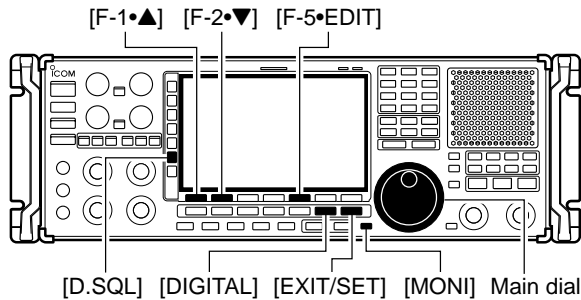
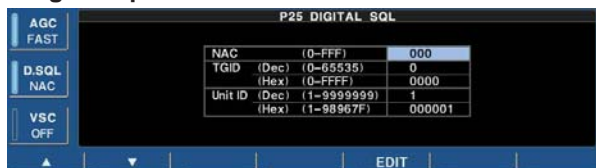


■ Digital squelch operation



• Digital squelch set mode



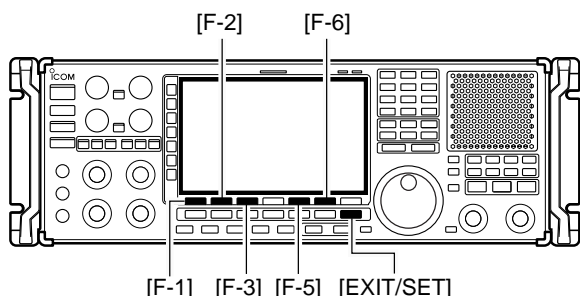
While in P25 mode operation, 2 types of digital squelch, NAC or Selective, are available.

- ① Set the desired frequency and select P25 mode.
- ② Push [D.SQL] to turn the digital squelch function ON.
 - “NAC” or “SEL” appears when the digital squelch function is ON.
- ③ Push and hold [D.SQL] for 1 sec. to enter P25 digital squelch set mode.
- ④ Push [F-1•▲] or [F-2•▼] to select the items, “NAC,” “TGID” or “Unit ID.”
- ⑤ Push [F-5•EDIT] to enter digital code programming.
 - A cursor appears and blinks.
 - Push [F-1•◀] or [F-2•▶] for cursor movement.
 - Push [F-3•DEL] to delete the selected code.
 - Using the receiver’s keypad, [0]–[9], can also enter numerals.
 - Multifunction switch guide changes to the additional keys, [A]–[F], for hexadecimal input.
- ⑥ Push [F-5•SET] to input and set the code.
 - The cursor disappears.
- ⑦ Push [EXIT/SET] to return to the previous indication.
- ⑧ When the received signal includes a matching code, squelch opens and the signal can be heard.
 - When the received signal’s code does not match, digital squelch does not open, however, the S-indicator shows signal strength.
- ⑨ To open the digital squelch manually, push [MONI].
 - The digital squelch opens temporarily while pushing and holding [MONI].
- ⑩ To cancel digital squelch, push [D.SQL] several times to clear the digital squelch.
 - “NAC” or “SEL” disappears and “OFF” appears.

■ Spectrum scope screen	5-2
◇ Center mode	5-2
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■ Spectrum scope screen

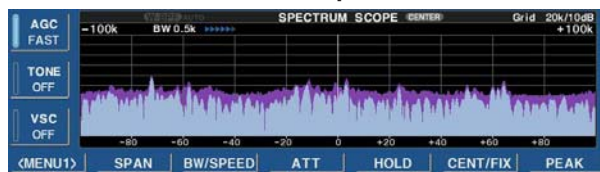
◇ Center mode



MENU1	SPAN	BW/SPEED	ATT	HOLD	CENT/FIX	PEAK
MENU2	W-BPF					SET
[F-1]	[F-2]	[F-3]	[F-4]	[F-5]	[F-6]	[F-7]



• Observed indication example



This DSP-based spectrum scope allows you to display the conditions on the selected band, as well as relative strengths of signals. The IC-R9500 has two modes for the spectrum indication— one is center mode, and another one is fixed mode.

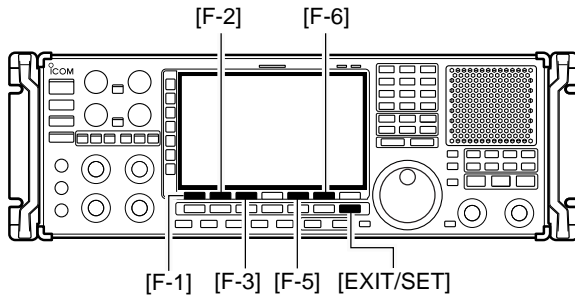
In addition, the IC-R9500 has a mini-scope screen to save screen space.

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.
 - 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. 5-7)
- ③ Push [F-6•CENT/FIX] to select the center mode.
 - “**CENTER**” is displayed when center mode is selected.
- ④ Push [F-2•SPAN] once.
 - Multifunction switch guide changes to the span setting guide.
- ⑤ Push [SPAN+] or [SPAN-] several times to select the scope span.
 - ±2.5 k, ±5.0 k, ±10 k, ±25 k, ±50 k, ±100 k, ±250 k, ±500 k, ±1 M, ±2.5 M and ±5 MHz are available.
- ⑥ Push [F-3•BW/SPEED] once.
 - Multifunction switch guide changes to the resolution band width/speed setting guide.
- ⑦ Push [BW+] or [BW-] several times to select the resolution band width.
 - 0.2 k, 0.5 k, 1 k, 2 k, 5 k, 10 k and 20 kHz are available.
- ⑧ Push [SPEED-] or [SPEED+] several times to select the sweep speed.
- ⑨ Push [F-4•ATT] several times to activate an attenuator or turn the attenuator OFF.
 - 10, 20 and 30 dB attenuators are available.
- ⑩ Push [F-5•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.
- ⑪ Push [EXIT/SET] to exit the scope screen.

NOTE: If a strong signal is received, a ghost waveform may appear. Push [F-4•ATT] several times to activate the spectrum scope attenuator in this case. Spurious signal waveforms may be displayed if generated in the internal scope circuit and do not indicate a receiver malfunction.

◇ Fixed frequency mode



MENU1	EDGE	BW/SPEED	ATT	HOLD	CENT/FIX	PEAK
MENU2	W-BPF					SET
[F-1]	[F-2]	[F-3]	[F-4]	[F-5]	[F-6]	[F-7]

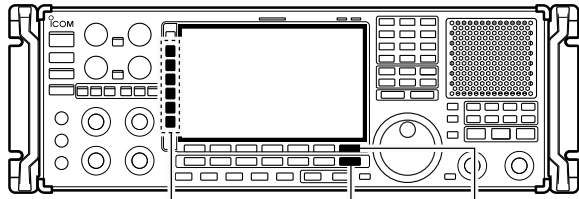


Displays signals within the specified frequency range. The selected frequency band conditions can be observed at a glance when using this mode.

- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Push [F-1•SCOPE] to select the scope screen.
 - 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. 5-7)
- ③ Push [F-6•CENT/FIX] to select the fixed mode.
 - “**FIX**” is displayed when fix mode is selected.
- ④ Push [F-2•EDGE] once.
 - Multifunction switch guide changes to the resolution band width/speed setting guide.
- ⑤ Push [START] then edit the desired frequency using the keypad to set the lower frequency edge, and push [STOP] then edit the desired frequency using the keypad to set the higher frequency edge.
- ⑥ Push [F-3•BW/SPEED] once.
 - Multifunction switch guide changes to the resolution band width/speed setting guide.
- ⑦ Push [BW+] or [BW-] several times to select the resolution band width.
 - 0.2 k, 0.5 k, 1 k, 2 k, 5 k, 10 k and 20 kHz are available depends on the frequency range.
- ⑧ Push [SPEED-] or [SPEED+] several times to select the sweeping speed.
- ⑨ Push [F-4•ATT] several times to activate an attenuator or turn the attenuator OFF.
 - 10, 20 and 30 dB attenuators are available.
- ⑩ Push [F-5•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.
- ⑪ Push [EXIT/SET] to exit the scope screen.

NOTE: If a strong signal is received, a ghost waveform may appear. Push [F-4•ATT] several times to activate the spectrum scope attenuator in this case.

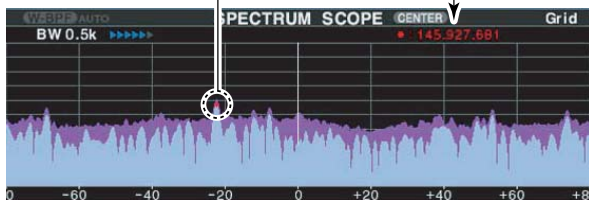
◇ Peak marker function



Multi-function switch [EXIT/SET] [F-7•PEAK]



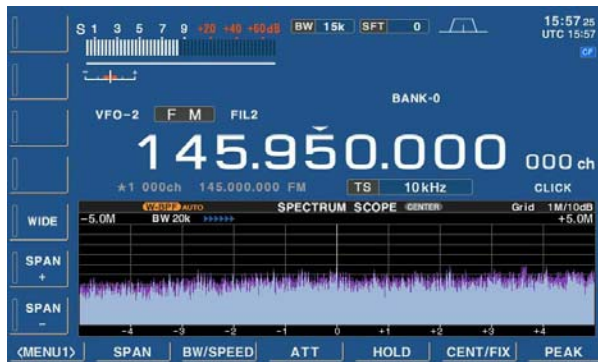
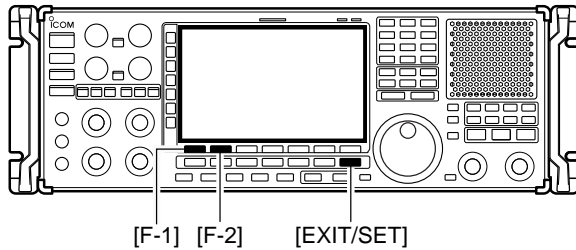
Peak indicator Peak frequency



The peak marker function can display the frequencies of several peaks in order.

- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Push [F-1•SCOPE] to select the scope screen.
 - 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. 5-7)
- ③ Push [F-6•CENT/FIX] to select center or fixed mode.
- ④ Push [F-7•PEAK] once.
 - Multifunction switch guide changes to the peak selection guide.
- ⑤ Push [PEAK] to place the marker on the first peak.
 - Push [NEXT level] to search for the next peak level.
 - Push [NEXT ◀] to search for the next peak level of lower frequency.
 - Push [NEXT ▶] to search for the next peak level of higher frequency.
 - Push and hold [→RX] to overwrite the peak level frequency as the new center frequency.
 - Push [OFF] to turn OFF the maker.
 - “<<” or “>>” appears when the marker is out of range.
- ⑥ Push [EXIT/SET] to return to the previous screen.

◇ Wide band-pass filter selection

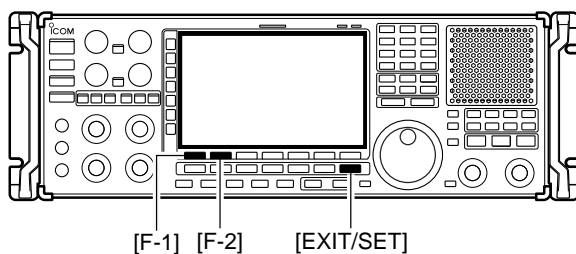


The wide band-pass filter function can change the RF band pass filter and the select the wide band-pass filter

- ① During spectrum scope display ON, push [F-1]•[MENU1] to select the second scope menu.
- ② Push [F-2]•[W-BPF] once or twice to select the wide band-pass filter setting ON, AUTO or OFF.
 - “W-BPF” appears when ON is selected, “W-BPF AUTO” appears when AUTO is selected or no indication appears when OFF is selected.
 - While W-BPF AUTO is activate, the wide band pass filter is automatically selected when wider than 500 kHz span is selected.
- ③ Push [EXIT/SET] to return to the previous screen.

NOTE: The RF filter circuit is commonly used for the scope signal and received signal. When W-BPF is selected, or W-BPF AUTO is selected with wider than 500 kHz span, interference may heard due to the received signal passing through the high pass filter instead of the specified band-pass filters.

◇ Wide band scope function

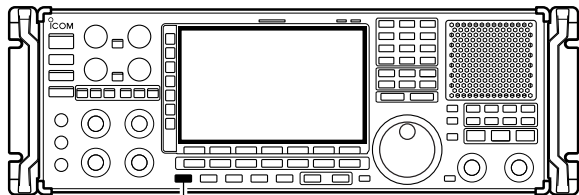


The wide band scope function is available to sweep a wide frequency range (max. ± 500 MHz). While this function is active, AF monitor is not available.

- ① During spectrum scope display ON, push [F-2]•[SPAN] to select the span setting condition.
 - Multifunction switch guide changes to the span selection guide.
- ② Push [WIDE] to select the wide band scope function ON or OFF.
 - When ON is selected, audio disappears.
- ③ Push [SPAN+] or [SPAN-] several times to select the scope span.
 - ± 5.0 M, ± 10 M, ± 25 M, ± 50 M, ± 100 M, ± 250 M and ± 500 M are available.
- ④ Push [EXIT/SET] to return to the previous screen.

5 FUNCTIONS FOR RECEIVE

◇ Mini scope screen indication



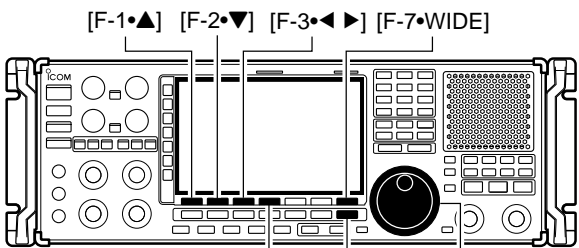
[M.SCOPE]



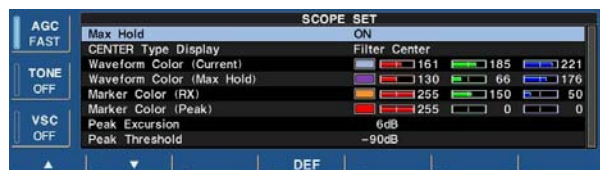
The mini scope screen can be displayed with another screen display, such as set mode menu, decoder screen, memory list screen, etc. simultaneously.

- ① Set the scope mode (center or fixed), marker, attenuator, span, etc. in advance. (pgs. 5-2, 5-3)
- ② Push [M.SCOPE] to toggle the mini scope indication ON and OFF.

◇ Scope set mode







[F-4•DEF] [EXIT/SET] Main dial



This set mode is used to set the waveform color, center frequency indication for center mode, etc.

- ① During spectrum scope display ON, push [F-1•MENU1] to select the second scope menu.
- ② Push [F-7•SET] to enter scope set mode screen.
 - Push [F-7•WIDE] to toggle the screen size between normal and wide.
- ③ Push [F-1•▲] or [F-2•▼] to select the desired set item.
- ④ Set the desired condition using the main dial.
 - Push and hold [F-4•DEF] for 1 sec. to select the default condition or value.
 - Push [F-3•◀▶] to select the set contents for some items.
- ⑤ Push [EXIT/SET] to exit from set mode.

◇ Scope set mode (continued)

Max Hold	ON
Turn the peak level holding function ON or OFF.	
Center Type Display	Filter Center
Select the center frequency of the spectrum scope indication (center mode only).	<ul style="list-style-type: none"> • 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 at the bottom of the scope.
Waveform Color (Current)	
Set the waveform color for the currently received signals.	<ul style="list-style-type: none"> • 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)	
Set the waveform color for the receiving signals maximum level.	<ul style="list-style-type: none"> • 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.
Marker Color (RX)	
Set the marker color for the displayed frequency while the fix mode.	<ul style="list-style-type: none"> • 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)	
Set the marker color for the peak frequency of the receiving signals.	<ul style="list-style-type: none"> • 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.

◇ Scope set mode (continued)

Peak Excursion

6dB

Set the next peak excursion level from 0 to 80 dB in 1 dB steps. (default: 6 dB)

If the difference between the signal peak and adjacent minimum values is less than the set level, it will not be found as the next peak level when [NEXT◀] or [NEXT▶] is pushed.

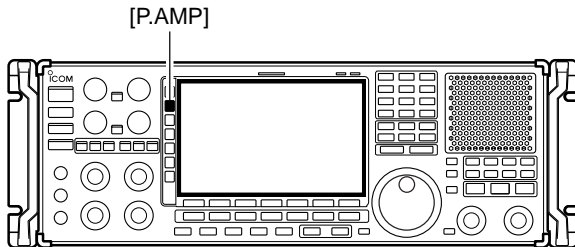
Peak Threshold

-90dB

Set the next peak threshold level from 0 to -100 dB in 1 dB steps. (default: -90dB)

If the difference between the signal and last peak signal values is more than the set level, it will not be found as the next peak level when [NEXT◀] or [NEXT▶] is pushed.

■ Preamplifier



During 1150–3335 MHz (ANT2) operation, either the preamplifier or attenuator is activate exclusively.

The preamp amplifies received signals in the receiver front end, 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.

- **Below 30 MHz**

P.AMP 1 For all HF bands

P.AMP 2 High-gain pre-amp for 24 MHz band and above

- **Above 30 MHz**

P.AMP ON Only ON/OFF is available

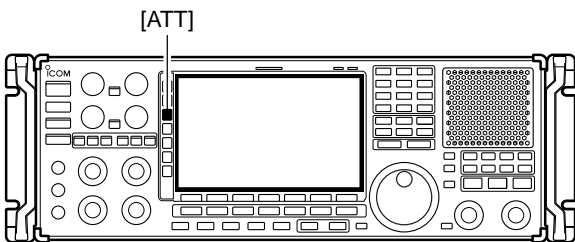
✓ About the “P.AMP2”

The “P.AMP 2” is a high gain receive amplifier. When the “P.AMP 2” is used when strong signal are present, distortion sometimes results. If this occurs, use the receiver 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 signals 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).

■ Attenuator



The attenuator prevents a desired signal from being distorted by a 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 select the desired attenuator or attenuator OFF.

- During HF bands operation, 6, 12, 18, 24, 30 dB are available.

- During 30–1150 MHz operation, 10, 20, 30 dB are available.

- During 1150–3335 MHz operation, only 20 dB is available.

➔ Push and hold [ATT] for 1 sec. to turn OFF the attenuator, when it's ON.

- **HF bands**

ATT 6dB 6 dB attenuation

ATT 12dB 12 dB attenuation

ATT 18dB 18 dB attenuation

ATT 24dB 24 dB attenuation

ATT 30dB 30 dB attenuation

- **30–1150 MHz**

ATT 10dB 10 dB attenuation

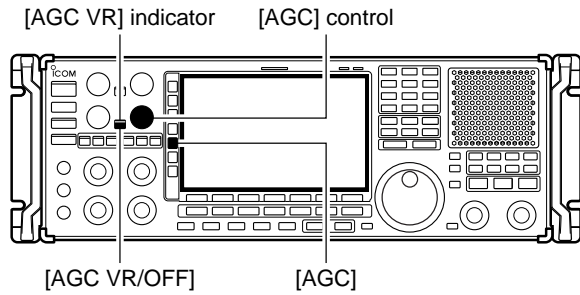
ATT 20dB 20 dB attenuation

ATT 30dB 30 dB attenuation

- **1150–3335 MHz**

ATT 20dB 20 dB attenuation

AGC function



The AGC (auto gain control) controls receiver gain to produce a constant audio output level even when the received signal strength varies greatly.

The receiver has 3 preset AGC characteristics (time constant: fast, mid, slow) for non-FM/WFM or P25 mode.

▨ The FM/WFM or P25 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/WFM or P25 mode.
- ② Push [AGC] several times to select AGC fast, AGC medium (MID) or AGC slow.
 - Push and hold [AGC VR/OFF] for 1 sec. to turn the AGC function OFF.

◇ Adjusting the AGC time constant

- ① Select non-FM/WFM or P25 mode.
- ② Push [AGC VR/OFF] once or twice to select AGC volume (VR), then rotate [AGC] control to adjust the AGC time constant.
 - [AGC VR] indicator lights green and "VR" appears instead of "FAST," "MID" or "SLOW."

◇ Setting the AGC time constant preset value

AGC		FM	WFM	AM	SSB	CW	FSK	P25
FAST	0.1	0.1	3.0	0.3	0.1	0.1	0.1	
MID	---	---	5.0	2.0	0.5	0.5	---	
SLOW	---	---	7.0	6.0	1.2	1.2	---	

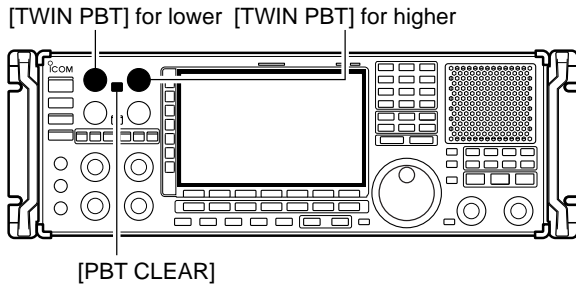
(sec.)

- ① Select the desired mode (not FM/WFM or P25 mode).
- ② Push and hold [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 and hold [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 and hold [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 and hold [F-4•DEF] for 1 sec. to select a default value.
- ⑨ Select another mode (not FM/WFM or P25). 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
FM	0.1 (FAST)	Fixed
WFM	0.1 (FAST)	Fixed
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)	
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)	
FSK	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)	
P25	0.1 (FAST)	Fixed

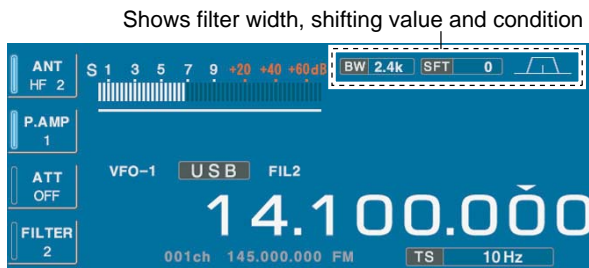
■ Twin PBT operation



PBT (Passband Tuning) electronically narrows the IF passband width by shifting the IF frequency slightly outside of the IF filter passband, rejecting interference. The IC-R9500 uses DSP for the PBT function. Moving both [TWIN PBT] controls to the same position shifts the IF.

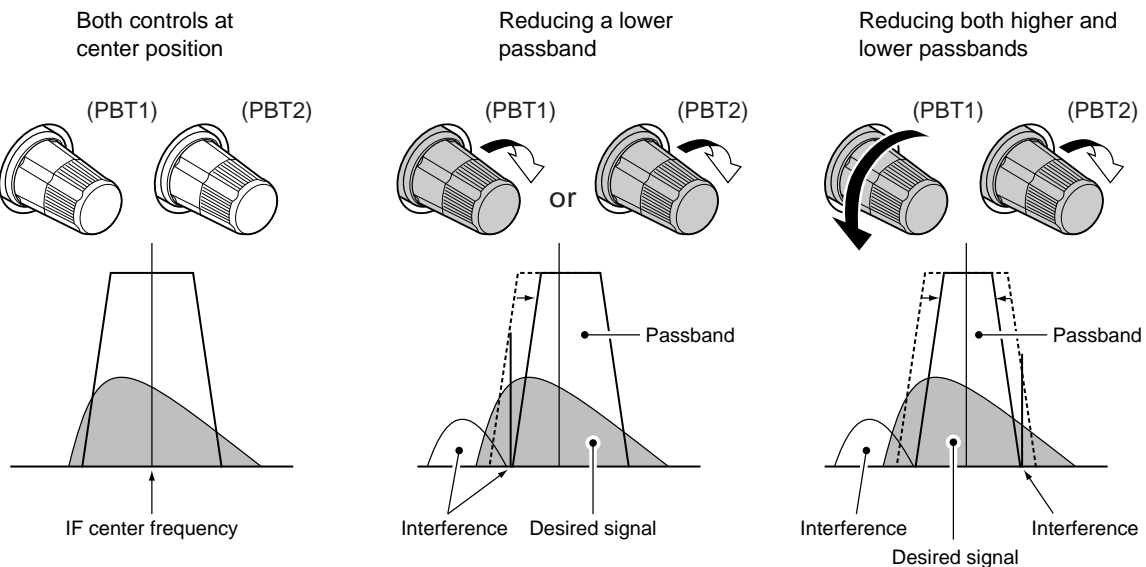
- The LCD shows the passband width and shift frequency graphically.
- Push and hold [FILTER] for 1 sec. to enter the filter set screen. Current passband width and shift frequency is displayed in the filter set screen.
- To set the [TWIN PBT] controls to the center positions, push and hold [PBT CLR] for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

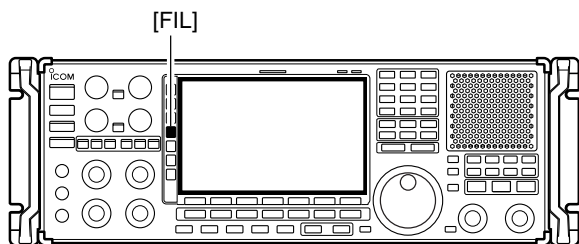


- [TWIN PBT] should normally be set to the center positions (PBT setting is cleared) when there is no interference.
- When PBT is used, the audio tone may be changed.
- Not available for FM/WFM or P25 mode.
- While rotating [TWIN PBT], noise may occur. This comes from the DSP unit and does not indicate an equipment malfunction.

• PBT operation example



IF filter selection



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

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

For WFM and P25 mode, the passband width is fixed.

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 SSB and CW 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 FSK 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.

▨ The filter selection is automatically memorized in each mode.

▨ The PBT shift frequencies are automatically memorized for 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/WFM or P25 mode)



- ① Push and hold [FILTER] for 1 sec. to enter filter set screen.
- ② Select any mode except FM/WFM or P25 mode.
 - 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 AM mode, the passband width can be set within the following range.
 - 200 Hz to 10 kHz 200 Hz steps
 - In SSB and CW 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 FSK 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
 - Push and hold [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 operations.

◇ Roofing filter selection



The IC-R9500 has 3, 6 15 and 50 kHz roofing filters at the 1st IF frequency. The roofing filter provides interference reduction from nearby strong signals.

- ① Push and hold [FILTER] for 1 sec. to enter filter set screen.
- ② Select any mode except FM/WFM or P25 mode.
- ③ Push [F-6•ROOFING] to select the desired filter width from 50 kHz, 15 kHz (default), 6 kHz and 3 kHz.
 - Push and hold [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 and hold [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, and passband width (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 and CW can be selected independently from soft and sharp.

- ① Push and hold [FILTER] for 1 sec. to enter filter set screen.
- ② Push and hold [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 -)	SOFT
Select the filter shape for SSB mode in HF bands.	▨ The set filter shape is automatically used only when the IF filter is set to 600 Hz or wider.

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 is set to 500 Hz or narrower.

◇ Filter shape set mode (continued)

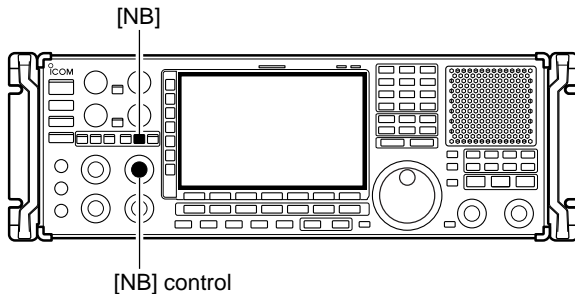
CW (600Hz -)	SHARP
Select the filter shape for CW mode in HF bands.	/// The set filter shape is automatically used only when the IF filter is set to 600 Hz or wider.

V/U SSB (600Hz -)	SOFT
Select the filter shape for SSB mode in VHF/UHF bands.	/// The set filter shape is automatically used only when the IF filter is set to 600 Hz or wider.

CW (- 500Hz)	SHARP
Select the filter shape for CW mode in VHF/UHF bands.	/// The set filter shape is automatically used only when the IF filter is set to 500 Hz or narrower.

CW (600Hz -)	SHARP
Select the filter shape for CW mode in VHF/UHF bands.	/// The set filter shape is automatically used only when the IF filter is set to 600 Hz or wider.

■ Noise blanker

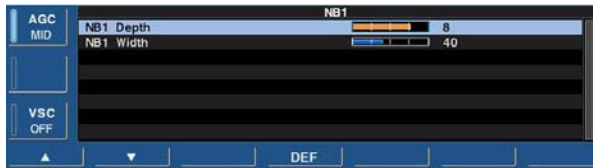


The noise blanker eliminates pulse-type noise such as the noise from car ignitions. The noise blanker is not available for FM/WFM or P25 mode.

- ① Push [NB] several times to select the noise blanker function, NB1 or NB2, and OFF.
 - [NB] indicator above this switch lights green.
 - "NB1" or "NB2" appears on the display when either is ON.
- 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 other than pulsing. Turn the noise blanker OFF, or rotate [NB] control to a shallow position in this case.

◇ NB set mode



To deal with various type of noises, attenuation level and noise width can be set in NB set mode. Two of noise blanker, NB1 and NB2, can be set independently.

- ① Turn ON the desired noise blanker, NB1 or NB2.
 - When entering NB1 set mode, this step can be skipped.
- ② Push and hold [NB] for 1 sec. to enter NB1 (or NB2) set mode.
- ③ Push [F-1•▲] or [F-2•▼] to select the desired item.
- ④ Rotate the main dial to set the desired level or value.
 - Push and hold [F-4•DEF] for 1 sec. to select a default value.
- ⑤ Push [EXIT/SET] to exit NB1 (or NB2) set mode.

• NB1 set mode

NB1 Depth		8
Set the noise attenuation level from 1 to 10.		

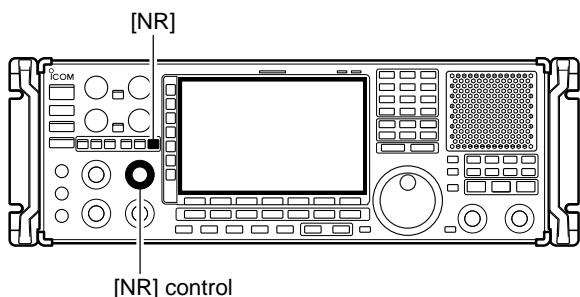
NB1 Width		40%
Set the noise pulse width from 1 to 100.		

• NB2 set mode

NB2 Depth		8
Set the noise attenuation level from 1 to 10.		

NB2 Width		80%
Set the noise pulse width from 1 to 100.		

■ Noise reduction

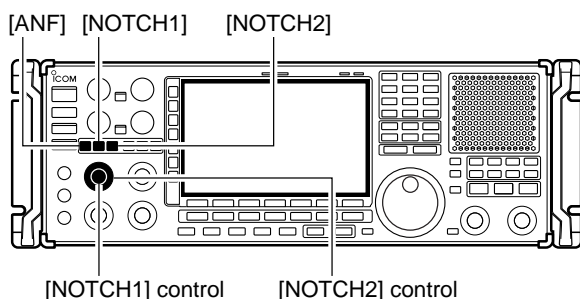


The noise reduction function reduces random noise components and enhances desired signals which are buried in noise. The DSP performs the random noise reduction function.

- ① Push the [NR] to turn the noise reduction ON.
 - [NR] indicator above this 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.

▨ Setting the [NR] control too high can result in audio signal masking or distortion. Set the [NR] control for maximum readability.

■ Notch function



This receiver has auto and manual notch functions. The auto notch function uses DSP to automatically attenuates up to 3 beat tones, tuning signals, etc., even if they are moving. The manual notch can be set to attenuate a frequency via the [NOTCH1]/[NOTCH2] controls.

The auto notch can be used in SSB, AM, FM and WFM modes.

The manual notch can be used in SSB, CW, FSK and AM modes.

• Auto notch indication



- ➔ Push [ANF] to turn the auto notch function ON and OFF in FM, WFM, AM and SSB modes.
 - [ANF] indicator above this switch lights green.
 - “AN” appears when auto notch is in use.

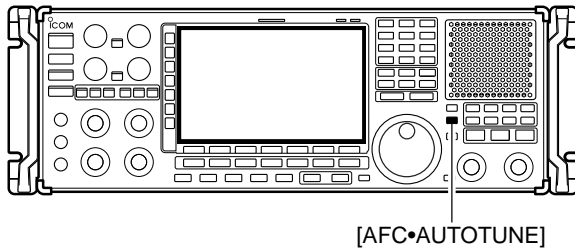
• Manual notch indication



- ➔ Push [NOTCH1] or [NOTCH2] to turn the manual notch function ON and OFF, manual and OFF in AM, SSB, CW and FSK modes.
 - [NOTCH1]/[NOTCH2] indicators above these switches light green.
 - Push and hold [NOTCH1] or [NOTCH2] 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 [NOTCH1] or [NOTCH2] controls.
 - “MN1” or “MN2” appear when manual notch is in use.

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

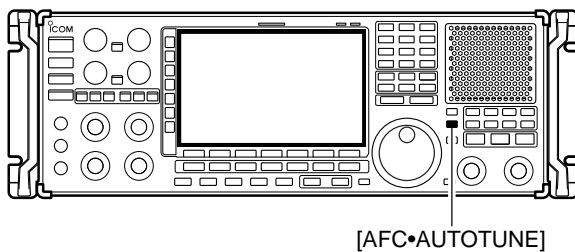
Autotune function



The Automatic tuning function tunes the displayed frequency (max. ± 5 kHz) automatically when an off frequency signal is received. This function is active while in AM, SSB or CW is selected.

- Push [AUTOTUNE] (AFC) to toggle the autotune function ON or OFF.
 - “**AUTO TUNE**” blinks when autotune function is activate.
 - After 30 sec. has passed, the autotune function stops tuning automatically even it's still off frequency.

AFC function



The AFC stands for Automatic Frequency Control. The AFC function tunes the displayed frequency automatically when an off-center frequency is received. It activates in FM or WFM mode only.

- Push [AFC] to toggle the autotune function ON or OFF.
 - “AFC” appears when AFC function is active.

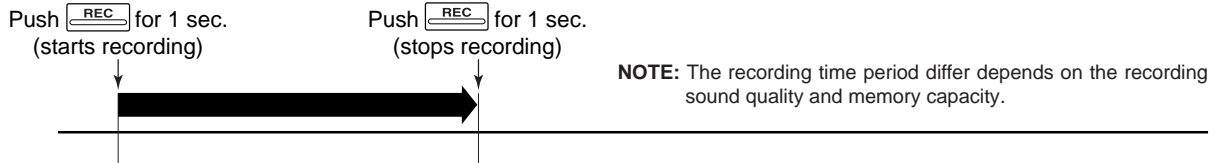
▨ The AFC limit can be set in the others set mode. While the AFC limit is ON, AFC stops tuning when the received frequency leaves the out of the frequency limit range.

■ About digital voice recording	6-2
■ Recording received audio	6-3
◇ Regular recording	6-3
■ Playing the recorded audio	6-3
◇ Regular playing	6-3
■ Erasing the recorded contents	6-4
■ Selecting the CF memory card or USB-Memory	6-4
■ Short recording	6-5
◇ Recording	6-5
◇ Playing back	6-5
■ Voice set mode	6-6

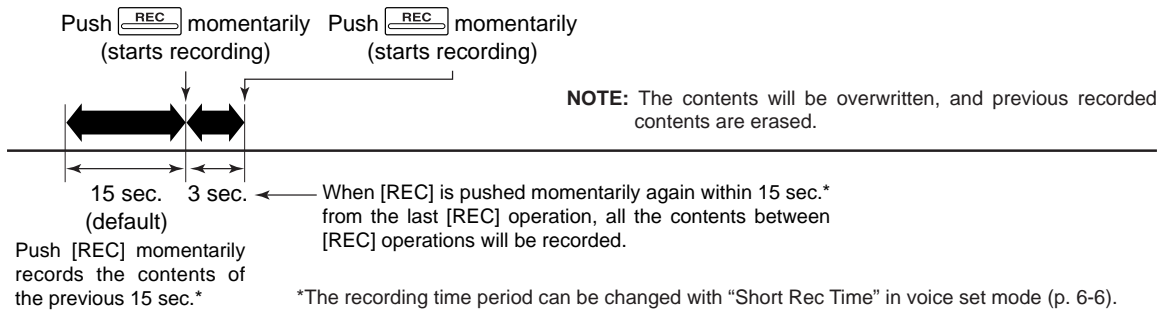
■ About digital voice recording

The IC-R9500 has two types of digital voice recorders. One is a regular voice recorder for which a continuous long recording is available. And the other is a short recorder which temporarily stores the previous period. A maximum message length of 30 sec. can be recorded into a RAM.

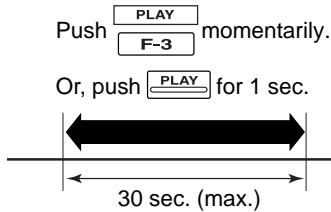
• Example— Regular recording



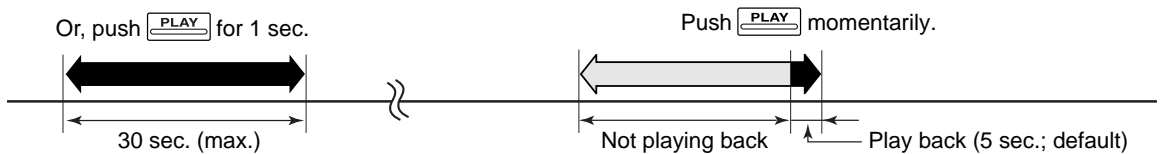
• Example— Short recording



• Playing back the all contents for short recording



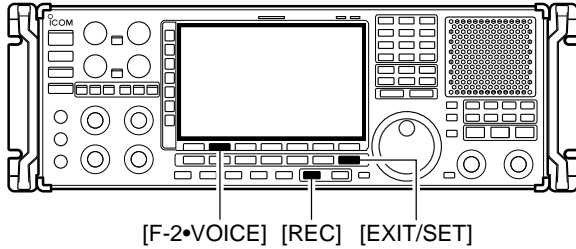
• Playing back the end of 5 sec.* for short recording



*The playing back time period can be changed with "Short Play Time" in voice set mode (p. 6-6).

Recording received audio

Regular recording



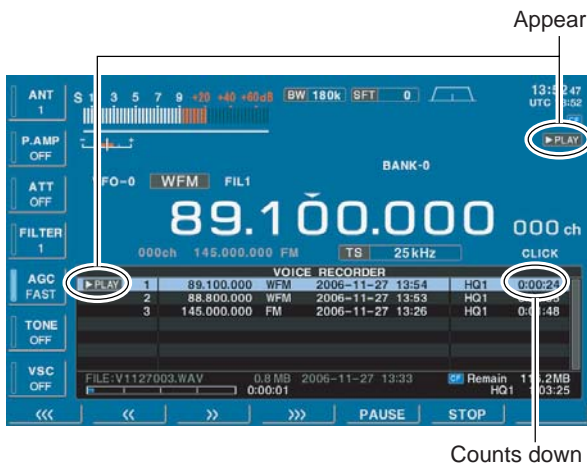
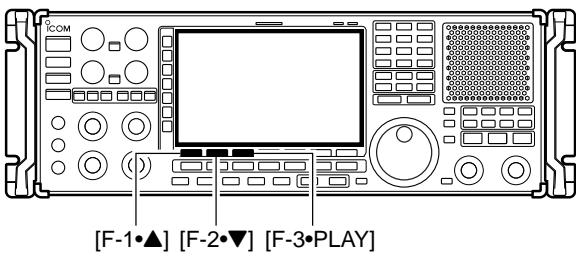
This voice recorder records not only the received audio, but also information such as operating frequency, mode, and the recording time for your future reference.

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Select the desired mode.
- ③ Push [F-2•VOICE] to call up the voice recorder screen.
 - Push and hold [F-6•CF/USB] for 1 sec. once or twice to select the CF card or USB-Memory, when USB memory is inserted.
 - The recording sound quality can be set in voice set mode. (p. 6-6)
- ④ Push and hold [REC] for 1 sec. to start recording.
 - The operating frequency, mode and current date/time are programmed as the memory names automatically.
- ⑤ Push and hold [REC] for 1 sec. to stop recording.
- ⑥ Push [EXIT/SET] to exit the voice recorder screen.

▨ If you do not change any recording setting, you can start or stop recording from the normal screen, just push and hold [REC] for 1 sec.

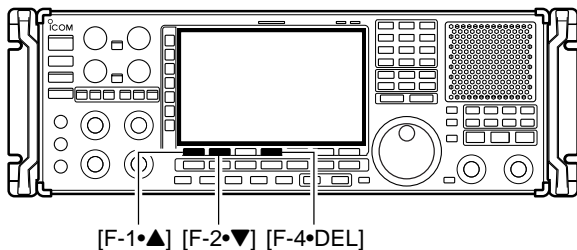
Playing the recorded audio

Regular playing



- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-2•VOICE] to call up the voice recorder screen.
 - Push and hold [F-6•CF/USB] for 1 sec. once or twice to select the CF card or USB-Memory, when USB memory is inserted.
- 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 on the voice recorder screen and display's right edge, and the timer counts down.
 - Push [F-1•<<<] when you want to rewind for 15 sec.
 - Push [F-2•<<] when you want to rewind for 5 sec.
 - Push [F-3•>>] when you want to fast forward for 5 sec.
 - Push [F-4•>>>] when you want to fast forward for 15 sec.
 - Push and hold above keys to continue rewinding or fast forwarding, respectively.
 - Push [F-5•PAUSE] when you want to pause playing back.
- ⑤ Push [F-6•STOP] to stop playback, if desired.
 - Playback is terminated automatically when all of the recorded contents in the channel are played.
- ⑥ Push [EXIT/SET] to exit the voice recorder screen.

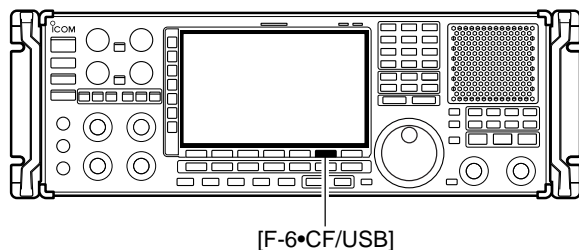
■ Erasing the recorded contents



The recorded contents can be erased independently by channel.

- ① Call up the voice recorder screen.
 - Push and hold [F-6•CF/USB] for 1 sec. once or twice to select the CF card or USB-Memory, when USB memory is Inserted.
- ② Push [F-1•▲] or [F-2•▼] to select the desired voice memory to be erased.
- ③ Push and hold [F-4•DEL] for 1 sec. to erase the contents.
- ④ Push [EXIT/SET] to exit the voice recorder screen.

■ Select the CF memory card or USB-Memory



The voice recorder can record into CF memory card or USB-Memory, when USB-Memory is inserted.

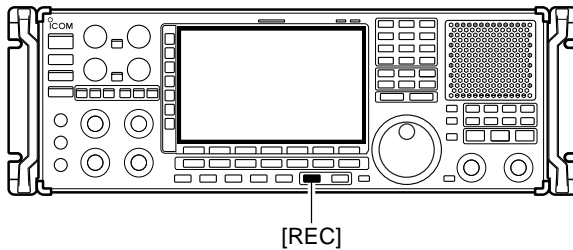
- ① Call up the voice recorder screen.
- ② Push and hold [F-6•CF/USB] for 1 sec. to select the desired CF card or USB-Memory.
- ③ Operate the voice recorder as desired.
- ④ Push [EXIT/SET] to exit the voice recorder screen.

■ Short recording

To record the receiving signal contents temporarily and immediately, short recording is available. This short recording function records the 15 sec. (max.) of audio prior to when [REC] is pushed into RAM. Content is only saved when the receiver's power is ON and lost when power is removed.

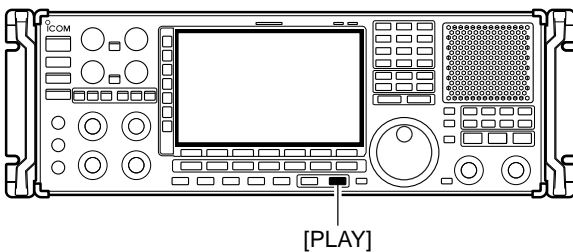
This short recording is useful when you miss hearing important information from the receiver, you can listen to the important information once more. This function can be used while you are recording into CF memory card or USB-Memory as regular recording.

◇ Recording



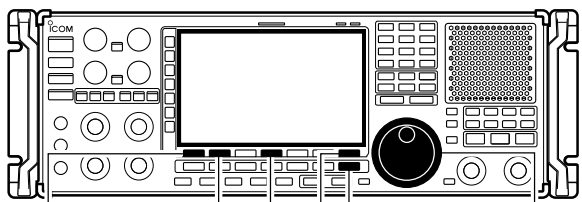
- Push [REC] momentarily to save the previous 15 sec. audio.
 - No indication appears.
 - The recordable time period can be set in voice set mode. (p. 6-6)

◇ Playing back

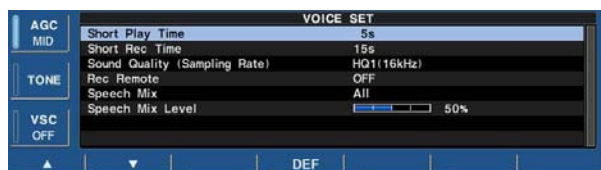


- **Short time play**
 - Push [PLAY] momentarily to play back the last 5 sec. of the short recording audio.
 - "▶PLAY" indicator appears on the display's right edge.
 - Playback is terminated automatically when all of the recorded contents, or after 5 sec.
 - The playback time period can be set in voice set mode. (p. 6-6)
- **Full time play**
 - Push and hold [PLAY] for 1 sec. to play back the short recording audio for full time.
 - "▶PLAY" indicator appears on the display's right edge.
 - Playback is terminated automatically when all of the recorded contents are played.

■ Voice set mode



[F-1•▲] [F-2•▼] [F-4•DEF] [F-7•SET] [EXIT/SET] Main dial



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

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

Short Play Time

5s

Set the desired time period for the short play back (when [PLAY] is pushed momentarily).

- 3 to 10 sec. in 1 sec. steps can be set. (default: 5 sec.)

Short Rec Time

15s

Set the desired time period for one-touch recording (when [REC] is pushed momentarily).

- 5 to 30 sec. in 1 sec. steps can be set. (default: 15 sec.)

Sound Quality (Sampling Rate)

HQ1(16kHz)

Set the recording sound quality. The sampling rate setting is expressed in samples per second, and determines the sound quality.

Although a higher sampling rate provides a better quality sound than a lower sampling rate, the file size becomes larger.

- SQ1 (8kHz), SQ2 (12kHz), HQ1 (16kHz), HQ2 (24kHz), SHQ (48kHz) can be set. (default: HQ1(16kHz))

REC Remote


OFF

Turns the recording control signal ON or OFF. (default: OFF)

- OFF : Continues recording even when received signal disappears or squelch closes. (default)
- ON : Records only when received signal appears or squelch opens and stops recording when received signal disappears or squelch closes.

■ Voice set mode (continued)

SPEECH Mix	All
Selects the recording the speech audio from “All,” “Operation” and “OFF.”	<ul style="list-style-type: none">• All : Records the speech audio when speech operation is performed from the front panel or scan stops if “REC SPEECH” setting is ON in the others set mode (p. 11-11).• Operation : Records the speech audio when speech operation is performed from the front panel.• OFF : No recording of the speech audio.

Speech Mix Level	 50%
Sets the recording speech audio level from 0 to 100% in 1% steps. (default: 50%)	<ul style="list-style-type: none">• 0% : Mutes the speech audio.• 50% : Same level as receive audio. (default)• 100% : Mutes the receive audio.

■ Memory channels	7-2
■ Memory channel selection	7-3
◇ Using the [M-CH]/[BANK] selectors	7-3
◇ Using the keypad	7-3
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◇ Programming in VFO mode	7-4
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■ Memory names	7-6
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■ Memory clearing	7-6
■ Memory list screen	7-7
◇ Selecting a memory channel using the memory list screen	7-7
◇ Confirming programmed memory channels	7-7
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■ Memory channels

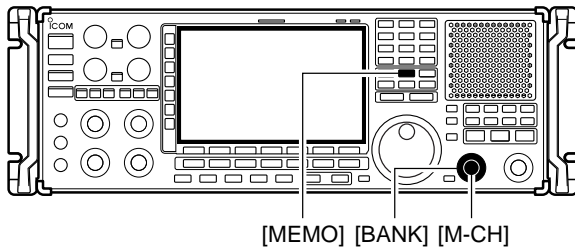
The receiver has 1220 memory channels. Memory mode is very useful for quickly changing to often-used frequencies.

All 1220 memory channels are tuneable which means the programmed frequency can be tuned temporarily with the main dial, etc. in memory mode. memory channel.

MEMORY CHANNEL	MEMORY CHANNEL NUMBER	CAPABILITY	TRANSFER TO VFO	OVER-WRITING	CLEAR
Regular memory channels	0-999 (0-999)	For normal use. Frequency, mode, tuning step, name, P.AMP/ATT information and etc. can be programmed.	YES	YES	YES
Auto write memory channels	A00-A99 (1000-1099)	Frequencies detected during auto memory write scan are memorized into this bank in sequence. Mode and tuning step are written at the same time. Note that when "Auto MW Scan Memory Clear" in scan set mode is set as "ON" and auto write scan is started, all memories in this bank are cleared.	YES	YES	YES
Skip memory channels	S00-S99 (1100-1199)	Undesired signals such as from beacons, control-coded signals, etc., can be programmed to be skipped during programmed scan and auto memory write scan. When [MW] is pushed and held for 1 sec. while scan is paused, the displayed frequency is programmed into this bank regardless of the selected bank.	YES	YES	YES
Scan edge memory channels	P0A-P9B (1200-1219)	Memorize scan edge frequencies. 10 pairs of scan edges (P0A to P9B) are programmable (upper and lower scan edges). Mode and tuning step are automatically equalized to the last programmed channel in a pair.	YES	YES	YES

Memory channel selection

Using the [M-CH]/[BANK] selectors



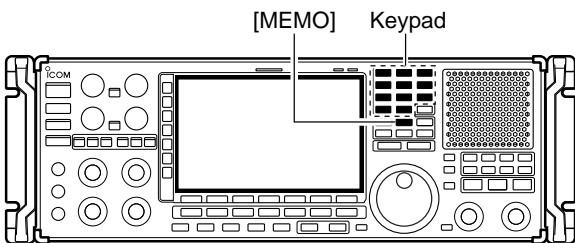
- ① Push [MEMO] to select memory mode.
- ② Rotate [BANK] to select the desired memory bank.
- ③ Rotate [M-ch] to select the desired memory channel.
- ④ To return to VFO mode, push [VFO].
 - Last operated VCO appears.
 - Or push numeral key (0–9) and [VCO] to return to the desired VCO.

✓ Bank limit function

While rotating the [M-CH] selector, memory channels are selectable in the current bank only (Bank limit ON); or selectable from all banks (Bank limit OFF).

- ➔ Push and hold [MEMO] for 1 sec. to turn the bank limit function ON (default) or OFF.
 - “BANK” indicator appears or disappears.

Using the keypad



- ① Push [MEMO] to select memory mode.
- ② Push the desired memory channel number using the keypad.
 - Enter 0 to 999 to select the regular memory channels.
 - Enter 1000 to 1099 to select the auto write memory channels A00 to A99. (Push “10” before entering memory number instead of A.
 - Enter 1100 to 1199 to select the skip memory channels S00 to S99. (Push “11” before entering memory number instead of S.
 - Enter 1200 to 1219 to select the scan edge channels P0A to P9B.

1200 (P0A)	1205 (P2B)	1210 (P5A)	1215 (P7B)
1201 (P0B)	1206 (P3A)	1211 (P5B)	1216 (P8A)
1202 (P1A)	1207 (P3B)	1212 (P6A)	1217 (P8B)
1203 (P1B)	1208 (P4A)	1213 (P6B)	1218 (P9A)
1204 (P2A)	1209 (P4B)	1214 (P7A)	1219 (P9B)

- ③ Push [MEMO] to select the desired memory channel.

[EXAMPLE]

To select the memory channel 3;

- Push [3], then push [MEMO].

To select the memory channel 520;

- Push [5], [2], [0], then push [MEMO].

To select the auto write memory channel A24;

- Push [1], [0], [2], [4], then push [MEMO].

To select the skip channel S65;

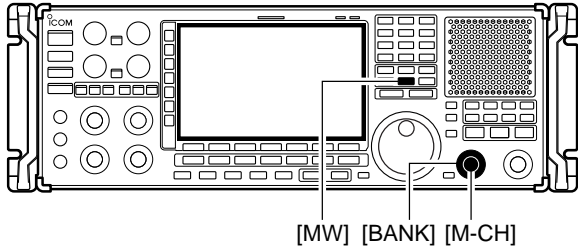
- Push [1], [1], [6], [5], then push [MEMO].

To select the scan edge channel P3B;

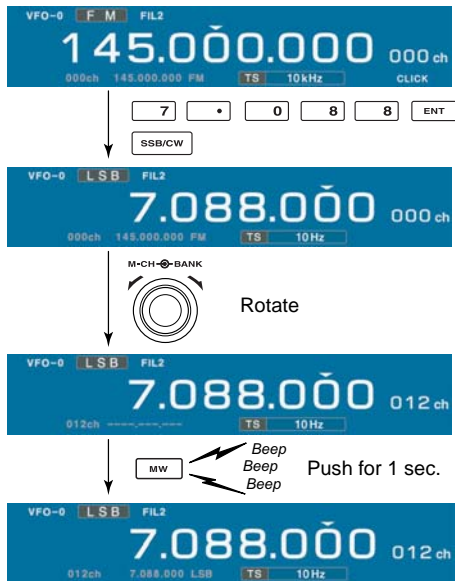
- Push [1], [2], [0], [7], then push [MEMO].

Memory channel programming

Programming in VFO mode

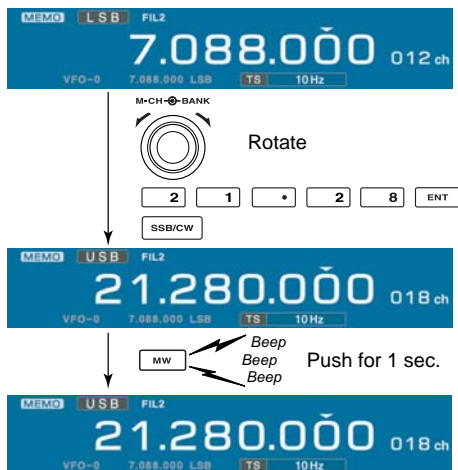


[EXAMPLE]: Programming 7.088 MHz/LSB into memory channel 12.



Programming in memory mode

[EXAMPLE]: Programming 21.280 MHz/USB into memory channel 18.



Memory channel programming can be performed either in VFO mode or in memory mode.

- ① Set the desired frequency, operating mode and filter width in VFO mode.
- ② Rotate [M-CH] (and [BANK]) to select the desired memory channel.
 - Memory list screen is convenient for selecting the desired channel.
 - Memory channel contents appear in the memory channel readout (below the frequency readout).
 - "--.---.--" appears if the selected memory channel is a blank channel (and does not have contents).
- ③ Push and hold [MW] for 1 sec. to program the displayed frequency, operating mode, etc., into the memory channel.

- ① Select the desired memory channel with [M-CH] in memory mode.
 - Memory channel contents appear in the memory channel readout (below the frequency readout).
 - "--.---.--" appears if the selected memory channel is a blank channel (and does not have contents).
- ② Set the desired frequency and operating mode in memory mode.
 - To program a blank channel, use direct frequency entry with the keypad.
- ③ Push and hold [MW] for 1 sec. to program the displayed frequency and operating mode into the memory channel.

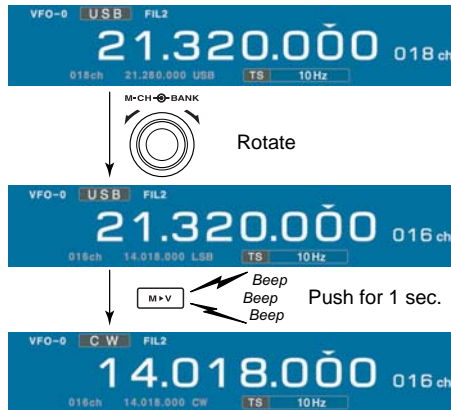
Frequency transferring

Transferring in VFO mode

TRANSFERRING EXAMPLE IN VFO MODE

Operating frequency : 21.320 MHz/USB (VFO)

Contents of M-ch 16 : 14.018 MHz/CW

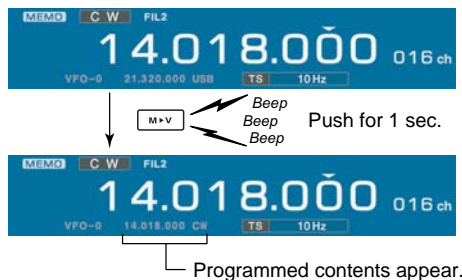


Transferring in memory mode

TRANSFERRING EXAMPLE IN MEMORY MODE

Operating frequency : 21.320 MHz/USB (M-ch 16)

Contents of M-ch 16 : 14.018 MHz/CW



The frequency and operating mode in a memory channel can be transferred to the VFO. Frequency transferring can be performed in either VFO mode or memory mode.

This is useful for transferring programmed contents to VFO.

- ① Select VFO mode with [VFO].
- ② Select the memory channel to be transferred with [M-CH] (and [BANK]).
 - Memory list screen is convenient for selecting the desired channel.
 - Memory channel contents appear in the memory channel readout (below the frequency readout).
 - “-.-.-.-” appears if the selected memory channel is a blank channel. In this case transferring is impossible.
- ③ Push and hold [M▶V] for 1 sec. to transfer the frequency and operating mode.
 - Transferred frequency and operating mode appear on the frequency readout.

This is useful for transferring frequency and operating mode while operating in memory mode.

- When you have changed the frequency or operating mode in the selected memory channel:
 - **Displayed** frequency, mode and filter setting are transferred.
 - **Programmed** frequency and mode in the memory channel are not transferred, and they remain in the memory channel.

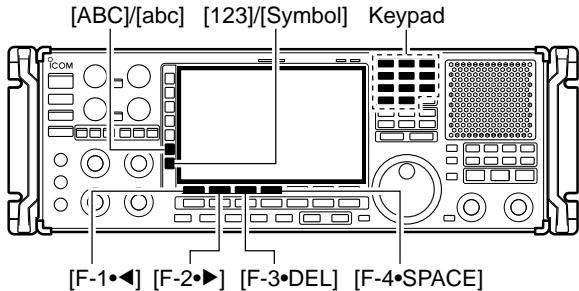
- ① Select the memory channel to be transferred with [M-CH] (and [BANK]) in memory mode.
 - And, set the frequency or operating mode if required.
- ② Push and hold [M▶V] for 1 sec. to transfer the frequency and operating mode.
 - Displayed frequency and operating mode are transferred to the VFO.
- ③ To return to VFO mode, push [VFO] momentarily.

Memory names

All memory channels (including scan edges) can be tagged with alphanumeric names of up to 10 characters each.

Capital letters, small letters, numerals, some symbols (! # \$ % & ¥ ? " ' ` ^ + - * / . , ; = < > () [] { } | _ ~ @) and spaces can be used.

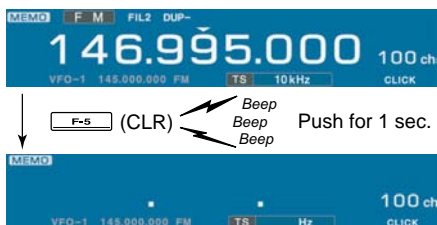
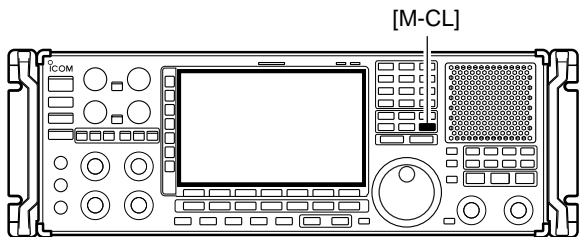
Editing (programming) memory names



- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-4•MEMORY] to select memory list screen.
- ③ Select the desired memory channel.
- ④ Push [F-4•NAME] to edit memory channel name.
 - A cursor appears and blinks.
 - Memory channel names of blank channels cannot be edited.
- ⑤ Input the desired character by rotating the main dial or by editing the keypad 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.
 - Using the receiver's keypad, [0]–[9], can also enter numerals.
- ⑥ Push [EXIT/SET] to input and set the name.
 - The cursor disappears.
- ⑦ Repeat steps ③ to ⑥ to program another memory channel's name, if desired.
- ⑧ Push [EXIT/SET] to exit memory list screen.

Memory clearing

Any unused memory channels can be cleared. The cleared memory channels become blank channels.



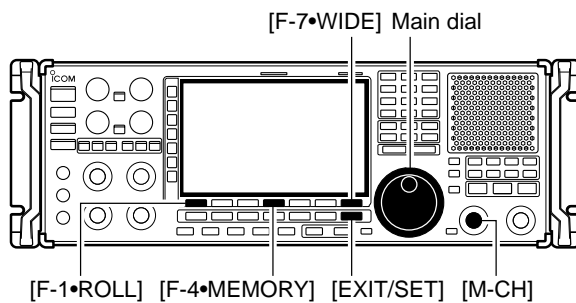
- ① Select memory mode with [MEMO].
- ② Push [F-4•MEMORY] to select memory list screen.
- ③ Select the desired memory channel with [M-CH].
- ④ Push and hold [M-CL] for 1 sec. to clear the contents.
 - The programmed frequency and operating mode disappear.
- ⑤ To clear other memory channels, repeat steps ③ and ④.

■ Memory list screen

The memory list screen simultaneously shows 9 memory channels and their programmed contents. 15 memory channels can be displayed in the wide memory list screen.

You can select a desired memory channel from memory list screen.

◇ Selecting a memory channel using the memory list screen



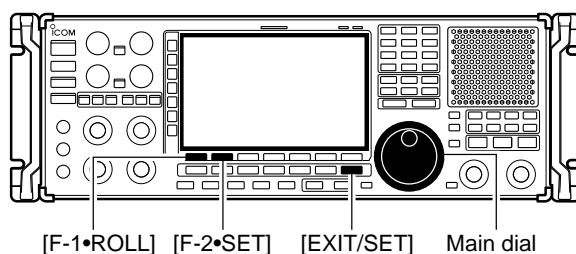
- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-4•MEMORY] to select memory list screen.
 - [F-7•WIDE] switches the standard and wide screens.
- ③ While pushing [F-1•ROLL], rotate the main dial to select the desired memory channel.
 - [M-CH] can also be used.
- ④ Push [EXIT/SET] to exit memory list screen.

• Memory list screen

		MEMORY		BANK-0	
AGC	96	-----	-----	-----	-----
FAST	97	-----	-----	-----	-----
TONE	98	-----	-----	-----	-----
OFF	99	-----	-----	-----	-----
VSC	0	145.000.000	FM	FIL2	10k
OFF	1	145.000.000	FM	FIL2	10k
	2	145.000.000	FM	FIL2	10k
	3	145.000.000	FM	FIL2	10k
	4	145.000.000	FM	FIL2	10k

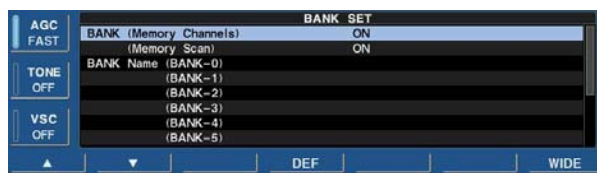
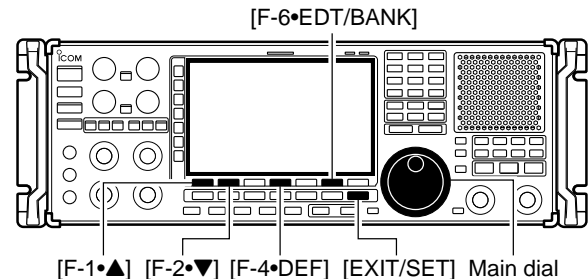
ROLL | SET | SELECT | NAME | SKIP | EDT/BANK | WIDE

◇ Confirming programmed memory channels



- ① Select memory list screen as described above.
- ② While pushing [F-1•ROLL], rotate the main dial to scroll the screen.
- ③ Push [F-2•SET] to select the highlighted memory channel, if desired.
 - "▶" appears beside the selected memory channel number in the memory list screen and the selected memory channel contents are displayed below the frequency readout.
- ④ Push [EXIT/SET] to exit memory list screen.

◇ Memory bank set



Setting bank limit function for memory channel selection, for memory scan can be set in bank set mode or programming bank name.

- ① Select memory list screen as described at previous page.
- ② Push and hold [F-6•EDT/BANK] for 1 sec. to display the memory bank set mode.
- ③ Push [F-1•▲] or [F-2•▼] to select the desired item.
- ④ Rotate the main dial to set the desired setting.
 - Push and hold [F-4•DEF] for 1 sec. to select a default value.
- ⑤ Push [EXIT/SET] to return to memory list screen.

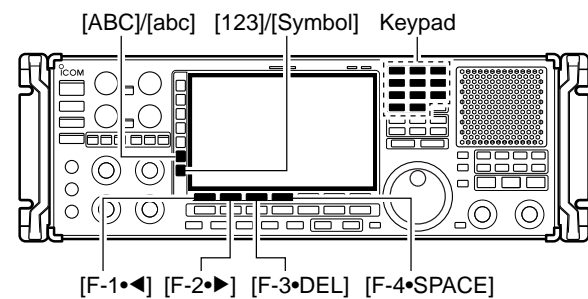
BANK (Memory Channels)	ON
-------------------------------	-----------

Selects the bank limit function for memory channel selection from ON and OFF. (default: ON)

BANK (Memory Scan)	ON
---------------------------	-----------

Selects the bank limit function for memory scan from ON and OFF. (default: ON)

• Programming bank names



Capital letters, small letters, numerals, some symbols (! # \$ % & ¥ ? " ' ` ^ + - * / . , : ; = < > () [] { } | _ ~ @) and spaces can be used for bank name programming.

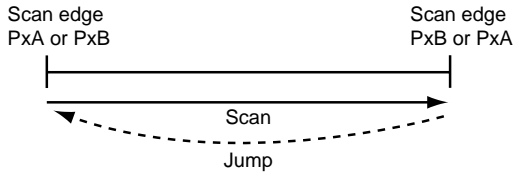
- ① Push [F-1•▲] or [F-2•▼] to select the desired memory bank.
- ② Push [F-5•EDIT] to edit memory bank name.
 - A cursor appears and blinks.
- ③ Input the desired character by rotating the main dial or by editing the keypad for number input.
 - Push [ABC] or [abc] to toggle capital and small letters.
 - 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.
 - Using the receiver's keypad, [0]–[9], can also enter numerals.
- ④ Push [EXIT/SET] to input and set the name.
 - The cursor disappears.
- ⑤ Repeat steps ① to ④ to program another memory bank's name, if desired.
- ⑥ Push [EXIT/SET] to return to memory list screen.

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 - ◇ Setting 8-6
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- Scan speed 8-18
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Scan types

PROGRAMMED SCAN

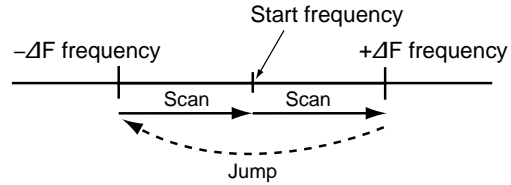
Repeatedly scans between two scan edge frequencies (scan edge memory channels PxA and PxB).



This scan operates in both VFO and memory modes.

ΔF SCAN

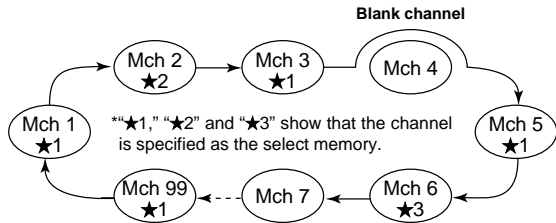
Repeatedly scans within ΔF span.



This scan operates in both VFO and memory modes.

MEMORY SCAN

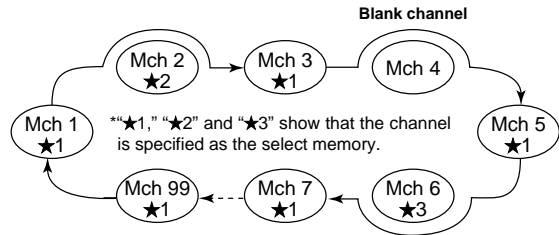
Repeatedly scans all programmed memory channels.



This scan operates in memory mode.

SELECT MEMORY SCAN

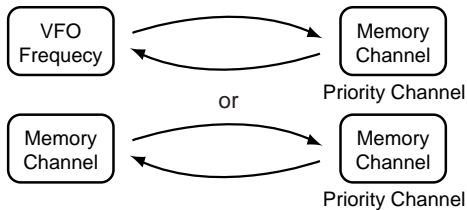
Repeatedly scans all or one of 9 select memory channels.



This scan operates in memory mode.

PRIORITY SCAN

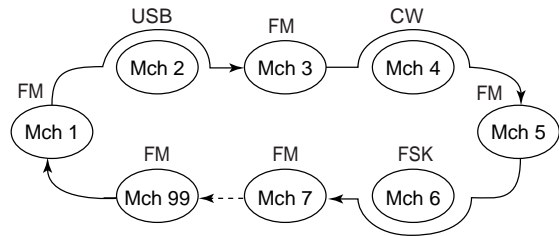
Continuously switches between monitoring displayed frequency and specified memory channel (priority channel).



This scan operates in both VFO and memory modes.

MODE SELECT MEMORY SCAN

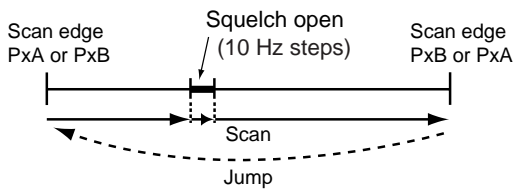
Repeatedly scans a selected mode (ignoring other modes) while memory scanning.



This scan operates in memory mode.

FINE SCAN

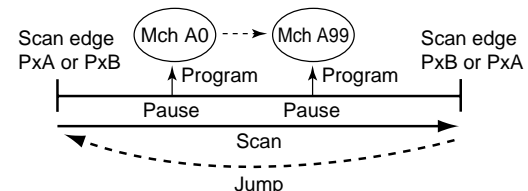
Scans in 10 Hz steps when squelch is open (around the signal) while program scan or ΔF scan.



This scan operates in both VFO and memory modes.

AUTO MEMORY WRITE SCAN

Auto memory write scan operates in the same way as programmed scan. However, when a signal is received, the received frequency is automatically written into a memory channel in the auto write bank.



This scan operates in both VFO and memory modes.

■ Preparation

• Channels

For programmed scan:

Program scan edge frequencies into scan edge memory channels PxA and PxB.

For ΔF scan:

Set the ΔF span (ΔF scan range) in the scan screen.

For memory scan:

Program 2 or more memory channels except scan edge memory channels.

For select memory scan:

Designate 2 or more memory channels as select memory channels. To designate the channel as a select memory channel, choose a memory channel, then push [F-3•SELECT] in the scan screen (memory mode) or in the memory list screen.

• Scan resume ON/OFF

You can select the scan to resume or cancel when a signal is detected. Scan resume ON/OFF must be set before activating a scan. See p. 8-17 for ON/OFF setting and scan resume condition details.

• Scan speed

Scan speed can be adjusted by [SPEED] controller. See p. 8-18 for details.

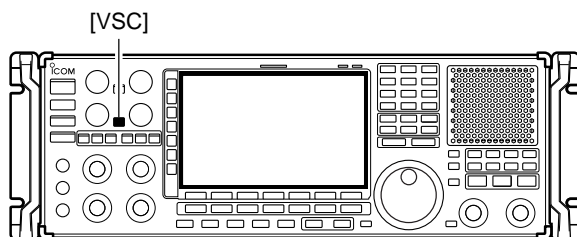
• Squelch condition

SCAN STARTS WITH	PROGRAMMED SCAN	MEMORY SCAN
SQUELCH OPEN	The scan continues until it is stopped manually, and does not pause even if it detects signals.	Scan pauses on each channel when the scan resume is ON; not applicable when OFF.
SQUELCH CLOSED	Scan stops when a signal is detected. If you set 'SCAN RESUME' to 'DELAY,' the scan pauses according to [DELAY] control when detecting a signal, then resumes. When a signal disappears while scan is paused, scan resumes 2–20 sec. later.	

■ Voice squelch control function

This function is useful when you don't want unmodulated signals pausing or cancelling a scan. When the voice squelch control function is activated, the receiver checks received signals for voice components.

If a receiver signal includes voice components, and the tone of the voice components changes within 1 sec., scan pauses (or stops). If the received signal includes no voice components or the tone of the voice components does not change within 1 sec., scan resumes.

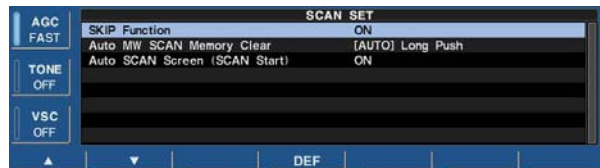
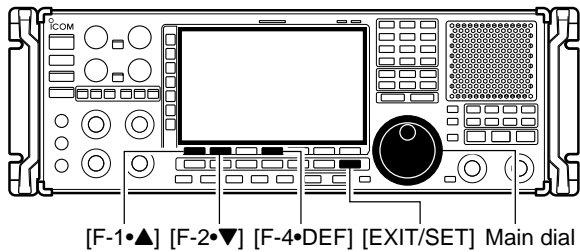


➤ While a phone mode (FM, WFM, SSB, AM) is selected, push [VSC] to switch the VSC (Voice Squelch Control) function ON and OFF.

- "VSC" appears when the function is activated.

- The VSC function activates for any scan.
- The VSC function resumes the scan on unmodulated signals, regardless of whether the scan resume condition is set to ON or OFF.

■ Scan set mode



This set mode is used to set the skip scan setting, memory clear condition for auto memory write channels and appearing scan screen setting.

- ① Push [F-5•SCAN] to select scan screen.
- ② Push [F-7•SET] to select scan set mode.
- ③ Push [F-1•▲] or [F-2•▼] to select the desired item.
- ④ Rotate the main dial to select the desired condition.
 - Push and hold [F-4•DEF] for 1 sec. to select the default setting.
- ⑤ Push [EXIT/SET] to return to scan menu.

SKIP Function

ON

Select the skip scan function ON or OFF.

- ON : Scan skips the programmed memory channel in the skip memory bank while scanning (default)
- OFF : Skip function OFF

Auto MW SCAN Memory Clear

[AUTO] Long Push

Set the clearing condition for the auto memory write scan's memories channels.

- ON : Auto memory channels are cleared when starting the auto memory write scan.
- [AUTO] Long Push : Auto memory channels are cleared when pushing and holding [AUTO]. (default)
- OFF : Auto memory channels must be cleared manually and auto memory write scan stops when 100 channels (A00 to A99) are wrote.

Auto SCAN Screen (SCAN Start)

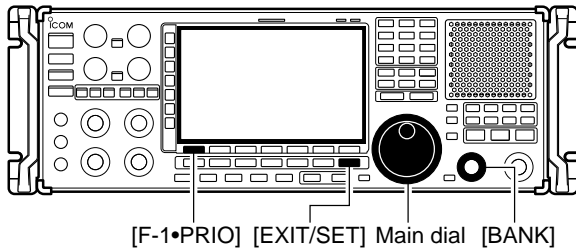
ON

Set the automatic scan screen ON function when starting a scan.

- ON : When starting a scan, scan screen appears automatically. (default)
- OFF : Scan screen does not appear until [F-5•SCAN] is pushed.

Priority scan

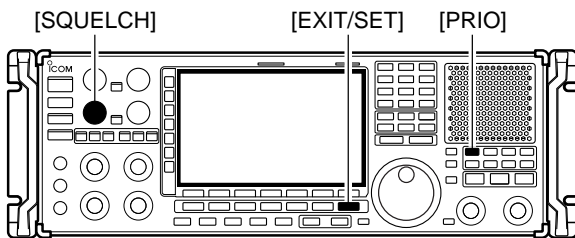
Setting



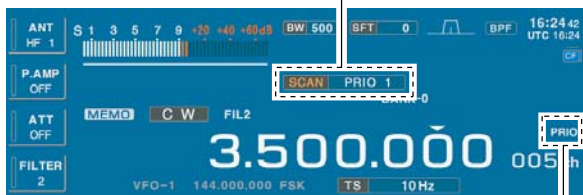
Priority scan monitors a specified frequency (the priority channel) **once every 1–16 sec. (programmable)** during any operation, such as receiving, scanning other channels, etc. A total of 10 priority channels can be programmed.

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-5•SCAN] to select scan setting screen.
- ③ Push [F-1•PRIO] once to enter priority channel selection.
- ④ Rotate the main dial to select priority channel number.
 - No.1 to No.9 are available.
- ⑤ Push [F-1•PRIO], then rotate main dial to select the desired memory channel as priority channel.
- ⑥ Push [F-1•PRIO] to set the priority scan.
- ⑦ Set the desired VFO or memory channel.

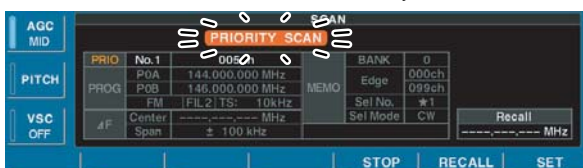
Priority scan operation



Scan indicator and Priority scan number appear



Priority channel indicator



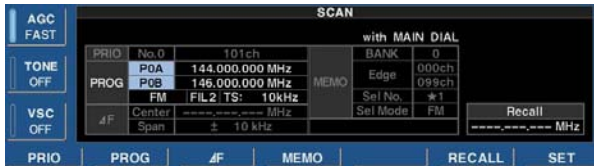
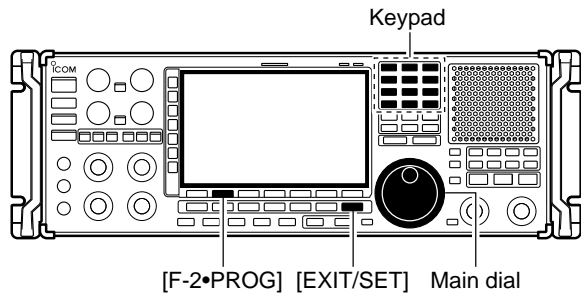
- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Select the desired VFO or memory channel.
- ③ Select the desired operating mode when VFO is selected.
 - The operating mode can also be changed while scanning.
- ④ Set [SQUELCH] control open or closed.
 - See page 9-2 for squelch condition.
- ⑤ Push [PRIO] to start the priority scan.
 - “PRIORITY SCAN” blinks while scan screen is displayed.
 - “PRIO” blinks while monitoring the priority channel.
- ⑥ To cancel the scan, push [PRIO].
 - Pushing [F5•STOP] also cancels the scan.
 - Pushing [EXIT/SET] closes the scan screen, if displayed.

Monitoring the Priority channel

- ① Push and hold [PRIO] for 1 sec. to monitor the priority channel.
 - “PRIO” blinks while monitoring the priority channel.
- ② To cancel the monitoring, push [PRIO].

■ Programmed scan

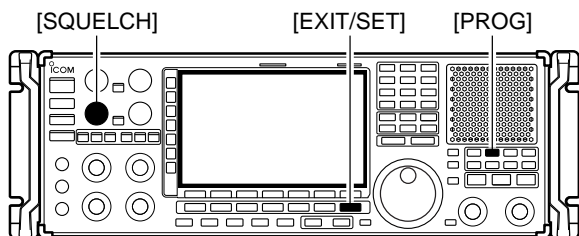
◇ Setting



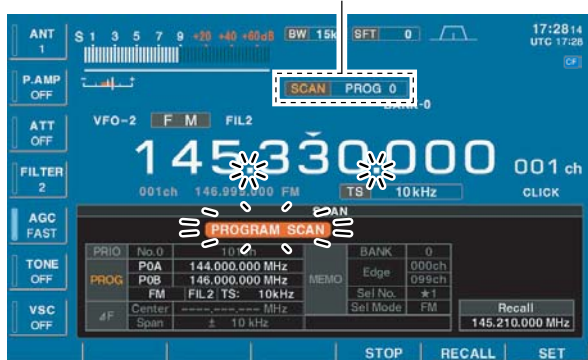
Programmed scan searches for signals within a specified frequency range, using the selected tuning step increments. The result is like 'automatically' rotating of the main dial.

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-5•SCAN] to select scan setting screen.
- ③ Push [F-2•PROG] once to enter the programmed scan selection mode.
- ④ Rotate the main dial to select the desired scan edges.
 - A pair of P0A and P0B to P9A and P9B are available.
- ⑤ Push [F-2•PROG] to enter the start edge frequency programming, then edit the desired frequency using the keypad.
- ⑥ Push [F-2•PROG] to enter the end edge frequency programming, then edit the desired frequency using the keypad.
- ⑦ Push [F-2•PROG] to enter the operating mode selection, then rotate main dial to select the desired operating mode.
- ⑧ Push [F-2•PROG] to enter the filter selection, then rotate main dial to select the desired filter.
- ⑨ Push [F-2•PROG] to enter the tuning steps selection, then rotate main dial or edit using the keypad to select the desired tuning steps.
- ⑩ Push [F-2•PROG] to set the programmed scan.

◆ Programmed scan operation



Scan indicator and Program scan number appear



- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Select the desired VFO or memory channel.
- ③ Select the desired operating mode.
 - The operating mode can also be changed while scanning.
- ④ Set [SQUELCH] control open or closed.
 - See page 8-3 for squelch condition.
- ⑤ Push [PROG] to start the programmed scan.
 - Scan screen appears.
 - “PROGRAM SCAN” and decimal points blink while scanning.
 - Push numeral key (0–9) to change to the other edges.
- ⑥ When the scan detects a signal, the scan stops, pauses or ignores it depending on the resume setting and the squelch condition.
- ⑦ To cancel the scan, push [PROG].
 - Pushing [F5•STOP] also cancels the scan.
 - Pushing [EXIT/SET] closes the scan screen.
- ⑧ Push and hold [F-6•RECALL] for 1 sec. to recall the frequency that is set before starting the scan, if desired.

▨ If the same frequencies are programmed into the scan edge memory channel PxA and PxB, programmed scan does not start.

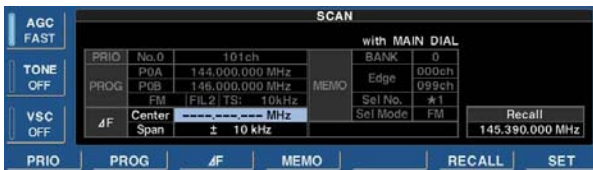
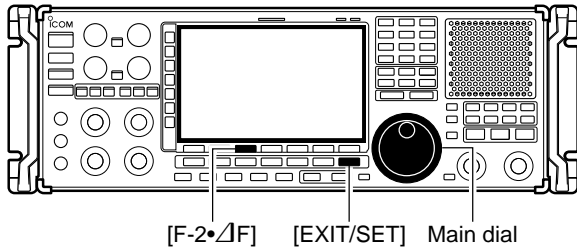
✓ For your convenience

Ten programmed scans can be selected directly from the keypad. Then the scan starts immediately.

- ➡ Push numeral key (0–9) then push [PROG] to start the desired programmed scan.

■ ΔF scan

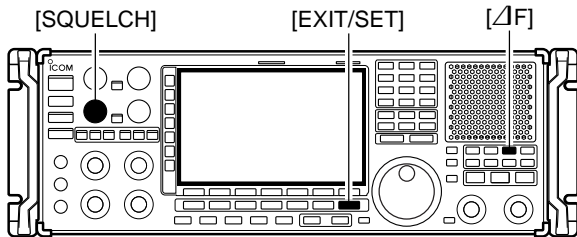
◇ Setting



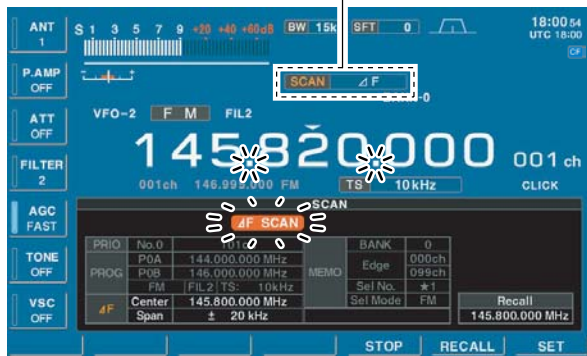
ΔF scan scans a small range of frequencies around an operating frequency. ΔF scan center frequency can be set as specific frequency or as the operating frequency.

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-5•SCAN] to select scan setting screen.
- ③ Push [F-3•ΔF] once to enter the center frequency setting.
- ④ Rotate the main dial to select the ΔF scan center frequency to fixed frequency or variable frequency.
 - Displayed frequency can be changed using the keypad.
 - When fixed frequency is selected, frequency appears. When variable frequency is selected, “---,---,--- MHz” appears.
- ⑤ Push [F-3•ΔF] then rotate the main dial to set the ΔF span.
 - ±5 kHz, ±10 kHz, ±20 kHz, ±50 kHz, ±100 kHz, ±500 kHz and ±1000 kHz are selectable.
- ⑥ Push [F-3•ΔF] to set the ΔF scan.

◇ ΔF scan operation



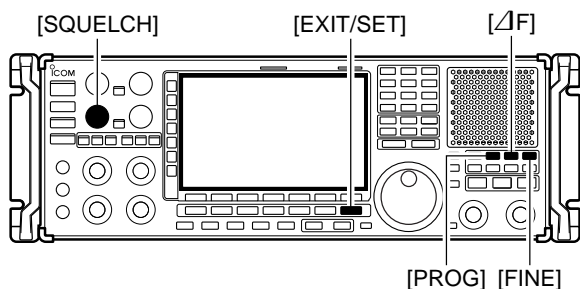
Scan indicator and ΔF scan indicator appear



- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Select the desired VFO or memory channel.
- ③ Select the desired operating mode.
 - The operating mode can also be changed while scanning.
- ④ Set [SQUELCH] control open or closed.
 - See page 9-2 for squelch condition.
- ⑤ Push [ΔF] to start the ΔF scan.
 - Scan screen appears.
 - “ΔF SCAN” and decimal points blink while scanning.
 - When the center frequency is fixed and the operating frequency exceeds the scanning range, ΔF scan jumps to the fixed center frequency.
- ⑥ When the scan detects a signal, the scan stops, pauses or ignores it depending on the resume setting and the squelch condition.
- ⑦ To cancel the scan, push [ΔF].
 - Pushing [F5•STOP] also cancels the scan.
 - Pushing [EXIT/SET] closes the scan screen.
- ⑧ Push and hold [F-6•RECALL] for 1 sec. to recall the frequency that was set before starting the scan, if desired.

■ Fine programmed scan/fine ΔF scan operation

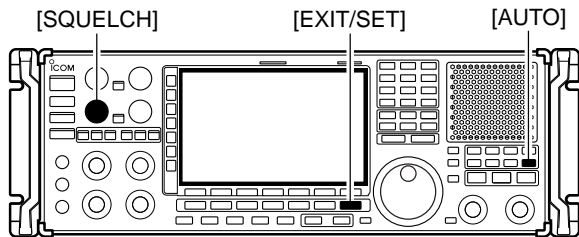
In fine scan (programmed or ΔF), the scan speed decreases when the squelch opens, but the receiver keeps scanning. The scanning tuning step shifts from 50 Hz to 10 Hz when the squelch opens.



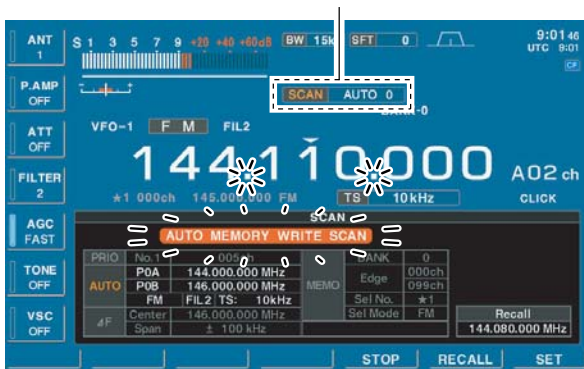
- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-5•SCAN] to select the scan screen.
- ③ Set for programmed scan or ΔF scan as described at p.8-6 and p.8-8.
- ④ Push [PROG] or [ΔF] to start a scan.
 - “PROGRAM SCAN” or “ ΔF SCAN” and decimal points blink while scanning.
- ⑤ Push [FINE] to start a fine scan.
 - “FINE PROGRAM SCAN” or “FINE ΔF SCAN” blinks instead of “PROGRAM SCAN” or “ ΔF SCAN,” respectively.
- ⑥ When the scan detects a signal, the scan speed decreases but scan does not stop.
- ⑦ Push [PROG] or [ΔF] to stop the scan; push [FINE] to cancel the fine scan.
 - Pushing [F5•STOP] also cancels the scan.
 - Pushing [EXIT/SET] closes the scan screen.
- ⑧ Push and hold [F-6•RECALL] for 1 sec. to recall the frequency that is set before starting the scan, if desired.



■ Auto memory write scan operation



Scan indicator and Auto memory write scan number appear



Auto memory write scan operates in the same way as programmed scan. However, when a signal is received, the received frequency is automatically written into a memory channel in the auto write bank (A00–A99).

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Select the desired VFO or memory channel.
- ③ Select the desired operating mode.
 - The operating mode can also be changed while scanning.
- ④ Set [SQUELCH] control open or closed.
 - See page 8-3 for squelch condition.
- ⑤ Push [AUTO] to start the auto memory write scan.
 - Selected programmed scan start.
 - Scan screen appears.
 - “**AUTO MEMORY WRITE SCAN**” and decimal points blink while scanning.
 - Push numeral key (0–9) to change to the other edges.
- ⑥ When the scan detects a signal, the scan stops, pauses or ignores it depending on the resume setting and the squelch condition.
 - The received frequency is automatically written into a blank memory channel in the auto write bank.
- ⑦ To cancel the scan, push [AUTO].
 - Pushing [F5•STOP] also cancels the scan.
 - Pushing [EXIT/SET] closes the scan screen.
- ⑧ Push and hold [F-6•RECALL] for 1 sec. to recall the frequency that was set before starting the scan, if desired.

✓ For your convenience

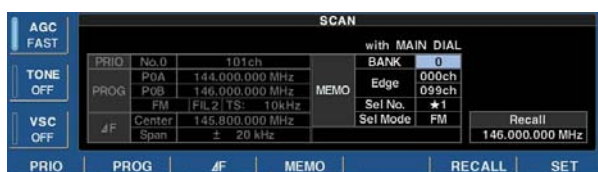
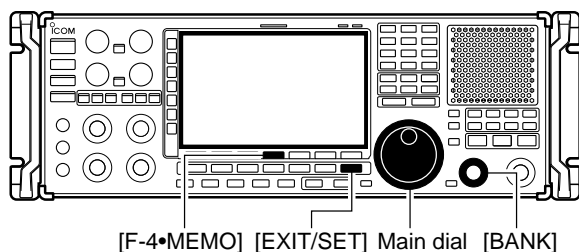
Ten auto memory write scans can be selected directly from the keypad. Then the scan starts immediately.

- ➔ Push numeral key (0–9) then push [AUTO] to start the desired programmed scan.

- ▨ The memory clear setting of the auto write bank can be selected from the starting auto memory write scan, by pushing and holding [AUTO], or manually.
- ▨ See scan set mode (p. 8-4) for Auto MW SCAN
- ▨ Memory Clear details.

Memory scan

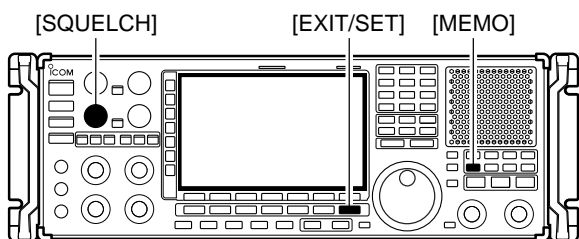
Setting



All memory channels (except skip channels) in the selected bank are scanned at up to **40 ch/sec.**

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-5•SCAN] to select scan setting screen.
- ③ Push [F-4•MEMO] once to enter the bank selection.
- ④ Rotate the main dial to select the bank limit setting.
 - Selected bank number or OFF (Bank OFF) appears.
- ⑤ Or rotate [BANK] to select the other bank.
- ⑥ Push [F-4•MEMO], then rotate main dial to select the edge channel.
- ⑦ Push [F-4•MEMO], then rotate main dial to select the other edge channel.
- ⑧ Push [F-4•MEMO], then rotate main dial to select the desired select memory channel group for select memory scan.
 - ‘★1’ to ‘★9’ and ‘ALL’ are available.
- ⑨ Push [F-4•MEMO] to set the memory scan.

Memory scan operation



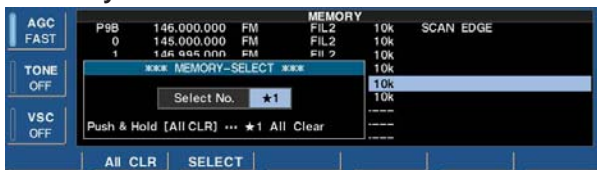
- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Set the [SQUELCH] control open or closed.
 - See page 8-3 for squelch condition.
- ③ Push [MEMO] to start the memory scan.
 - Scan screen appears and memory mode is selected automatically.
 - “**MEMORY SCAN**” and decimal points blink during memory scan.
- ④ When the scan detects a signal, the scan stops, pauses or ignores it depending on the resume setting and the squelch condition.
- ⑤ To cancel the scan, push [MEMO].
 - Pushing [F5•STOP] also cancels the scan.
 - Pushing [EXIT/SET] closes the scan screen.

2 or more memory channels must be programmed for memory scan to start.

◇ Programming the select memory scan setting



• Memory-select window



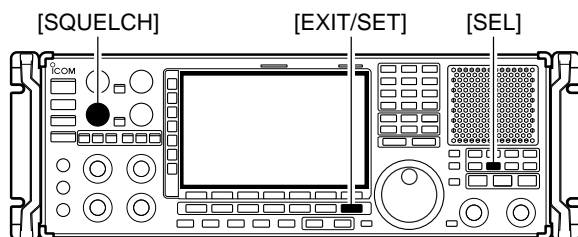
- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-4•MEMORY] to select memory list screen.
- ③ While pushing and holding [F-1•ROLL] or [F-2•SET], rotate the main dial to select the desired memory channel.
 - [M-CH] (or [BANK]) control and direct keypad selection can be used.
- ④ Push and hold [F-3•SELECT] for 1 sec. to display the memory-select window.
- ⑤ Rotate the main dial to select the desired select memory channel group.
 - ★1 to ★9 are selectable.
- ⑥ Push [F-3•SELECT] to set the select setting ON.
 - Push [F-3•SELECT] again to select the select setting OFF.
- ⑦ Repeat steps ③ to ⑥ to program another memory channel as a select memory channel, if desired.
 - If you want to set a same select channel group, skip steps ④ and ⑤.
- ⑧ Push [EXIT/SET] to exit the memory list screen.

◇ Erasing the select scan setting



- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-4•MEMORY] to select memory list screen.
- ③ Push and hold [F-3•SELECT] for 1 sec. to display memory-select window.
- ④ Rotate the main dial to select the desired select memory channel group to be erased.
- ⑤ Push and hold [F-2•ALL CLR] for 1 sec. to clear all select scan settings.
- ⑥ Push [EXIT/SET] to exit the memory list screen.

◇ Select memory scan operation



Scan indicator and select memory group number appear



Select memory scan allows you to increase scan efficiency by searching for specified channels group only.

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Set the [SQUELCH] control open or closed.
 - See page 8-3 for squelch condition.
- ③ Push [SEL] to start the select memory scan.
 - Scan screen appears and memory mode is selected automatically.
 - “**SELECT MEMORY SCAN**” and decimal points blink during select memory scan.
 - Push numeral key (0–9) to change to the other groups.
- ④ When the scan detects a signal, the scan stops, pauses or ignores it depending on the resume setting and the squelch condition.
- ⑤ To cancel the scan, push [MEMO].
 - Pushing [F5•STOP] also cancels the scan.
 - Pushing [EXIT/SET] closes the scan screen.

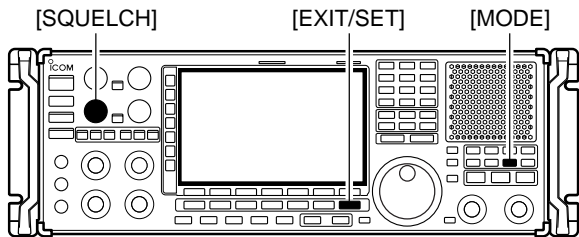
2 or more memory channels must be designated as select memory channels, as well as the same select scan number, for select memory scan to start.

✓ For your convenience

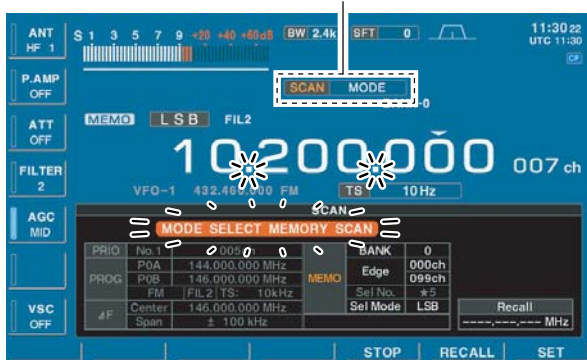
Ten select memory scans can be selected directly from the keypad. Then the scan starts immediately.

- ➡ Push numeral key (0–9) then push [SEL] to start the desired select memory scan.

◇ Mode select memory scan operation



Scan indicator appears



To operate memory scan in a specific mode (ignoring other modes), the mode select memory scan is available.

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Set the [SQUELCH] control open or closed.
 - See page 8-3 for squelch condition.
- ③ Select the desired operating mode.
 - The operating mode can also be changed while scanning.
- ④ Push [MODE] to start the mode select memory scan.
 - Scan screen appears and memory mode is selected automatically.
 - "MODE SELECT MEMORY SCAN" and decimal points blink during mode select memory scan.
- ⑤ When the scan detects a signal, the scan stops, pauses or ignores it depending on the resume setting and the squelch condition.
- ⑥ To cancel the scan, push [MODE].
 - Pushing [F5•STOP] also cancels the scan.
 - Pushing [EXIT/SET] closes the scan screen.

2 or more memory channels with same operating mode must be programmed for mode select memory scan to start.

■ Skip scan

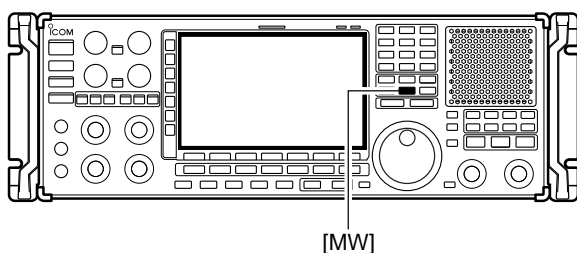
You can set the selected memory channel as a skip channel which is skipped during memory scan. Its frequency is also skipped during programmed and auto memory write scans. This setting is useful to speed up the scan speed.

◇ Specifying skip channels



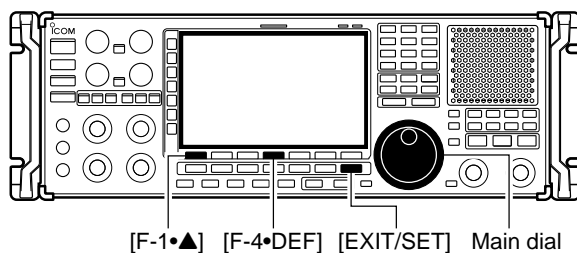
- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [F-4•MEMORY] to select memory list screen.
- ③ While pushing and holding [F-1•ROLL] or [F-2•SET], rotate the main dial to select the memory channel to be specified as a skip channel.
 - [M-CH] (or [BANK]) control and direct keypad selection can be used.
- ④ Push [F-5•SKIP] to select the skip setting ON.
 - “SKIP” indicator appears.
 - Push [F-5•SKIP] again to select the skip setting OFF.
- ⑤ Repeat steps ③ to ④ to program another memory channel as a skip channel, if desired.
- ⑥ Push [EXIT/SET] to exit the memory list screen.

◇ Programming skip frequencies (for programming scan)

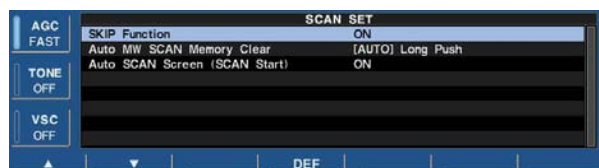


- ① Start programming scan as described on page 8-7.
- ② When the scan pauses on an undesired signal, push and hold [MW] for 1 sec.
 - The frequency is memorized into the skip bank as a skip frequency.

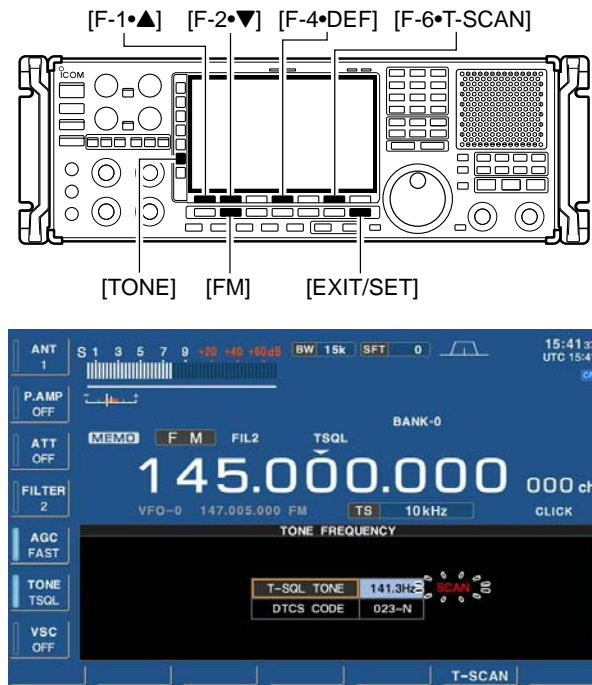
◇ Skip scan setting



- ① Push [F-5•SCAN] to select scan screen.
- ② Push [F-7•SET] to select scan set mode.
- ③ Push [F-1•▲] to select “SKIP Function.”
- ④ Rotate the main dial to select the desired condition.
 - Push and hold [F-4•DEF] for 1 sec. to select the default setting.
- ⑤ Push [EXIT/SET] to return to scan menu.



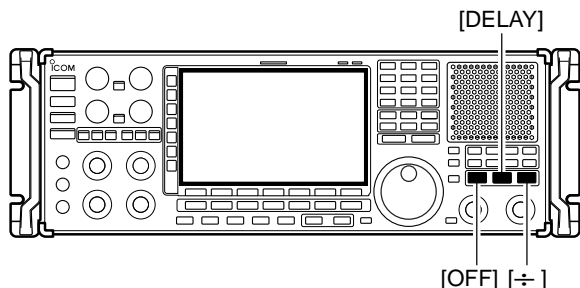
■ Tone scan



The receiver can detect subaudible tones or the DTCS code in a received signal. By monitoring a signal that is being operated with tone or DTCS squelch function, you can determine the tone frequency or DTCS code necessary to open a squelch.

- ① Set the desired frequency or memory channel to be checked for a tone frequency.
- ② Push [FM] to select FM mode.
- ③ Push and hold [TONE] for 1 sec. to enter tone frequency screen.
- ④ Push [F-1•▲] or [F-2•▼] to check the tone squelch frequency or DTCS code, respectively.
- ⑤ Push [F-6•T-SCAN] to start the tone scan.
 - "SCAN" blinks while scanning.
- ⑥ When the tone frequency is detected, the tone scan pauses.
 - The tone frequency is set temporarily on a memory channel. Program into the memory channel to store the tone frequency permanently.
 - The decoded tone frequency is used for the tone squelch frequency or DTCS squelch code.
- ⑦ To stop the scan, push [F-6•T-SCAN].
 - Push and hold [F-4•DEF] for 1 sec. to select the default frequency.
- ⑧ Push [EXIT/SET] to exit tone frequency screen.

■ Scan resume condition

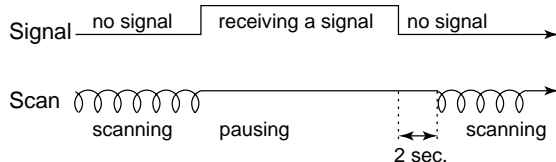


Scan pauses when finding a signal, and then resumes or is cancelled depending on the selected scan resume condition. There are 3 resume conditions.

• Scan resume OFF

Scan pauses until signal disappears, then resumes after 2 sec.

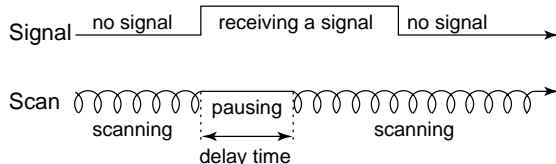
- Push [OFF] to set the scan pause timer to OFF.
- Scan resume indicator above this switch lights green.



• Scan resume ON with specified time period

Scan pauses for the adjusted delay period after receiving a signal, then resumes. When the received signal disappears, scan resumes after 2 to 20 sec.

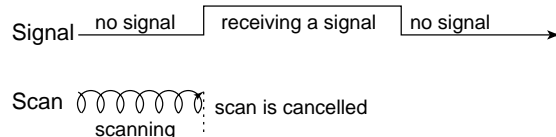
- Push [DELAY] to set the scan pause timer to specified time period according to [DELAY] control. (See next page for setting scan delay.)
- Scan resume indicator above this switch lights green.
- Scan delay time can be set 2 to 20 sec.



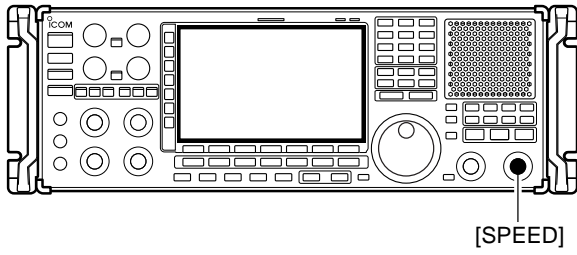
• Scan cancel

Scan is cancelled when a signal is found during scan.

- Push [↵] to set the scan pause timer to infinity (scan cancel).
- Scan resume indicator above this switch lights green.

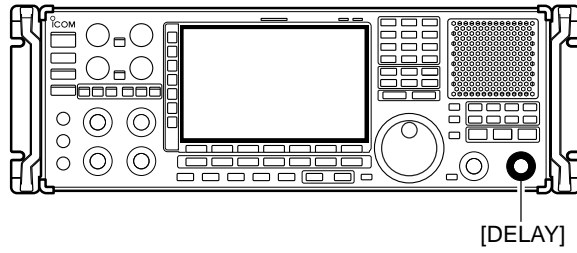


■ Scan speed



➔ Rotate [SPEED] to adjust the scan speed.

■ Scan delay



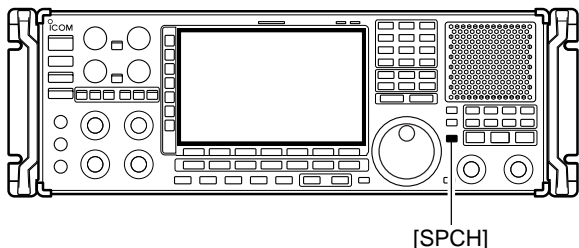
➔ Rotate [DELAY] to adjust the scan pause time when the scan resume setting is set to 'DELAY.'
• Scan delay time can be set 2 to 20 sec.

OTHER FUNCTIONS

Section 9

■ Voice synthesizer operation	9-2
■ Lock function	9-2
◇ Dial lock function	9-2
◇ Panel lock function	9-2
■ Dial click function	9-3
■ Antenna selection	9-3

■ Voice synthesizer operation



The IC-R9500 has a built-in voice synthesizer to announce the frequency, mode, etc. (S-meter level can also be announced—p. 11-10) in clear, electronically-generated voice, in English (or Japanese).

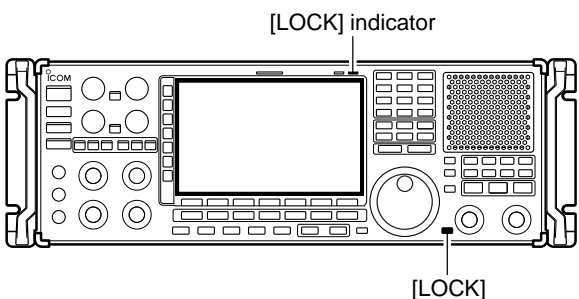
- ➔ Push [SPCH] to announce the currently selected frequency, etc.
 - Push [SPCH] for 1 sec. to additionally announce the selected mode.
- ➔ Pushing a mode switch also announces the appropriate mode. (p. 11-11)

▨ The output level of the voice synthesizer can be adjusted in level set mode. (p. 11-6)

■ Lock function

The IC-R9500 has two kinds of lock functions: dial lock and panel lock. The dial lock function locks only the main dial, and panel lock function locks all front panel operation.

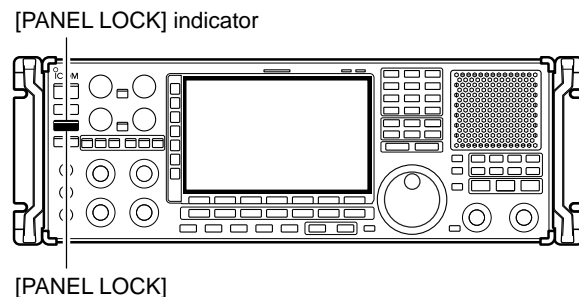
◇ Dial lock function



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

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

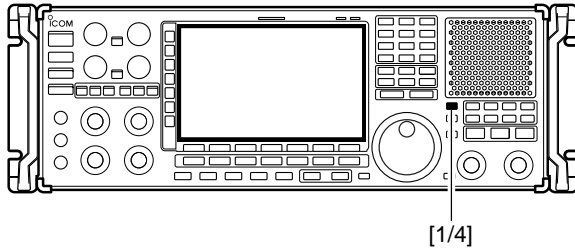
◇ Panel lock function



To prevent accidental frequency changes and unnecessary function access, use the panel lock function. This function is also available with display sleep mode

- ➔ Push [PANEL LOCK] to toggle the panel lock function ON or OFF.
 - The [PANEL LOCK] indicator lights green when the panel lock function is in use.
- ➔ Push and hold [PANEL LOCK] for 1 sec. to turn the panel lock with display sleep function ON.
 - Pushing [PANEL LOCK] turns OFF the function.
 - The [PANEL LOCK] indicator lights green and the display turns OFF when the sleep function is in use.

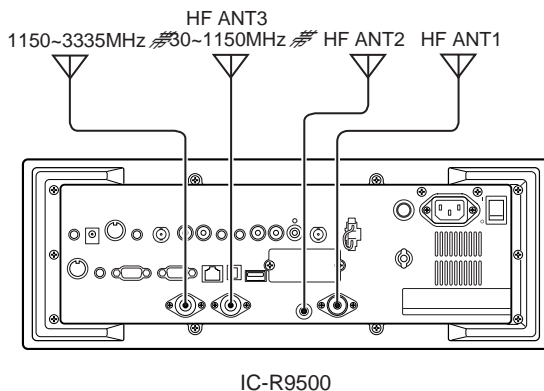
■ Dial click function



The IC-R9500 can turn the dial click function ON and OFF. And the auto dial click setting is also available in the others set mode (p. 11-12).

- Push and hold [1/4] for 1 sec. to turn the dial click function ON and OFF manually.
 - “CLICK” appears.

■ Antenna selection



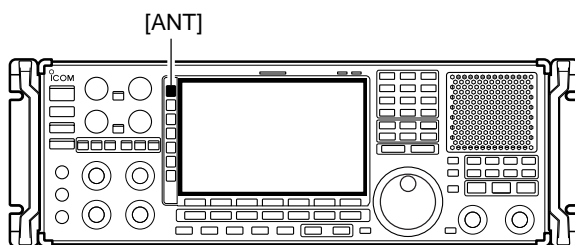
The IC-R9500 has 3 antenna connectors for bands below 30 MHz which are [HF ANT1], [HF ANT2] and [ANT1/HF ANT3]. And antenna control voltage is also output from [ANT SEL] connector for using external preamplifier or antenna selector.

For each operating band the IC-R9500 covers, there is a band memory which can memorize a selected antenna. When you change the operating frequency beyond a band, the previously used antenna is automatically selected (see left) for the new band. This function allows automatic switching of 3 separate antennas for HF bands operation.

After an antenna has been selected for use (by pushing [ANT]), the antenna is automatically selected whenever that band is used.

[EXAMPLE]: a 3.5/7 MHz antenna is connected to [HF ANT1], a 14/18 MHz antenna is connected to [HF ANT2], a 24/28 MHz antenna is connected to [HF ANT3]. After each antenna is selected, an antenna is automatically selected when changing bands.

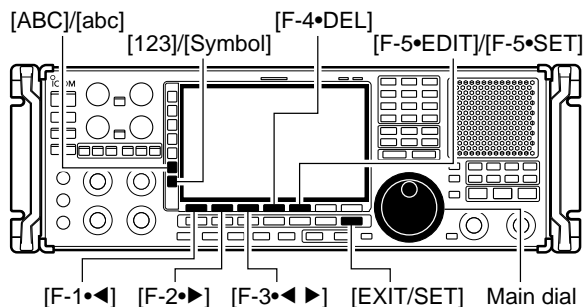
• Antenna selection



- Push [ANT] to select the antenna from “ANT HF 1,” “ANT HF 2” and “ANT HF 3.”
 - The antenna indicator turns ON when other than default antenna (ANT1) is selected.
- Push and hold [ANT] for 1 sec to turn the antenna control voltage ON and OFF from [ANT SEL] connector.
 - When it's ON, “★” appears. Then the receiver output 13.8 V/100 mA max. from [ANT SEL] connector.

■ Time set mode	10-2
■ Daily timer setting	10-3
■ Setting sleep timer	10-4
■ Timer operation	10-4

Time set mode



The IC-R9500 has a built-in calendar and 24-hour clock with daily power ON/OFF timer functions. Before operating these timer functions, set the current date and time.

- ① Push [EXIT/SET] to close multifunction screen, if necessary.
- ② Push [F-7•SET] to select set mode menu screen.
- ③ Push [F-4•TIME] to select time set mode.
- ④ Push [F-1•▲] or [F-2•▼] to select the desired item.
- ⑤ Rotate the main dial to set or select the desired value or condition.
- ⑥ Push [EXIT/SET] to exit time set mode.

Date	2000 – 1 – 1 (Sat)
Sets the date.	<ol style="list-style-type: none"> ① Push [F-3•◀ ▶] to select between the year and the month/day, then rotate the main dial to select them. <ul style="list-style-type: none"> • The date setting and “DATE-set Push [SET]” indication blink. ② Push [F-5•SET] to set the date.

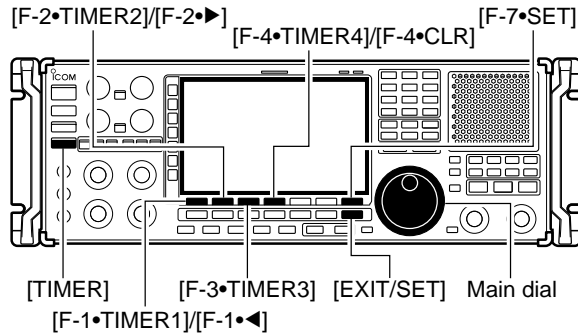
Time (Now)	1:23
Sets the local time.	<ol style="list-style-type: none"> ① Rotate the main dial to set the local time. <ul style="list-style-type: none"> • The time setting and “TIME-set Push [SET]” indication blink. ② Push [F-5•SET] to set the time.

CLOCK2 Function	ON
Turns the clock 2 display ON and OFF. The clock 2 is convenient to indicate UTC or another country’s local time, etc.	<ul style="list-style-type: none"> • ON : Clock 2 is displayed below the local time display. • OFF : The clock 2 is not displayed.

CLOCK2 Offset	± 0:00
Sets the desired offset time period for clock 2 within –24:00 to +24:00 in 5 min. steps.	<ul style="list-style-type: none"> • Push and hold [F-4•DEF] for 1 sec. to select the default value.

CLOCK2 Name	UTC
Sets the desired 3-character name for clock 2. Capital letters, small letters, numerals, some symbols (! # \$ % & ¥ ? " ' ` ^ + - * / . , ; = < > () [] { } _ ~ @) and spaces can be used.	<ol style="list-style-type: none"> ① Push [F-5•EDIT] to select the name edit condition. <ul style="list-style-type: none"> • The cursor under the 1st character blinks. ② Push [ABC], [abc], [123] or [Symbol] to select the character group, then rotate the main dial to select the character. <ul style="list-style-type: none"> • 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. • Using the receiver’s keypad, [0]–[9], can also enter numerals. ③ Push [EXIT/SET] to set the name.

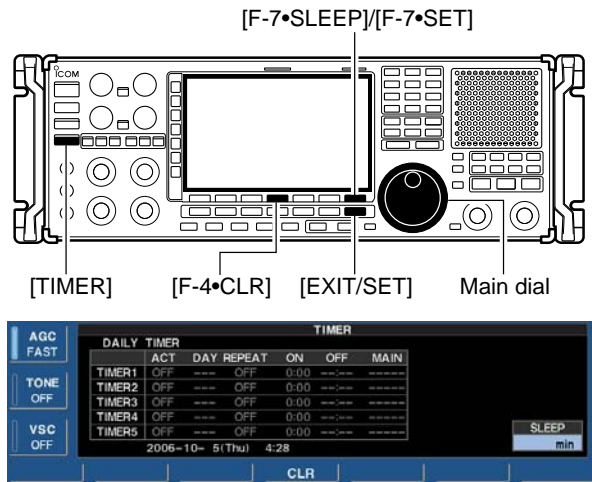
■ Daily timer setting



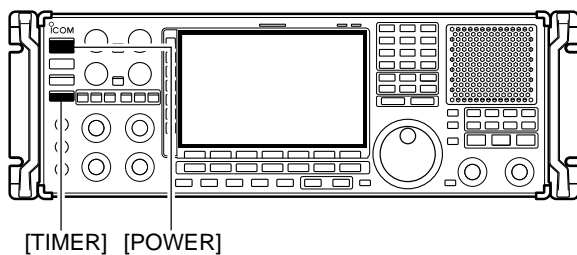
The receiver turns power ON and/or OFF automatically at the specified day and time, with the specified frequency settings.

- ① Push [EXIT/SET] several times to close multifunction screen, if necessary.
- ② Push [TIMER] for 1 sec. to select timer set screen.
- ③ Push one of [F-1•TIMER1] to [F-5•TIMER5] to select the desired timer.
- ④ Rotate the main dial to select the timer action ON and OFF.
 - ⑤ Push [F-2•▶] to select the "DAY" cell, then rotate the main dial to select the desired day of the week.
 - Select "—" not to specify daily operation and activate the timer every day.
 - Once a day of the week is selected, push [F-4•CLR] for 1 sec. to select "—."
 - ⑥ Push [F-2•▶] to select the "REPEAT" cell, then rotate the main dial to select the repeat function ON or OFF.
 - ON : The timer functions every selected day of the week. (repeats)
 - OFF : The timer does not repeat.
 - ⑦ Push [F-2•▶] to select the "ON" cell, then rotate the main dial to set the desired receiver power ON time.
 - When using power OFF timer only, push [F-4•CLR] for 1 sec. to select "—."
 - ⑧ Push [F-2•▶] to select the "OFF" cell, then rotate the main dial to set the desired receiver power OFF time.
 - When using power ON timer only, push [F-4•CLR] for 1 sec. to select "—."
 - ⑨ Push [F-2•▶] to select the "MAIN" cell, then rotate the main dial to select the desired memory channel number in the main readout.
 - If using the currently set VFO condition in main readout, push [F-4•CLR] for 1 sec. to select "—."
 - ⑩ Push [F-7•SET] to set the timer.
 - The timer indicator above [TIMER] switch lights green.
- ⑪ Repeat steps ③ to ⑩ to set other timers, if desired.
- ⑫ Push [EXIT/SET] to exit timer set screen.

■ Setting sleep timer



■ Timer operation



The sleep timer turns the receiver power OFF automatically after a set period. The timer can be set to 5–120 min. in 5 min. steps.

The sleep timer function counts the ‘minute’ unit, and does not count the ‘second’ unit. For example, when the sleep timer is started at 12:00 59, first one minute past for just 1 sec. That is way it has max. 59 sec. an error. This is normal, not a malfunction.

- ① Push [EXIT/SET] several times to close a multifunction screen, if necessary.
- ② Push [TIMER] for 1 sec. to select timer set screen.
- ③ Push [F-7•SLEEP] to select the sleep timer set condition.
 - “---” blinks.
- ④ Set the desired time period using the main dial.
 - “TIMER-set Push [SET]” blinks.
 - Push [F-4•CLR] to select “---” to cancel the setting.
- ⑤ Push [F-7•SET] to set the time.
 - Push [EXIT/SET] to cancel the setting.
 - The timer indicator above [TIMER] switch lights green.
- ⑥ Push [EXIT/SET] to exit timer set screen.
- ⑦ The receiver emits 10 beeps and turns OFF after the sleep timer period elapses.
 - The timer indicator blinks while beeping.
 - Push [TIMER] momentarily to cancel the sleep timer, if desired.

- ① Preset the daily timer as described previously.
- ② Push [TIMER] momentarily to turn the timer function ON.
 - The timer indicator above this switch lights green when the timer function is ON.
- ③ Push and hold [POWER] for 1 sec. to turn the power OFF.
 - The timer indicator lights continuously.
- ④ When the set time arrives, the power is automatically turned ON.
- ⑤ The receiver emits 10 beeps and turns OFF after the power-off period elapses.
 - The timer indicator blinks while beeping.
 - Push [TIMER] momentarily to cancel the sleep timer, if desired.

The timer action in timer set screen must be turned ON to enable the timer operation, described above “Setting sleep timer” steps ④.