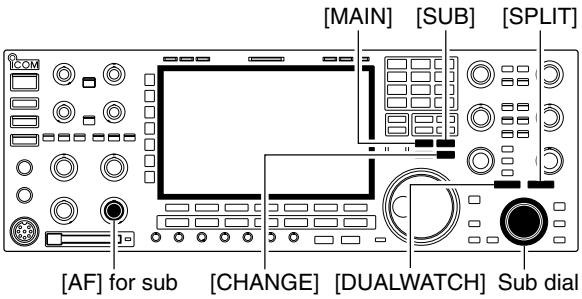
50M SSB (600Hz –)	SOFT
Select the filter shape for SSB mode in 50 MHz band.	The set filter shape is automatically used only when the IF filter that 600 Hz or wider setting is set.

SSB–D (600Hz –)	SHARP
Select the filter shape for SSB data mode in 50 MHz band.	The set filter shape is automatically used only when the IF filter that 600 Hz or wider setting is set.

CW (– 500Hz)	SHARP
Select the filter shape for CW mode in 50 MHz band.	The set filter shape is automatically used only when the IF filter that 500 Hz or narrower setting is set.

CW (600Hz –)	SHARP
Select the filter shape for CW mode in 50 MHz band.	The set filter shape is automatically used only when the IF filter that 600 Hz or wider setting is set.

■ Dualwatch operation



• **Split frequency operation during dualwatch**

Dualwatch monitors 2 frequencies simultaneously. The IC-7800 has 2 independent receiver circuits to allow you to a dualwatch even in different frequency band and mode.

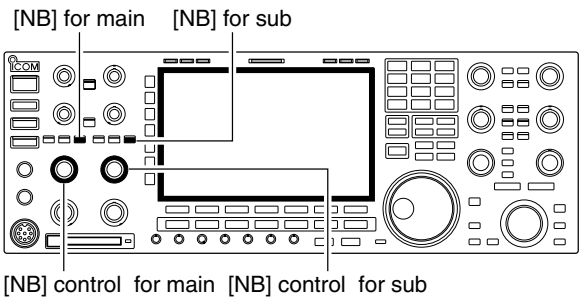
① Set the desired frequency and mode into the main band.
② Push [DUALWATCH].
- "DUAL-W" appears.
- Pushing [DUALWATCH] for 1 sec., the sub band is equalized at the same time. This quick dualwatch function can be turned OFF in set mode. (p. 12-13)

③ Rotate the sub dial to set the desired frequency.
④ Push [SUB] to enables the sub band access when changing the frequency band, operating mode, etc. in sub band.
- Push [MAIN] for the main band access.

⑤ Rotate [AF] for sub band to adjust the sub band audio level.
⑥ To transmit on the sub band readout, push [CHANGE] or [SPLIT].

NOTE:
- Beat may be sound according to the set frequency combination, such as 3.5 MHz and 7 MHz band's frequencies.
- Receiver sensitivity will be decreased when the same frequency band and the same antenna are selected during dualwatch.
- The RIT function can be used for the main readout only.
- The ⊿TX function can be used for the transmit readout (main readout when the split function OFF; sub readout when the split function ON).

■ Noise blanker



The noise blanker eliminates pulse-type noise such as from car ignitions. The noise blanker is not available for FM mode.

① Push [NB] to turn the noise blanker function ON and OFF.
- [NB] indicator above their switch lights green.

② Rotate [NB] control to adjust the noise blanker threshold level.

When using the noise blanker, received signals may be distorted if they are excessively strong or the noise type is different. Turn the noise blanker OFF, or rotate [NB] control to a shallow position in such case.

◇ NB set mode

To deal with various type of noises, attenuation level and noise width can be set in NB set mode.

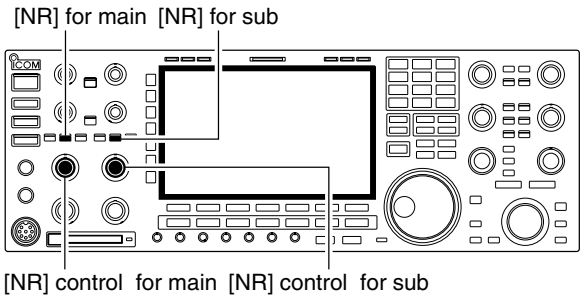
① Push [NB] for 1 sec. to enter NB set mode.
② Push [F-1•▲] or [F-2•▼] to select the desired item.
③ Rotate the main dial to set the desired level or value.
- Push [F-4•DEF] for 1 sec. to select a default value.

④ Push [EXIT/SET] to exit filter shape set mode.

Set the noise attenuation level within 1 to 10.

Set the noise pulse width within 1 to 100.

■ Noise reduction



The noise reduction function reduces noise components and picks out desired signals which are buried in noise. The received signals are converted to digital signals and then the desired signals are separated from the noise.

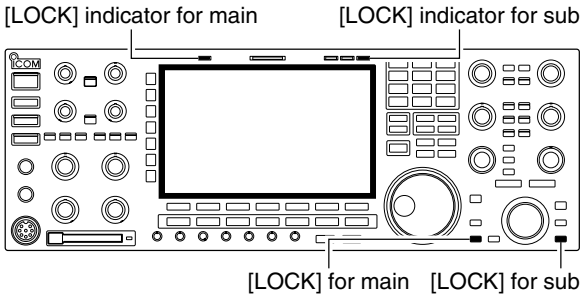
① Push the [NR] to turn the noise reduction ON.
- [NR] indicator above their switch lights green.

② Rotate the [NR] control to adjust the noise reduction level.

③ Push the [NR] switch to turn the noise reduction OFF.
- [NR] indicator lights off.

Deep rotation of the [NR] control results in audio signal masking or distortion. Set the [NR] control for maximum readability.

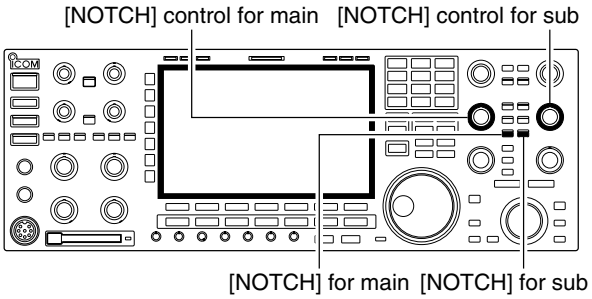
■ Dial lock function



The dial lock function prevents changes by accidental movement of the main dial. The lock function electronically locks the dial.

➥ Push [LOCK] to toggle the dial lock function ON and OFF.
- The [LOCK] indicator lights when the dial lock function is in use.

■ Notch function



This transceiver has auto and manual notch functions. The auto notch function automatically attenuates more than 3 beat tones, tuning signals, etc., even if they are moving. The manual notch can be set to attenuate a frequency via the [NOTCH] control.
The auto notch can be used in SSB, AM and FM modes.
The manual notch can be used in SSB, CW, RTTY, PSK and AM modes.

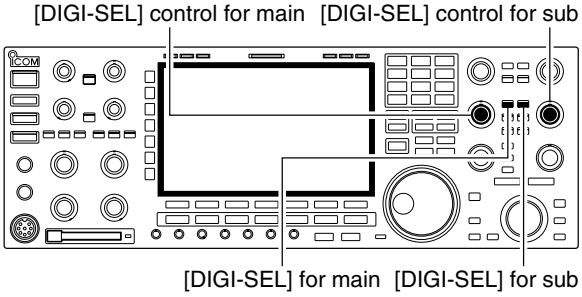
• Auto notch indication

• Manual notch indication

➥ Push [NOTCH] to toggle the notch function between auto, manual and OFF in SSB and AM modes.
➥ Push [NOTCH] to turn the manual notch function ON and OFF in CW mode.
➥ Push [NOTCH] to turn the auto notch function ON and OFF in FM mode.
- [NOTCH] indicator above their switch lights green.
- Push [NOTCH] for 1 sec. to select the notch filter width for manual notch from wide, middle and narrow.
- Set to attenuate a frequency for manual notch via the [NOTCH] control.
- "AN" appears when auto notch is in use.
- "MN" appears when manual notch is in use.

While operating the manual notch, noise may be heard. This comes from the DSP unit and does not indicate an equipment malfunction.

■ Digital selector



The digital selector manually adjusts the center frequency of the automatic pre-selector.

The automatic pre-selector filters the desired signal only and eliminates intermodulation from another bands strong signals at the RF stage.

The automatic pre-selector that operates in conjunction with the operating frequency, follows the change in operating frequency at the minimum kHz steps.

① Push [DIGI-SEL] to turn the digital selector ON and OFF.
- [DIGI-SEL] indicator above their switch lights green.

② Rotate [DIGI-SEL] control to adjust the center frequency.

NOTE:
- When rotating the main dial (and sub dial during the dualwatch or split function) while the digital selector is activated, mechanical noise will be heard due to the switching noise from internal relays.
- The preamp (P.AMP1 or P.AMP2) cannot be used while the digital selector is activated.

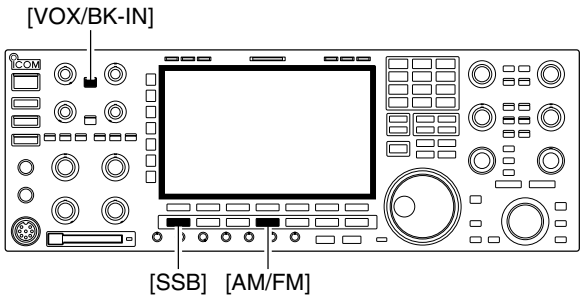
FUNCTIONS FOR TRANSMIT Section 6

■ VOX function 6-2
◇ Using the VOX function 6-2
◇ Adjusting the VOX function 6-2
◇ VOX set mode 6-2
■ Break-in function 6-3
◇ Semi break-in operation 6-3
◇ Full break-in operation 6-3
■ ⊿TX function 6-4
◇ ⊿TX monitor function 6-4
■ Monitor function 6-4
■ Transmit filter width setting (SSB only) 6-5
■ Speech compressor (SSB only) 6-5
■ Split frequency operation 6-6
■ Quick split function 6-7
◇ Split lock function 6-7

■ VOX function

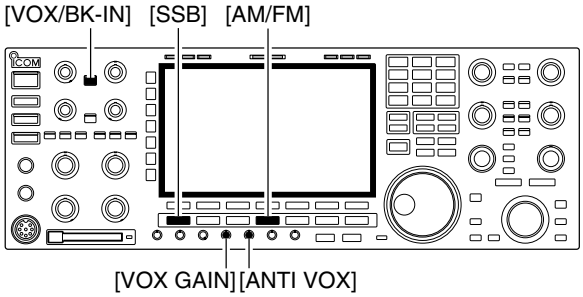
The VOX (Voice-Operated Transmission) function switches between transmit and receive with your voice. This function provides an opportunity to input log entries into your computer, etc., while operating.

◇ Using the VOX function



① Select a phone mode (SSB, AM, FM).
② Push [VOX/BK-IN] to turn the VOX function ON or OFF.
- "VOX" appears while the VOX is in use.
- [VOX/BK-IN] indicator above this switch lights green.

◇ Adjusting the VOX function



① Select a phone mode (SSB, AM, FM).
② Push [VOX/BK-IN] to turn VOX function ON.
③ While speaking into the microphone with your normal voice level, rotate [VOX GAIN] to the point where the transceiver is continuously transmitting.
④ During receive, rotate [ANTI VOX] to the point where the transceiver does not switching to transmit with the receive audio from the speaker.
⑤ Adjust the VOX delay and the VOX voice delay in VOX set mode, if necessary.

◇ VOX set mode

① Push [VOX/BK-IN] for 1 sec. to enter VOX set mode.
② Select the VOX gain item using [F-1•▲] or [F-2•▼].
③ Rotate the main dial to the desired set value or condition.
- Push [F-4•DEF] for 1 sec. to select a default value.

④ Push [EXIT/SET] to exit VOX set mode.

VOX Delay	0.2s

Set the VOX delay for a convenient interval before returning to receive within 0 to 2.0 sec. range.

VOX Voice Delay	Short

Set the VOX voice delay to prevent mis-transmission of your voice when switching to transmit.
Short, Mid., Long and OFF settings are available.

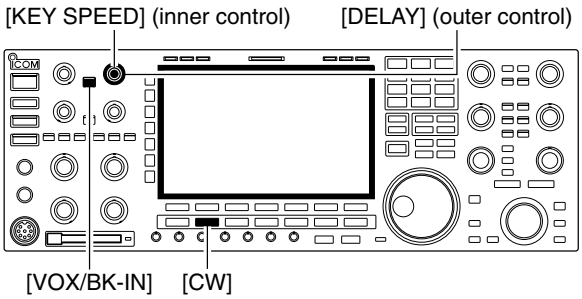
When using the VOX voice delay, turn the TX monitor function OFF. The transmission audio will be echoed.

■ Break-in function

The break-in function is used in CW mode to automatically toggle the transceiver between transmit and receive when keying. The IC-7800 is capable for full break-in or semi break-in.

◇ Semi break-in operation

During semi break-in operation, the transceiver selects transmit when keying, then automatically returns to receive after a pre-set time from when you stop keying.



① Push [CW] to select CW or CW-R mode.
② Push [VOX/BK-IN] several times to turn the semi break-in function ON.
• "BK IN" appears.
③ Rotate [DELAY] to set the break-in delay time (the delay from transmit to receive).

When using a paddle, rotate [KEY SPEED] to adjust the keying speed.

◇ Full break-in operation

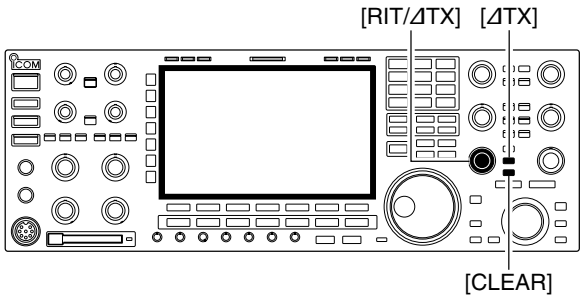
During full break-in operation, the transceiver automatically selects transmit while keying and returns to receive immediately after keying is finished.

① Push [CW] to select CW or CW-R mode.
② Push [VOX/BK-IN] several times to turn the full break-in function ON.
• "F-BK IN" appears.

When using a paddle, rotate [KEY SPEED] to adjust the keying speed.

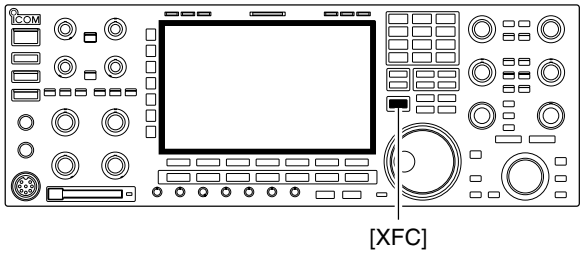
■ ⊿TX function

The ⊿TX function shifts the transmit frequency up to ±9.999 kHz in 1 Hz steps (10 Hz steps when cancelling the 1 Hz step readout) without moving the receive frequency.
• See ⑨③ on p. 1-11 for function description.



① Push [⊿TX].
• "⊿TX" appears.
② Rotate [RIT/⊿TX].
③ To reset the ⊿TX frequency, push [CLEAR] for 1 sec.
• Push [CLEAR] momentarily to reset the RIT frequency when the quick RIT/⊿TX clear function is ON. (p. 12-1)
④ To cancel the ⊿TX function, push [⊿TX] again.
• "⊿TX" disappears.

◇ ⊿TX monitor function



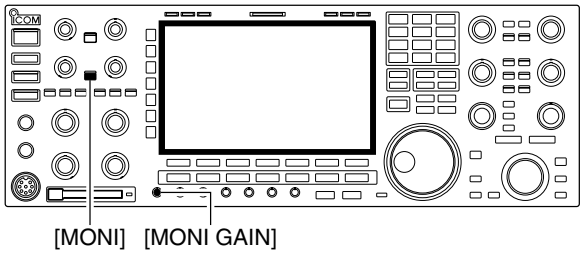
When the ⊿TX function is ON, pushing and holding [XFC] allows you to monitor the operating frequency directly (⊿TX is temporarily cancelled).

✔ For your convenience— Calculate function
The shift frequency of the ⊿TX function can be added/subtracted to the displayed frequency.

➥ While displaying the ⊿TX shift frequency, push [⊿TX] for 1 sec.

■ Monitor function

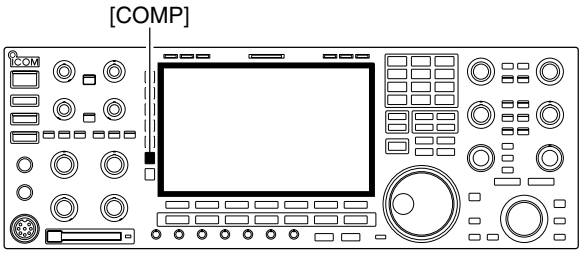
The monitor function allows you to monitor your transmit IF signals in any mode through the speaker. Use this to check voice characteristics while adjusting SSB transmit tones. (p. 12-4) The CW sidetone functions regardless of the [MONI] switch setting.



① Push [MONI] to switch the monitor function ON and OFF.
• [MONI] indicator above this switch lights green.
② Rotate [MONI GAIN] for the clearest audio output while pushing [PTT] and speaking into the microphone.

NOTE: When using the VOX voice delay, turn the monitor function OFF. The transmission audio will be echoed.

■ Transmit filter width setting (SSB only)

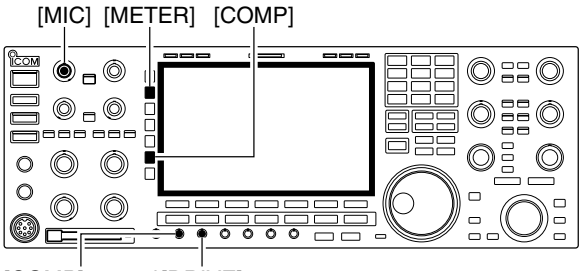


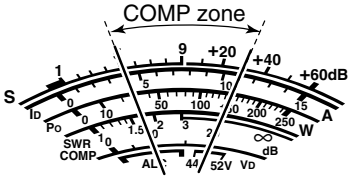
The transmit filter width for SSB mode can be selected from wide, middle and narrow.

➥ During USB or LSB mode selection, push [COMP] for 1 sec. several times to select the desired transmit filter width from wide, middle and narrow.
- The filter functions regardless of the speech compressor use.
- The following filters are specified as the default. Each of the filter width can be re-set in level set mode. (p. 12-5)

WIDE : 100 Hz to 2.9 kHz
MID : 300 Hz to 2.7 kHz
NAR : 500 Hz to 2.5 kHz

■ Speech compressor (SSB only)





The speech compressor increases average RF output power, improving signal strength and readability in SSB mode only.

① Select USB or LSB mode and adjust [MIC] to a suitable level.
- Push [METER] several times to select the ALC meter for microphone gain adjustment.

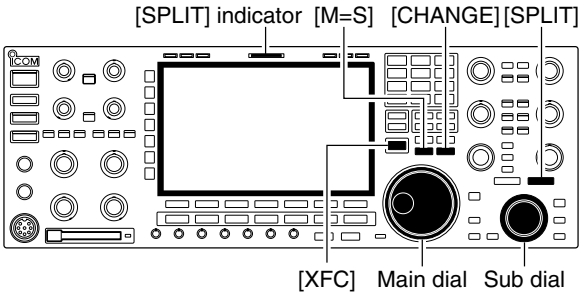
② Push [COMP] to turn the speech compressor ON.
③ Push [METER] once to select the COMP meter.
④ While speaking into the microphone, rotate [COMP] control, so that the COMP meter reads within the COMP zone (10 to 20 dB range) with your normal voice level.

When the COMP meter peaks exceed the COMP zone, your transmitted voice may be distorted.

⑤ Push [METER] 5 times to select the ALC meter.
⑥ While speaking into the microphone, rotate [DRIVE], so that the ALC meter reads within the 30 to 50% range of the ALC zone with your normal voice level.

✔ For your convenience
Push [METER] for 1 sec. to display the multi-function meter that can check the ALC and COMP level at a glance.

■ Split frequency operation



• **When the split function ON**

• **When [XFC] is pushed**

• **The split frequency operation is ready**

Split frequency operation allows you to transmit and receive in the same mode on two different frequencies. The split frequency operation is basically performed using 2 frequencies on the main and sub readouts.

The following is an example of setting 21.290 MHz for receiving and 21.310 MHz for transmitting.

① Set 21.290 MHz (USB) in VFO mode.
② Push [SPLIT] momentarily, then push [M=S] for 1 sec.
- The quick split function is much more convenient for selecting the transmit frequency. See the next section for details.
- The equalized transmit frequency and "SPLIT" appear on the LCD.
- [SPLIT] indicator lights.
- "TX" appears to show the transmit frequency readout.

③ Set the transmit frequency to 21.310 MHz with the one of following ways.
➥ Rotate the main dial while pushing [XFC].
➥ Rotate the sub dial.
- The transmit frequency can be monitored while pushing [XFC] or using dualwatch.

④ Now you can receive on 21.290 MHz and transmit on 21.310 MHz.

To change the transmit and receive frequencies, push [CHANGE] to exchange the main and sub readouts.

✔ CONVENIENT

• Direct shift frequency input

The shift frequency can be entered directly.
① Push [F-INP•ENT].
② Enter the desired shift frequency with the digit keys.
- 1 kHz to 1 MHz can be set.
- When you require a minus shift direction, push [GENE•.] in advance.

③ Push [SPLIT].
- The shift frequency is input in the sub readout and the split function is turned ON.

[Example]
To transmit on 1 kHz higher frequency:
- Push [F-INP•ENT], [1.8•1] then [SPLIT].

To transmit on 3 kHz lower frequency:
- Push [F-INP•ENT], [GENE•.], [7•3] then [SPLIT].

• Split lock function

Accidentally releasing [XFC] while rotating the main dial changes the receive frequency. To prevent this, use both the split lock and dial lock functions to change the transmit frequency only. The split lock function cancels the dial lock function while pushing [XFC] during split frequency operation.

The dial lock's effectiveness during split frequency operation can be selected in the set mode for both receive and transmit frequencies; or only the receive frequency. (p. 12-14)

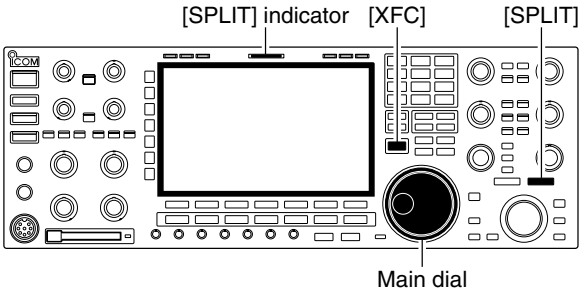
■ Quick split function

When you find a DX station, an important consideration is how to set the split frequency.

When you push the [SPLIT] switch for 1 sec., split frequency operation is turned ON, the sub readout is equalized to the main readout frequency and enters standby for transmit frequency input.

This shortens the time needed to start split frequency operation.

The quick split function is ON by default. For your convenience, it can be turned OFF in set mode. (p. 12-14) In this case, the [SPLIT] switch does not equalize the main and sub readout frequencies.

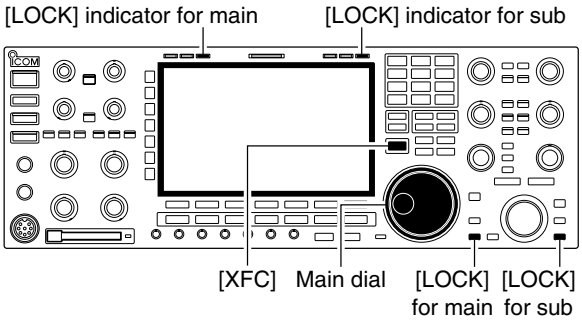


① Suppose you are operating at 21.290 MHz (USB) in VFO mode.
② Push [SPLIT] for 1 sec.
- Split frequency operation is turned ON.
- The sub readout is equalized to the main readout frequency.
- "F-INP" indicator appears and the sub readout enters standby for transmit frequency input.

③ Enter the desired offset frequency from the keypad then push [SPLIT], or set the transmit frequency with the main dial while pushing [XFC], or with the sub dial.
- "F-INP" indicator disappears when [XFC] is pushed or the main/sub dial is rotated.
- Offset frequency setting with the keypad— example
  To transmit on 1 kHz higher frequency:
  - Push [F-INP•ENT], [1.8•1] then [SPLIT].
  To transmit on 3 kHz lower frequency:
  - Push [F-INP•ENT], [GENE•.], [7•3] then [SPLIT].

◇ Split lock function

The split lock function is convenient for changing only the transmit frequency. When the split lock function is not used, accidentally releasing [XFC] while rotating the main dial, changes the receive frequency. The split lock function is ON by default, but can be turned OFF in set mode. (p. 12-14)



① While split frequency operation is ON, push [LOCK] for both main and sub band to activate the split lock function.
② While pushing [XFC], rotate the main dial to change the transmit frequency.
- If you accidentally release [XFC] while rotating the main dial, the receive frequency does NOT change.

VOICE RECORDER FUNCTIONS Section 7

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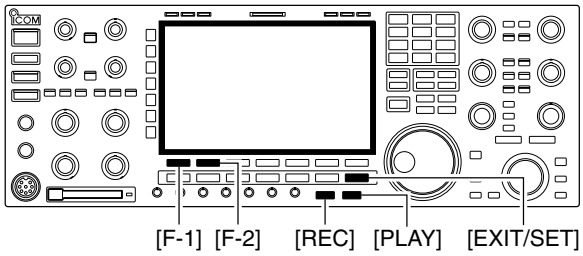
■ About digital voice recorder

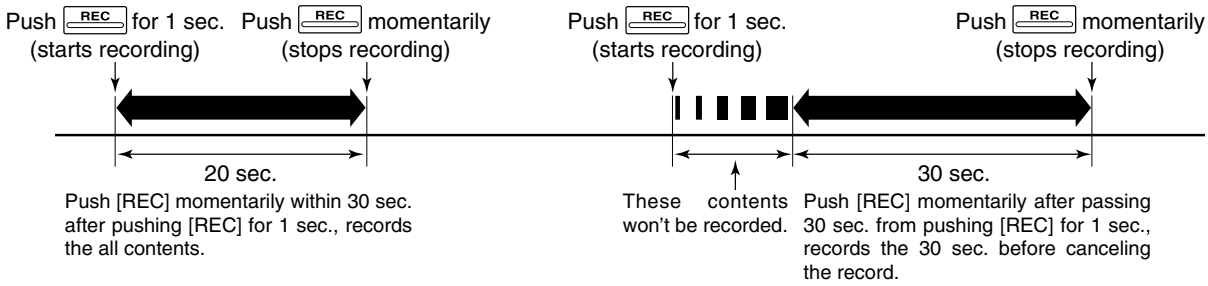
The IC-7800 has digital voice memories, up to 4 channels for transmit, and up to 20 channels for receive. A maximum message length of 30 sec. can be recorded into a receive channel and the total message length of up to 209 sec., and a total message length of up to 99 sec. can be recorded in transmit channels.

Providing a transmission memory is very convenient for repeated CQ and number transmissions at contest times, as well as when making consecutive calls in DX'pedition.

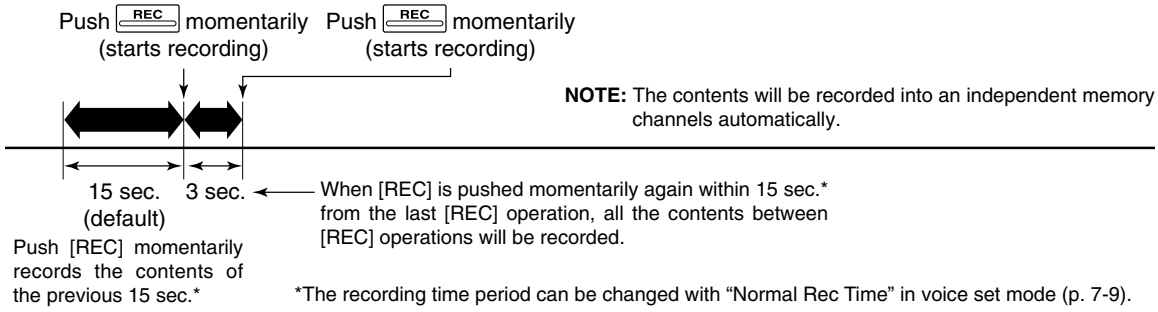


① Select any mode.
② Push [F-2•VOICE] to display voice recorder screen.
③ Push [EXIT/SET] to display voice recorder menu.
④ Push [F-1•PLAY] or [F-2•MIC REC] to select the desired memory channel screen, then records audio or playback the contents as described below.
⑤ Push [EXIT/SET] twice to exit voice recorder screen.

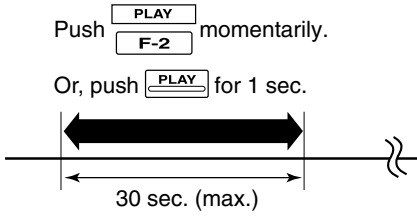
• Example— When [REC] is pushed for 1sec.



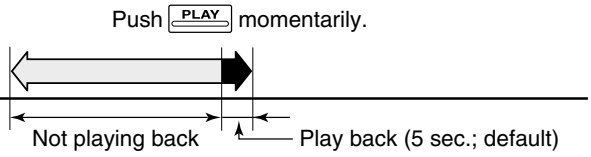
• Example— When [REC] is pushed momentarily



• Playing back the all contents in a channel



• Playing back the end of 5 sec.* in a channel

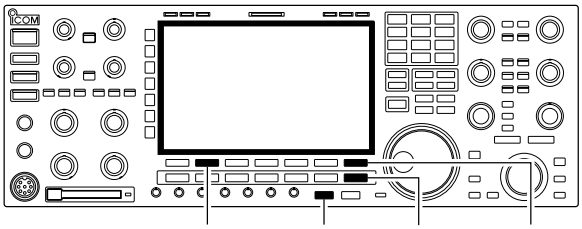


*The playing back time period can be changed with "Short Play Time" in voice set mode (p. 7-9).

■ Recording a received audio

Up to 20 channels of receive voice memories are available in the IC-7800. And the total audio length of up to 209 sec. can be recorded in receive channels. However, the maximum recordable length into a channel is 30 sec.
This voice recorder records not only the received audio, but also the information that the set operating frequency, mode, and the recording time for your future reference as the memory names.

◇ Basic recording



① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
② Select the desired mode.
③ Push [F-2•VOICE] to call up the voice recorder screen.
- Previously selected screen, TX or RX memory, is displayed. If the TX memory channel (T1–T4) appears, push [F-7•T/R] to select RX memory channel.

④ Push [REC] for 1 sec. to start recording.
- The recording timer counts down.
- The operating frequency, mode and current time are programmed as the memory names automatically.

⑤ Push [REC] momentarily to stop recording.

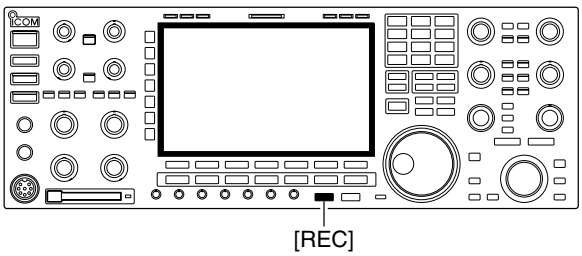
IMPORTANT!
Push [REC] to stop recording before, or when 30 sec. has passed from the start of recording.
The voice recorder memory records the 30 sec. (max.) of audio before [REC] is pushed.
For example, when recording 40 sec. of audio, the first 10 sec. audio will be over-recorded with the last 10 sec., so that the total of audio recorded is 30 sec. only.
When you records a 21st audio, or when the total audio length exceeds 209 sec., the oldest recorded audio is automatically erased to make room for the new audio.

⑥ Push [EXIT/SET] twice to exit the voice recorder screen.

NOTE: When transmit (or [PTT] is pushed) while recording, no audio will be recorded.

◇ One-touch recording

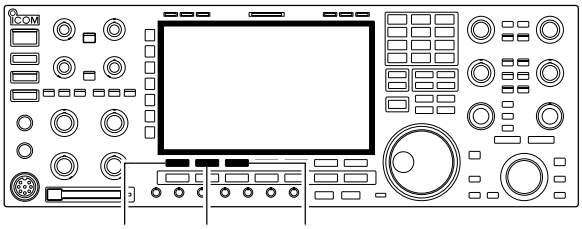
To record the receiving signal contents immediately, one-touch voice recording is available.



➥ Push [REC] momentarily to records the previous 15 sec. audio.
- The recordable time period can be set in voice set mode. (p. 7-9)

■ Playing the recorded audio

◇ Basic playing



① Push [EXIT/SET] several times to close a multi-function screen, if necessary.

② Push [F-2•VOICE] to call up the voice recorder screen.
- Previously selected screen, TX or RX memory, is displayed. If the TX memory channel (T1–T4) appears, push [F-7•T/R] to select RX memory channel.

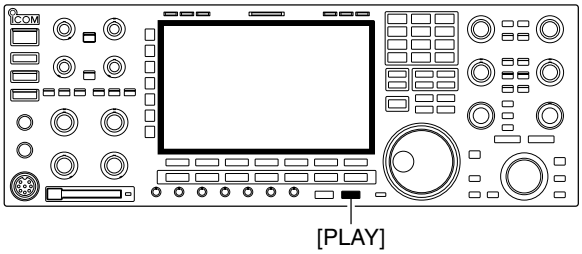
③ Push [F-1•▲] or [F-2•▼] to select the desired voice memory to playback.

④ Push [F-3•PLAY] to start playback.
- "PLAY" indicators appear and the timer counts down.

⑤ Push [F-3•PLAY] again to stop playback if desired.
- Playback is terminated automatically when all of the recorded contents in the channel are played, or after 30 sec.

⑥ Push [EXIT/SET] twice to exit the voice recorder screen.

◇ One-touch playing

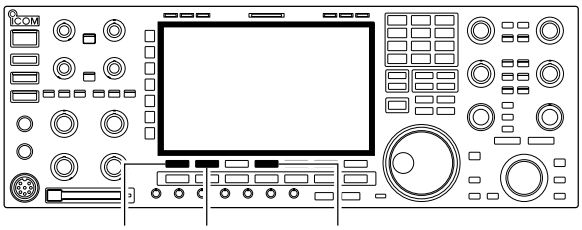


The previously recorded audio in channel 1 can be playback without selecting voice recorder screen.

➥ Push [PLAY] momentarily to playback the end 5 sec. of the previously recorded audio.
- "PLAY" indicator appears.
- Playback is terminated automatically when all of the recorded contents in the channel are played, or after 5 sec.
- The playback time period can be set in voice set mode. (p. 7-9)

■ Protect the recorded contents

The protect function is available to protect the recorded contents from accidental erasing, such as over-record, etc.

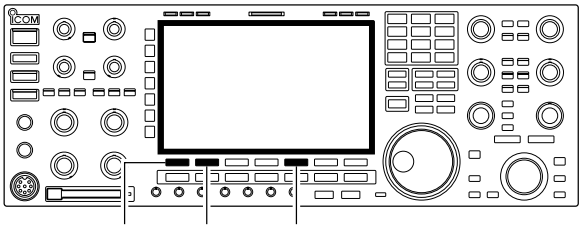


① Call up the voice recorder screen, RX memory.
② Push [F-1•▲] or [F-2•▼] to select the desired voice memory.
③ Push [F-4•PROTECT] to turn the protect function ON and OFF.
- "🔒" indicator appears when the contents is protected.

④ Push [EXIT/SET] twice to exit the voice recorder screen.

■ Erasing the recorded contents

The recorded contents can be erased channel independently.



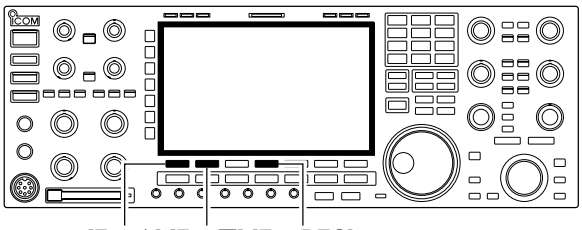
① Call up the voice recorder screen, RX memory.
② Push [F-1•▲] or [F-2•▼] to select the desired voice memory to be erased.
③ Push [F-5•CLR] for 1 sec. to erase the contents.
- Push [F-4•PROTECT] to release the protection in advance if necessary.

④ Push [EXIT/SET] twice to exit the voice recorder screen.

■ Recording a message for transmit

To transmit a message using a voice recorder, record the desired message in advance as described below. The IC-7800 has digital voice memories for transmission, up to 4 channels and the total message length of up to 99 sec. can be recorded.

◇ Recording



[F-1•▲] [F-2•▼] [F-4•REC]

Appears

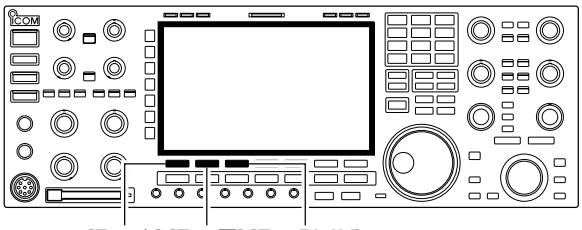
Adjust [MIC] control so that this indicator reads within 100%.

① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
② Push [F-2•VOICE] to call up the voice recorder screen.
③ Push [EXIT/SET] to select voice recorder menu.
④ Push [F-2•MIC REC] to select the voice mic. record screen.
⑤ Push [F-1•▲] or [F-2•▼] to select the desired memory channel.
⑥ Push [F-4•REC] for 1 sec. to start recording.
- "REC" indicator appears.
- Speak into the microphone without pushing [PTT].
- Previously recorded contents are cleared.
- Audio output from the internal speaker is automatically muted.

⑦ While speaking into the microphone with your normal voice level, adjust the [MIC] control so that the [MIC-REC LEVEL] indicator reads within 100%.
⑧ Push [F-4•REC] momentarily to stop recording.
- The recording is terminated automatically when the remaining time becomes 0 sec.

⑨ Push [EXIT/SET] twice to exit the voice recorder screen.

◇ Confirming a message for transmit



[F-1•▲] [F-2•▼] [F-3•PLAY]

① Perform the steps ① to ④ as "◇ Recording" above.
② Push [F-1•▲] or [F-2•▼] to select the desired memory channel.
③ Push [F-3•PLAY] to playback the recorded contents.
- "PLAY" indicator appears.

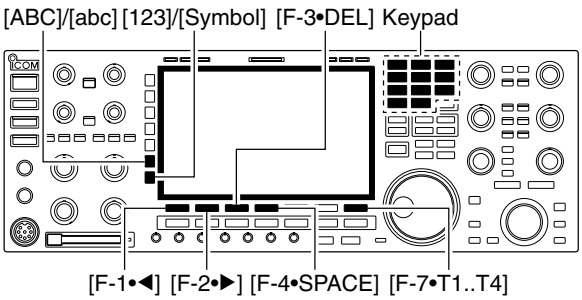
④ Push [F-3•PLAY] again to stop playback.
- Playback is terminated automatically when all of the recorded contents in the channel are played.

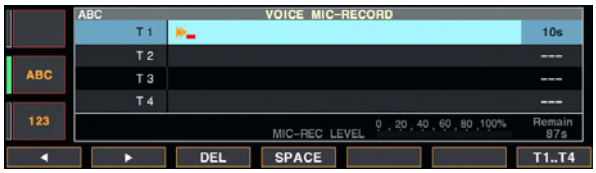
⑤ Push [EXIT/SET] twice to exit the voice recorder screen.

■ Programming a memory name

Memory channels can be tagged with alphanumeric names of up to 20 characters each.

Capital letters, small letters, numerals, some symbols (! # $ % & ¥ ? “ ‘ ` ^ + – ✱ / . , : ; = < > ( ) [ ] { } | _ ~ @) and spaces can be used. (See the table below.)





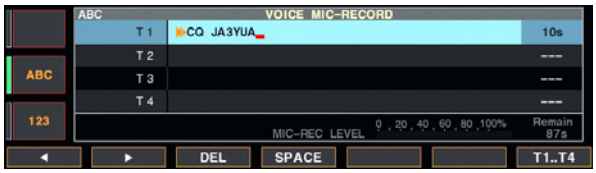
① Record a message as described in page 7-6.
② During the voice mic. record screen indication, push [F-5•NAME] to enter memory name edit condition.
- A cursor appears and blinks.

③ Push [F-7•T1..T4] several times to select the desired voice memory.
④ Input the desired character by rotating the main dial or by pushing the band key for number input.
- Push [ABC] or [abc] to toggle capital and small letters.
- Push [123] or [Symbol] to toggle numerals and symbols.
- Push [F-1•◀] or [F-2•▶] for cursor movement.
- Push [F-3•DEL] to delete the selected character.
- Push [F-4•SPACE] to input a space.
- Pushing the transceiver’s keypad, [0]–[9], can also enter numerals.

⑤ Push [EXIT/SET] to input and set the name.
- The cursor disappears.

⑥ Repeat steps ③ to ⑤ to program another voice memory’s name, if desired.
⑦ Push [EXIT/SET] twice to exit the voice recorder screen.

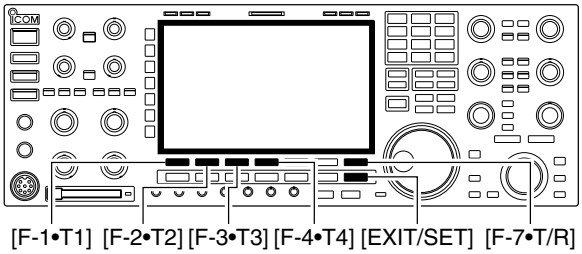
• Voice memory name editing example



• Usable characters

Key selection	Editable characters
ABC	A to Z (capital letters)
abc	a to z (small letters)
123	0 to 9 (numbers)
Symbol	! # $ % & ¥ ? “ ‘ ` ^ + – ✱ / . , : ; = < > ( ) [ ] { } | _ ~ @

■ Sending a recorded message



① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
② Select a phone mode by pushing [SSB] or [AM/FM].
③ Push [F-2•VOICE] to call up the voice recorder screen.
- If the receive voice memory channel appears, push [F-7•T/R] to select TX memory channel (T1–T4).

④ Push the desired memory channel switch, [F-1•T1] to [F-4•T4], momentarily to transmit the contents.
- The transceiver transmits automatically.
- "SEND" indicator appears and the memory timer counts down.
- The transmitting contents are sound from the speaker as the default. This can be turned OFF in voice set mode. (p. 7-9)

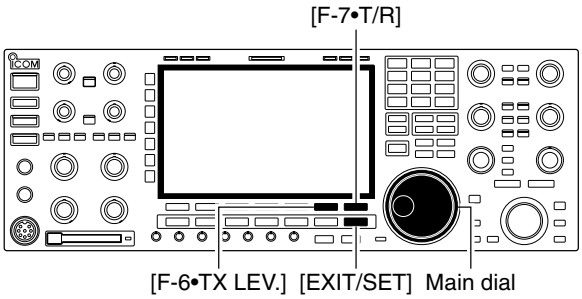
⑤ Push the selected memory channel switch, [F-1•T1] to [F-4•T4], again to stop, if desired.
- The transceiver returns to receive automatically when all of the recorded contents in the channel are transmitted.

⑥ Push [EXIT/SET] twice to exit the voice memory screen.

✔ For your information

When an external keypad is connected to [EXT KEYPAD], the recorded message, T1–T4, can be transmitted without opening the voice recorder screen.
See page 2-6 for details.

◇ Transmit level setting



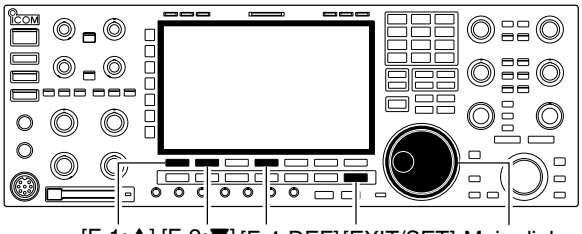
① Call up the voice recorder screen as described as above.
② Push [F-6•TX LEV.] to select the voice memory transmit level set condition.
③ Push the desired memory channel switch, [F-1•T1] to [F-4•T4], momentarily to transmit the contents.
- The transceiver transmits automatically.
- "SEND" indicator appears and the memory timer counts down.

④ Rotate the main dial to adjust the transmit voice level.
- Push [F-7•DEF] for 1 sec. to select the default condition.

⑤ Push [EXIT/SET] to return to the voice recorder screen.

■ Voice set mode

Sets the automatic monitor function, short play and normal recording times for voice recorder.



① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
② Push [F-2•VOICE] to call up the voice recorder screen.
③ Push [EXIT/SET] to select voice recorder menu.
④ Push [F-7•SET] to select voice set mode screen.
⑤ Push [F-1•▲] or [F-2•▼] to select the desired item.
⑥ Rotate main dial to set the desired condition or value.
- Push [F-4•DEF] for 1 sec. to select the default condition or value.

⑦ Push [EXIT/SET] to exit the voice set mode screen.

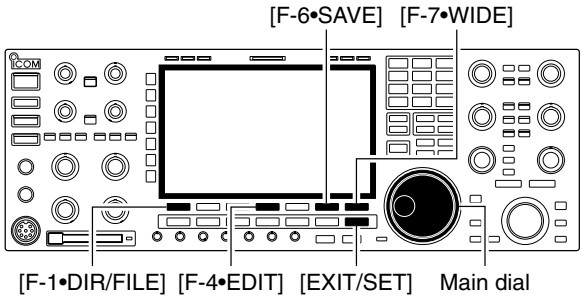
Auto Monitor	ON
Turn the automatic monitor function for recorded audio contents transmission.	• ON : Monitors transmitting audio automatically when sending a recorded audio. • OFF : Monitors transmitting audio only when the monitor function is in use.

Short Play Time	5s
Set the desired time period for the one-touch playing (when [PLAY] is pushed momentarily).	• 3 to 10 sec. in 1 sec. steps can be set. (default: 5 sec.)

Normal Rec Time	15s
Set the desired time period for the for one-touch recording (when [REC] is pushed momentarily).	• 5 to 15 sec. in 1 sec. steps can be set. (default: 15 sec.)

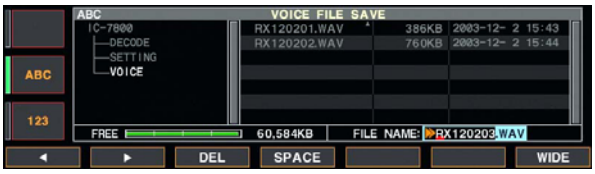
■ Saving a voice memory into the CF memory card

◇ Saving the received audio memory



• **Voice recorder RX memory screen**

• **Voice file save screen— file name edit**



• **While saving**

The recorded RX memory contents can be saved into the CF (Compact Flash) memory card.

① During voice recorder RX memory screen indication, push [F-6•SAVE] to select voice file save screen.
- Previously selected screen, TX or RX memory, is displayed. If the TX memory channel (T1–T4) appears, push [F-7•T/R] to select RX memory channel.

② Change the following conditions if desired.

- **File name:**
  1. Push [F-4•EDIT] to select file name edit condition.
     - Push [F-1• DIR/FILE] several times to select the file name, if necessary.
  2. Push [ABC], [123] or [Symbol] to select the character group, then rotate the main dial to select the character.
     - [ABC] : A to Z (capital letters); [123]: 0 to 9 (numerals); [Symbol]: ! # $ % & ‘ ` ^ + – = ( ) [ ] { } _ ~ @ can be selected.
     - Push [F-1•◀] to move the cursor left, push [F-2•▶] to move the cursor right, push [F-3•DEL] to delete a character and push [F-4•SPACE] to insert a space.
  3. Push [EXIT/SET] to set the file name.
- **Saving location**
  1. Push [F-1•DIR/FILE] to select tree view screen.
  2. Select the desired directory or folder in the CF memory card.
     - Push [F-4•◀ ▶] to select the upper directory.
     - Push [F-2•▲] or [F-3•▼] to select folder in the same directory.
     - Push [F-4•◀ ▶] for 1 sec. to select a folder in the directory.
     - Push [F-5•REN/DEL] to rename the folder.
     - Push [F-5•REN/DEL] for 1 sec. to delete the folder.
     - Push [F-6•MAKE] for 1 sec. to making a new folder. (Edit the name with the same manner as the “• File name” above.)
  3. Push [F-1•DIR/FILE] twice to select the file name.

③ Push [F-6•SAVE].
- After the saving is completed, return to PSK decode menu 2 automatically.

◇ Saving the TX memory

The TX memory contents can also be saved into the CF (Compact Flash) memory card. However, the contents are saved with the memory channel list, set mode conditions, etc. at the same time.
See page 12-23 for details.