

**ICOM**

**IC-PCR1000**

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## Software update information

Software update information will be available at the Icom America home page:

<http://www.icomamerica.com/>

## Menu commands

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## **IC-PCR1000**

The IC-PCR1000 is a wide band communications receiver for use with a personal computer.

Frequencies in the range 0.01 to 1300 MHz (some ranges may be restricted) can be received, allowing you to listen to a wide variety of stations including amateur radio and broadcast stations.

To display the functions of menu bar or tool bar icons click one of the buttons or items in the diagram below.



## Launching the IC-PCR1000 software

### When using Windows 95

- 1) Before launching the program make sure the IC-PCR1000 interface unit power is turned on (the LED lights when power is on).
- 2) Click the [Start] button and point to [Programs].
- 3) Point to the IC-PCR1000 folder.
- 4) Click the IC-PCR1000 program.

## Pausing the IC-PCR1000 program

Push [POWER] on the tool bar to toggle the IC-PCR1000 interface unit receive circuit and the program between pause and active.

### <<Note>>

- If the [Port Error] dialog box appears, while the program is paused and the IC-PCR1000 interface unit power is on, activate the program again.
- If the problem persists, check the connections between the computer and interface unit as well as the RS-232C port.

Related items    **Checking the RS-232C port**  
                      **Changing the RS-232C port**

## Quitting the IC-PCR1000 program

Select [Exit] on the [File] menu or click the [Exit]

button in the tool bar.

The Readme file contains information about the receiver.

## **Contents**

Pausing and restarting the IC-PCR1000 interface unit receive circuit and program.

Each click of the [POWER] button toggles the IC-PCR1000 interface unit receive circuit and program between pause and active.

Setting the RS-232C port.

Displaying all components in the component receiver screen.

Hiding/displaying the TUNING component.

Hiding/displaying the METER/SCAN component.

Hiding/displaying the MODE/VOL component.

Hiding/displaying the BAND SCOPE component.

Displaying the radio screen.

Displaying the communications receiver screen.

Hiding/displaying the memory channel list.

Hiding/displaying the DTMF component.

Quitting the IC-PCR1000 program.

## Launching the IC-PCR1000 program

### When using Windows 95

- 1) Before launching the program make sure the power to the IC-PCR1000 interface unit is on (the LED lights).
- 2) Click the [Start] button and point to [Programs].
- 3) Point to the IC-PCR1000 folder.
- 4) Click the IC-PCR1000 program.

## Changing receiver screens

Click the tool bar button corresponding to the receiver screen you want to use.



For the component screen, click the [COMPO] button.



For the radio screen, click the [RADIO] button.



For the communications receiver screen, click the [RECEIVER] button.

## Hiding components in the component screen

Click the tool bar button corresponding to the desired component to toggle it on and off.

- 1) For the TUNING component, click the [TUNING] button.

- 2) For the METER/SCAN component, click the [METER] button.
- 3) For the MODE/VOL component, click the [MODE] button.
- 4) For the BAND SCOPE component, click the [SCOPE] button.

## Changing the volume

Adjusting the volume to an optimum level.

- 1) When in the component screen, drag the [AF GAIN] scroll bar knob to the right to increase the volume and to the left to decrease the volume.
- 2) When in the radio screen, click the [AF UP] button to increase the volume, click the [AF DOWN] button to decrease the volume.
- 3) When in the communications receiver screen, right-click on the [AF GAIN] knob to increase the volume, left-click to decrease the volume.

Related item     **Muting the receive volume**

## Setting a threshold receive signal level for volume (SQUELCH)

The squelch function sets a minimum receive signal level below which no audio is emitted from the speaker. This conveniently prevents noise and static from being emitted when receiving weak signals or no signals at all. Two squelch methods are available as listed below.

- 1) Setting a threshold for signals to be emitted
  - » Noise squelch
- 2) Setting a threshold for weak signals
  - » S-meter squelch

Related item    **To temporarily listen to a squelched signal**

## Setting the noise squelch

In AM/FM mode, when the 6 or 15 kHz IF filter is activated, non-signal noise is muted.

- 1) When using the component screen, drag the [SQUELCH] scroll bar button to the right or left so that the BUSY indicator just goes out, to mute the noise.
- 2) When using the radio screen, click the [SQL▲] or [SQL▼] button so that the BUSY indicator just goes out, to mute the noise.
- 3) When using the communications receiver screen, right- or left-click the [SQUELCH] knob so that the BUSY indicator just goes out, to mute the noise.

## Setting the S-meter squelch

Set the S-meter squelch so that signals below the specified level are not received.

- 1) When using the component screen, drag the [SQUELCH] scroll bar knob to the right or left to set the desired S-meter level.
- 2) When using the radio screen, click the [SQL▲] or [SQL▼] buttons to set the desired S-meter level.
- 3) When using the communications receiver screen, right- or left-click the [SQUELCH] knob to set the desired S-meter level.

## Setting the VSC (Voice Scan Control)

When this function is on, signals received while scanning or when selecting a station and which open

the squelch but are not modulated (contain no voice or music, etc. components) are muted. The BUSY indicator still lights for signals but no audio is emitted.

Click the [VSC] button (or indicator for the radio screen) to toggle the VSC function on and off.

## Selecting a receive mode

The selected receive mode (signal type) is displayed. Click the button (or indicator for the radio screen) corresponding to the desired mode to select that mode. Available receive modes are SSB (LSB/USB), CW, AM, FM and WFM.

When using the automatic mode function, a receive mode and tuning step are automatically selecting after inputting a frequency.

<<Note>>

- When an incorrect receive mode for a frequency is selected, distorted audio or no audio at all may result.

## Using the automatic mode function

An automatic mode function is available to automatically set the receive mode, IF filter passband width and tuning step after inputting a frequency.

Each click of the [AUT-M] button (or indicator for the radio screen) toggles the automatic mode function on and off.

### Setting the automatic mode function

The default setting for the automatic mode function can be added to, changed or deleted. Up to 20 ranges can be memorized into the automatic mode function



settings.

- 1) Select the component screen or communications receiver screen, then click the [SET] button to call up the [Setting] dialog box.
- 2) Click the [AUT-M] tab to display the automatic mode list.
- 3) Double click anywhere in the column corresponding to the setting you wish to edit.
- 4) From the keyboard, input the lower frequency of the frequency range you want to be automatic mode selection into the [Freq Low] column, push the [Enter] key.
  - When nothing is input into the [Freq Low] column, settings for other columns cannot be made.
  - When inputting a new frequency, other data automatically appears in the other column.
  - To delete a frequency range setting, enter [0] into the [Freq Low] column from the keyboard.
- 5) Edit other displayed columns as desired, then click the [Close] button to close the [Setting] dialog box.

## Setting a receive frequency

Depending on the situation, the receive frequency can be set in the methods below.

- 1) When you know the broadcast or communication frequency
  - » Input the frequency directly with the numeral buttons.
- 2) When you don't know the frequency or when you want to fine tune the frequency after entering it directly
  - » Use the main dial or tuning button to select a frequency.

Related item **Pick up signals**

## Inputting a frequency with the numeral buttons

Frequencies can be input from 0.010000 to 1300.000000 MHz. However, when using the radio screen, frequencies can only be specified to the 10 Hz digit.

- 1) When in the component or communications receiver screens, click the desired numeral buttons, then click the [ENT] button to set the frequency.
- 2) When in the radio screen, click the [F-INP] button, input the desired frequency from the keyboard, then push the [Enter] key.

<<Example 1>>

Setting 0.810000 MHz

Click [0] [.] [8] [1] [ENT].

<<Example 2>>

Setting 7.100000 MHz

Click [7] [.] [1] [ENT].

<<Example 3>>

Setting 145.000000 MHz

Click [1] [4] [5] [ENT].

<<Example 4>>

Setting 1296.450000 MHz

Click [1] [2] [9] [6] [.] [4] [5] [ENT].

<<Example 5>>

Setting 1296.450000 MHz from 1296.780000 MHz  
(when the MHz setting remains the same)

Click [.] [7] [8] [ENT].

<<Note>>

- When using the component or communications receiver screen and inputting a frequency directly from the keyboard, click in the TUNING component or anywhere in the communications receiver screen first, then begin inputting from the keyboard.
- When inputting a frequency outside of the allowed receive frequency range, the previously selected frequency is automatically selected after clicking [ENT].
- When making a mistake while inputting a frequency, click the [CE] button to clear the input and return to the previous frequency.
- When you want to change the 100 kHz digit and below, click the [.] button first, then the numeral buttons and then the [ENT] button.
- When you want to set the 100 kHz digit and below to 0, input the MHz digits and then click the [ENT] button.

## Setting a frequency with the main dial

Use the component or communications receiver screen.

Select the [Main dial] with the mouse then right-click to increase the frequency according to the set tuning step; left-click to decrease the frequency according to the set tuning step.

When clicking and holding either button the frequency scrolls up or down.

Related item    **About the center indicator**

## Selecting a frequency using the tuning button

Using the radio screen. Click the [TUNING▶▶]

button to increase the frequency according to the set tuning step.

Or, click the [TUNING ◀◀] to decrease the frequency according to the set tuning step.

When clicking and holding either button the frequency scrolls up or down.

Related item     **About the center indicator**

## Changing the tuning step

When using the [Main dial] or [TUNING] button to change the frequency, or when a scan function is activated, the frequency changes in increments determined by the set tuning step. This can be changed if desired.

Click the [TS ▲] or [TS ▼] button to select a tuning step.

### **Selectable tuning steps:**

1 Hz, 10 Hz, 20 Hz, 50 Hz, 100 Hz, 500 Hz, 1 kHz, 2.5 kHz, 5 kHz, 6.25 kHz, 9 kHz, 10 kHz, 12.5 kHz, 20 kHz, 25 kHz, 30 kHz, 50 kHz, 100 kHz, 500 kHz, 1 MHz and programmable tuning step (default setting 10 MHz)

The programmable tuning step can be selected from the range 1 Hz to 999.5 MHz.

## About the programmable tuning step

In addition to twenty separate tuning steps, a programmable tuning step (in the range 1 Hz to 999.5 MHz) can be set and programmed into the memory channel list.

The default programmable tuning step is 10 MHz and is displayed after the 1 MHz tuning step.

- 1) While editing the memory channel list (after setting a receive frequency), click the [TS] column with the mouse.
- 2) Use the keyboard to change the tuning step. Add/delete required digits above the Hz digit ("k" to input kHz input; "M" to input MHz input), then push the [Enter] key.

**Programmable tuning steps can be set as follows:**

- 1 Hz to 999 Hz tuning steps in 1 Hz step
- 1 kHz to 999.5 kHz tuning steps in 0.5 kHz step
- 1 MHz to 999.5 MHz tuning steps in 0.5 MHz step

## About the center indicator

In FM mode when selecting the 6 kHz or 15 kHz IF filter, the center indicator appears.

When tuning the receive signal, the center indicators "◀" and "▶" disappears, "■" appears.

## Using the memory functions

The IC-PCR1000 has 1000 memory channels which are divided into 20 groups for ease of use.

These groups are called memory banks. Each memory bank consists of 50 memory channels.

## Calling up a memory channel

Depending on the screen being used, memory channels are called up in the following manner.

- 1) When using any screen
  - » use the ▲/▼ buttons to call up a memory
- 2) When using the component or communications receiver screens
  - » use the numeral buttons to call up a memory channel directly

## Selecting a memory channel with the ▲/▼ buttons

For the component and communications receiver screens follow up to step 2) below.

For the radio screen follow up to step 3) below.

- 1) Click the bank [▲] or [▼] button to select a memory bank.
- 2) Click the MEMO or MEMORY CH [▲] or [▼] button to select a memory channel.
- 3) Click the memory channel number button corresponding to the memory to be called up.

## Selecting a memory channel with the numeral buttons

Click the numeral button corresponding to the memory channel number to be called up, then click the [Mch] button to set the memory. Selectable memory channels are 00 to 49.

<<Example 1>>

Setting memory channel 02

Click [0] [2] [Mch] or [2] [Mch].

<<Example 2>>

Setting memory channel 49

Click [4] [9] [Mch].

<<Note>>

- When entering a memory channel number outside of the allowed range and clicking [Mch], the previously selected memory channel is automatically selected.
- While entering a memory channel number, clicking [CE] cancels the operation and returns the setting to the previously selected memory channel.

## Writing to a memory channel

Each memory bank (00 to 19) holds 50 memory channels. The contents listed below can be written into each memory.

- Bank name, memory name, receive frequency, receive mode, IF filter selection, attenuator on/off, tuning step, tone squelch on/off and tone frequency.

The following contents can be edited from the memory channel list.

- Select settings for select memory scan, Skip settings for memory skip scan
- 1) Call up the memory bank and channel you wish to write to.
  - 2) After setting the receive frequency and receive mode, etc., click and hold the [MW] button until the MW indicator changes color.

Related items    **Backing up a memory channel list**  
                         **Creating a new file**

## Setting/changing bank names and memory names

Bank names and memory names can be set or

changed for the screen being used. When using the component screen, before setting/changing a bank name, first click the [BANK] button to display the bank name.

- 1) Double click the [BANK] name indication to enter the name input condition.
- 2) Set/change the name using the keyboard, then push [Enter].

<<Note>>

- Bank names can be set regardless of whether a frequency has been programmed; memory names can only be set for memory channels which have a frequency programmed.


## Deleting memories

Call up the memory channel to be deleted then click and hold the [MCL] button until the contents disappear.

## Editing the memory channel list

General characteristics of the memory channel list are as follows.




- 1) Click the [LIST] button  to display the memory channel list.
- 2) Click the bank [▲] or [▼] button to select the memory bank to be added/edited.  
To add/edit a bank name, click inside the bank name column and input the name from the keyboard.
- 3) Double click anywhere in the memory channel column of the memory channel to be added/edited, to enter the data input condition.



- 4) From the keyboard, input the receive frequency into the [Frequency] column, then push [Enter].  
**- This column must be input in order for other columns to be used.**
- 5) When adding/editing a memory name, proceed in the same manner as for bank names.  
When adding/editing other columns, click in the column and then choose from the list.
- 6) Click the [LIST] button to close the memory channel list and return to the receiver screen.

## Calling up a memory bank using a bank name




- 1) Click the [LIST] button  to show the memory channel list.
- 2) Click the [▼] button at the right of the bank name column to bring up the list box.
- 3) Click the bank name you want to call up.  
- The selected memory bank appears.

## Inserting and deleting channels

New channels can be inserted into the channel list and channels no longer needed can be deleted from the channel list.



- 1) Click the [LIST] button  to show the memory channel list.
- 2) Click the position where you want to insert/delete a channel, then click [Insert CH] or [Delete CH].
- 3) Continued clicks of the [Insert CH] or [Delete CH] button will insert or delete additional channels in the selected positions.

## Receiving a specific channel

While the memory channel list is displayed, select the memory channel data you want to receive, then click [RX Entry] to receive the channel.

## **Saving a memory channel list**

Select [Save] or [Save As] on the [File] menu to back up memory channel list data.

- 1) Save (overwrite) menu
  - » Saves the data in the current file
- 2) Save As (rename and save) menu
  - » Saves the data in a separate file from the original

## **Creating a new file**

Select [New] on the [File] menu to create a new file — a blank memory list appears.

Selecting [Save] on the [File] menu saves the currently open file name, location and file type.

- 1) Select [Save As] on the [File] menu to bring up the [Save As] dialog box.
- 2) To save the file in different location, click another drive or folder (directory).
- 3) Input a file name into the [File name] box, then click [OK].

## Opening a file

- 1) Select [Open] on the [File] menu to bring up the [Open] dialog box.
- 2) Click the [Drives] box corresponding to the drive the file is saved on.
- 3) A tree list of folders (directories) appears in the [Folders (Directories)] box — double click the name of the folder (directory) in which the file is stored in.
- 4) Click the name of the file you want to open in the [File name] box, then click [OK].

## Using the scan functions

Scan functions automatically search through a range of frequencies or a list of channels for signals. Three basic scan types are available, program scan, auto memory write scan and memory scan.

- 1) To automatically scan a specified range of frequencies for signals
  - » program scan , auto memory write scan
- 2) To automatically scan frequencies in memory
  - » memory scan

## Before using the scan functions

Before activating a scan function the operations listed below must be performed in order for the scan to operate normally. Also, scan may appear to start normally but fail to pause when a signal is received.

- 1) Setting the squelch
- 2) Setting the VSC (Voice Scan Control) function
- 3) Setting the scan resume condition

## Setting the scan resume condition

When receiving a signal, scan automatically pauses on that signal. The scan resume condition sets the time that the scan pauses before resuming or whether scan stops instead of pausing.

- 1) Click the [SET] button to bring up the [Setting] dialog box.
- 2) Click the [DELAY] tab, then select a resume condition from within [DELAY Timing] and click the option button.
- 3)
  - (a) Pause until Signal disappears  
Scan pauses when receiving a signal and remains paused until the signal disappears.
  - (b) Delay Volume  
When setting a delay time using the [DELAY TIME] scroll bar or [DELAY] knob, scan pauses when receiving a signal and then resumes after the specified delay. When a signal disappears before the specified delay time, scan resumes according to the scan resume delay time.
  - (c) SCAN Stop  
When a signal is received during scan, scan stops and does not resume.  
When selecting (a) or (b) above, 3 levels of delay can be selected from the [Restart Delay].
- 3) Click the [Close] button to close the [Setting] dialog box.

Related item    **Scan resume delay time** (When setting (a) or (b) above)

## Scan resume delay time

When setting scan resume condition (a) or (b), the scan resume delay time determines the period from

when a signal disappears and scan resumes, (a), or from when the scan resume time elapses, (b), and scan resumes.

- 1) Click the [SET] button to bring up the [Setting] dialog box.
- 2) Click the [DELAY] tab, then select a delay time from within [Restart Delay] and click the option button.
  - (a) 0 Sec.: Scan resumes immediately after the signal disappears
  - (b) 1 Sec.: Scan resumes 1 sec. after the signal disappears
  - (c) 2 Sec.: Scan resumes 2 sec. after the signal disappears
- 3) Click the [Close] button to close the [Setting] dialog box.

## **Scanning for signals within a specified frequency range**

Program scan automatically searches for signals within a specified frequency range while auto memory write scan does the same and then writes paused signals into memory channels.

## **Operating program scan**

- 1) Click the [SET] button to bring up the [Setting] dialog box.
- 2) Click the [PROG] tab to show the program list.
- 3) Select a programmed scan range to be scanned with the mouse, then click the [Close] button.
- 4) Click the [PROG] button in the receiver screen to start program scan.

- 5) While scan is operating, click the [|| (pause)] button to pause the scan.
  - Repeat this to resume the scan. Scan resumes from the paused frequency.
  - While pausing the scan, frequency cannot be set with the [Main dial].
- 6) To cancel the scan click [STOP] or the scan start button.
  - When the frequency is changed after canceling a scan and a new scan is activated, scan starts from the starting frequency of the specified frequency range. When the frequency is not changed, scan starts from the previously paused frequency.

## Operating auto memory write scan

- 1) Click the [SET] button to bring up the [Setting] dialog box.
- 2) Click the [PROG] tab to show the program list.
- 3) Select a programmed scan range to be scanned with the mouse.
- 4) Click the [AUTO] tab, then choose a memory bank from the [BANK] list box and click the [Close] button.
  - If the memory bank to be programmed is already full, scan will not start. In such a case do one of the following.
  - Select a different memory bank.
  - Click the [All Clear] button on the [AUTO] tab to clear the data from the specified bank.
  - Call up and delete unneeded memory channels only.
- 5) Click [AUTO] in the receiver screen to start scan operation.
  - Scan automatically stops when all memory channels become full.
- 6) When you want to pause the scan temporarily, click the [|| (pause)] button or scan start button.

- 7) Repeat this to resume scan. Scan resumes from the paused frequency.
  - While pausing the scan, frequency cannot be set with the [Main dial].
- 8) Click the [STOP] button to cancel the scan.
  - When scan is started again after changing the frequency, scan starts from the beginning of the specified frequency range.
  - When the frequency hasn't been changed, scan starts from the previously paused frequency.

## Editing programmed channels

Settings made in advance such as frequency range, receive mode, tuning step, etc. can be added to, changed or deleted. Up to 20 settings can be programmed.

- 1) When using the component or communications receiver screen, click the [SET] button to bring up the [Setting] dialog box.
- 2) Click the [PROG] tab to show the program list.
- 3) Double click anywhere in the line of the program channel you want to edit to select the data input condition.
- 4) Input the start frequency into the [START] column from the keyboard, then push [Enter] (data appears automatically in other columns when new range is entered.).
  - Data must be set in this column before data can be set in other columns.
  - To erase the data, input [0] from the keyboard then push [Enter].
- 5) Input data into other columns as desired, then click the [Close] button to close the program list.

## Searching memory frequencies (memory scan)

This function searches all memory channels in a selected memory bank. Search conditions can be set in the [Setting] dialog box.

- 1) Click the [SET] button to bring up the [Setting] dialog box.
- 2) Click the [MEMO] tab and make sure the check boxes are not checked [✓] then click the [Close] box.
- 3) Click the [MEMO] button in the receiver screen to start memory scan.
- 4) To pause the scan, push the [|| (pause)] button. Repeat to resume the scan.
  - The memory scan will be cancelled while pausing the scan and selecting a channel.
- 5) Click the [STOP] button to cancel the scan.

## Memory scan options

Using the [MEMO] tab in the [Setting] dialog box you can set conditions specific only to memory channels during memory scan.

- 1) When selecting the [SEL] box (select memory scan)
  - only memory channels specified as SEL (select) are searched
- 2) When selecting the [SKIP] box (memory skip scan)
  - memory channels specified as SKIP channels are not searched
- 3) When selecting the [MODE SEL] box (select mode scan)
  - only memory channels programmed with the specified receive mode (in the [Select Mode] check box) are searched.



<<Note>>

- SEL and SKIP are set in the memory channel list.
- At least 2 memory channels must be programmed with the desired condition for scan to proceed.
- Memory channels can be set with all the optional functions.

## Changing the scan direction during scanning

To change the scan in the direction of higher frequencies, right-click on the [Main Dial]; to change the scan in the direction of lower frequencies, left-click on the [Main Dial].

In the case of memory scans, scan changes in the direction of higher channel numbers and lower channel numbers, respectively.

## Temporarily muting receive audio

- 1) Click the [COMPO] button to display the component receiver screen.
- 2) Each click of the [MUTE] button toggles the mute function on and off.  
When the function is on receive audio is muted.

<<Note>>

- The mute function has priority over the monitor function.
- Be careful that you don't leave the mute function on when not wanted as no receive audio is emitted even when receiving signals.
- While monitoring the band scope in SSB and CW modes, receive audio is muted. Push the [STOP] button ([■]) when using the communications

receiver screen) or the [■] (pause) button to receive the audio.

## **Receiving weak signals (MONI: monitor)**

When you want to listen to signals that are too weak to open the squelch or that are muted by the VSC function, use the monitor function. The monitor function allows you to listen to weak signals without changing the squelch or VSC settings.

- 1) Click the [COMPO] button to select the component screen.
- 2) Click the [MONI] button to toggle the monitor function on and off. When the monitor function is on all receive signal audio (including noise) is emitted.

## **Frequency drift during receive (AFC: Automatic Frequency Control)**

While receiving in FM mode, the receive signal may drift causing distortion and noise.

When the AFC function is activated, drifting receive signals are automatically tracked providing stable receive of signals.

- 1) While in the component or communications receiver screen, click the [AFC] button to toggle the automatic frequency control function on and off.
- 2) While in the radio screen, click the [AFC] indicator to toggle the automatic frequency control function on and off.
- 3) When the automatic frequency control function is on and the receive frequency drifts, the center of the frequency is automatically tuned in 100 Hz steps.

<<Note>>

- While in the communications receiver screen and LSB, USB, CW or AM mode is selected, the [NB] button appears in place of the [AFC] button. The [AFC] button functions in WFM mode, but has no effect on the circuitry.
- This function will not operate when a filter width of 50 kHz is set.  
Set a filter width of 15 kHz or less.
- In rare cases, after using the automatic frequency control function, the frequency indication may change by 100 Hz.

## **Ignition noise (NB: Noise Blanker)**

While receiving in LSB, USB, CW or AM modes, automobile ignition systems may cause pulse type noise. The noise blanker eliminates such pulse-type noise.

- 1) While using the component or communications receiver screen, click the [NB] button to toggle the noise blanker function on and off.
- 2) While using the radio screen, click the [NB] indicator to toggle the noise blanker function on and off.

<<Note>>

- When using the communications receiver screen and FM or WFM mode is selected, the [NB] button changes to the [AFC] button.

## **Poor audio due to signal strength fluctuations (AGC: Automatic Gain control)**

The automatic gain control helps regulate fluctuating audio output when receiving in SSB, CW and AM modes. AGC is generally used as follows.

- 1) FAST (AGC indicator appears)  
While receiving in CW mode or while tuning.
- 2) SLOW (AGC indicator disappears)  
While receiving in SSB (LSB/USB) or AM modes.

## **Interference from strong signals (ATT: Attenuator)**

Strong signals (such as from broadcast stations, pocket beepers, nearby amateur radio stations, etc.) can cause distortion of receive signals. The attenuator function can reduce signal strength of interfering signals by approx. 20 dB.

- 1) When using the component or communications receiver screen, click the [ATT] button to toggle the attenuator function on and off.
- 2) When using the radio screen, click the [ATT] indicator to toggle the attenuator function on and off.

## **Interference from nearby signals**

Interference caused by nearby signals can be eliminated in the following ways.

- 1) IF filter
  - » Changes the passband width of an incoming signal
- 2) IF shift
  - » Shifts the passband width of the interfering signal up or down

## Eliminating interference using IF filters

Increasing or decreasing the width of incoming signals can help eliminate interference. Available filters vary according to the receive mode. See the table below.

FILTER	SSB(USB/LSB)	CW	AM	FM	WFM
230 kHz	–	–	–	–	●
50 kHz	–	–	○	○	○
15 kHz	–	–	○	●	–
6 kHz	○	○	●	○	–
3 kHz*	●	●	○	–	–

●: Factory setting; ○: Selectable; –: Not selectable

\* When selecting the 3 kHz filter, 3k appears, however the actual width of the filter is 2.8 kHz.

- 1) When using the component or communications receiver screen, click the [WIDE] or [NAR] buttons to toggle between filter widths.
- 2) When using the radio screen, move the mouse over the [FILTER] indicator and left-click to decrease the filter width; right-click to increase the filter width.

## Eliminating interference using IF shift

IF shift allows you to move the upper or lower edge of a signals passband to eliminate interference caused by "one" side of the signal. This function is not available when using the radio screen.

- 1) When using the component screen, move the mouse over the [IF-SHIFT] scroll bar knob and drag to the right or left to a position where the interfering signal is eliminated the greatest. Clicking the [CENTER] button returns the passband width to the center.

- Dragging the knob to the left shifts the passband width to the lower end of the receive signal; dragging to the right shifts the passband width to the higher end of the receive signal.
- 2) When using the communications receiver screen, move the mouse over the [IF-SHIFT] knob and left-click to shift the passband width to the lower end of the receive signal; right-click to shift the passband width to the higher end of the receive signal.

## Hiding/showing the tool bar

Select [Tool Bar Off] on the [Option] the menu bar to hide the tool bar. Select [Tool Bar Top] or [Tool Bar Bottom] on the [Option] the menu bar to show the tool bar.

## Using the tone squelch function

The tone squelch opens only when receiving a signal containing a matching subaudible tone. Transceiver users can silently wait for calls from group members using the same tone.

You can silently wait for calls and receive such signals using this tone squelch function. Tone squelch can be used in FM mode only.

- 1) While in FM mode, click the [T] or [T-SQL] button to toggle the tone squelch function on and off. When the tone squelch function is on, the [TONE SQUELCH] dialog box and T-SQL indicator appear.  
\*Fifty one tone frequencies from 67.0 to 254.1 Hz are available.
- 2) Click the [Tone frequency] list box, then click the desired frequency.

- 3) Click the [Close] button and the [TONE SQUELCH] dialog box disappears.

<<Note>>

- When using the tone squelch function, signals containing a non-matching subaudible tone or no subaudible tone cannot be received. (squelch does not open)

## Using the DTMF remote

The computer can be remotely controlled using DTMF codes in FM mode. When receiving a programmed DTMF code, the IC-PCR1000 displays a message, activates a program/screen saver or plays a Windows' sound file.

- 1) Select FM mode.
- 2) Click the [DTMF] button in the tool bar to call up the DTMF component.
- 3) Click the [ON] button on the DTMF component to toggle the DTMF decoder circuit ON and OFF (the LED lights when the function is on).
- 4) Click the [REMOTE] button to toggle the DTMF remote function ON and OFF (the LED lights when the function is on).

<<Note>>

- When receiving a signal including a DTMF code, the received code is displayed in the DTMF indicator window. Up to 20 DTMF digits of the latest received code are displayed.

Related item     **Setting the remote functions**

## Setting the remote functions

- 1) Click the [DTMF] button in the tool bar to call up the DTMF component.
- 2) Click the [ON] button on the DTMF component to toggle the DTMF decoder circuit ON and OFF

- (the LED lights when the function is on).
- 3) Click the [SET] button to bring up the [DTMF Setting] dialog box.
  - 4) Click one of tabs [1] to [5] for settings.
  - 5) Enter the desired key code in the [Receive CODE] field using the keyboard.
    - 0 to 9, A, B, C, D, E (\*) and F (#) can be used.
  - 6) Select the desired action: displaying a message, executing a file or playing a Windows' sound file.
    - To display a message, enter the message in the [Action] field.
    - To execute or to play a file, enter the file name, including full path name, or select a desired file after pushing the [...] button.
  - 7) Click the [Close] button.

### **Confirming the RS-232C port**

- 1) When using the receiver, click the [PORT] button to bring up the [RS-232C PORT Number] dialog box.
- 2) Confirm that the port number is correct then click the [OK] button.
- 3) When you want to change the port number, refer to "Changing the RS-232C port."

### **Changing the RS-232C port**

- 1) Click the [POWER] button in the tool bar to temporarily pause the program.
- 2) Click the [PORT] button to bring up the [RS-232C PORT Number] dialog box.
- 3) Click the desired port COM number to choose it.
- 4) Click the [OK] button.

### **Using the band scope function**

The band scope function allows you to visually check a specified frequency range in AM, FM, SSB or CW mode for signals.



Not only can you check for signals, while receiving a signal you can observe adjacent receive conditions in AM and FM modes.

In SSB and CW mode, receive audio is muted while monitoring the band scope. Push the [STOP] button ([■]) when using the communications receiver screen) or the [|| (pause)] button to receive the audio.

- 1) Click the [START] button ([▶] while in the communications receiver screen) to begin a sweep; signal conditions appear starting from the left of the range.
  - Conditions over the entire set frequency span can be observed around the center frequency of the currently received frequency.
  - "LIMIT" appears when a tuning step greater than the sweep step range.
- 2) Click the [STOP] button ([■] when using the communications receiver screen) to cancel a sweep.
- 3) To pause a sweep, click the [|| (pause)] button. Repeat to resume the sweep.

Related items    **LIMIT indicator**  
                      **Pick up signal**

<<Note>>

- While pausing the band scope, you can select the displayed signal frequency by clicking the waveform. In this case, the receive frequency is marked by dotted line and the previously received frequency is displayed at center.
- In rare cases, when the received frequency signal strength fluctuates, other signal levels in the band scope indication may change.

### **WFM monitor function**

The band scope function can be used in non-WFM modes. In WFM mode, you can check the wave form using band scope function.

This is available using one of the optional functions.

## Selecting the frequency span

The number of kHz that the band scope indicates above and below the center of the receive frequency can be changed. Click the [SPAN+] or [SPAN-] button to select through SPAN1 ( $\pm 25$  kHz) to SPAN4 ( $\pm 200$  kHz). Choose [SPAN1] when band conditions are crowded (many signals are present); choose [SPAN4] when few signals are present.

## 1/2 sweep steps

This sets the frequency steps while sweeping to half of tuning step value, doubling the resolution of the sweep.

This can be achieved by using the optional functions.

## Changing the automatic sweep step limit

The frequency steps used while sweeping are automatically set according to the tuning step. However, these steps can be defined using the band scope function.

- 1) Click the [SET] button to bring up the [Setting] dialog box.
- 2) Click the [SCOPE] tab, choose a frequency step from inside the [Automatic Sweep-Step Limit], and then click the [Close] button.
- 3) The sweep step range can be selected from one of 1 kHz to 100 kHz, 1 kHz to 50 kHz or 1 kHz to 25 kHz.

When using the band scope function and the selected tuning step (TS) is outside the above set range, [LIMIT] appears in the band scope display.

Related items    **LIMIT indicator**  
                          **1/2 sweep steps**

## About the LIMIT indicator

If the tuning step is greater than the automatic sweep step setting, LIMIT and the largest frequency span (+200k/-200k) appears indicating that the tuning step (TS) and the sweep step width is not same.

Only LIMIT appears when the sweep area is greater than the band scope display.

## Using the band scope optional functions

The following optional functions are available for the band scope functions.

### **WFM monitor function**

The band scope function is normally used in AM and FM modes only; this function allows it to be used as wave form monitor in WFM mode.

### **1/2 sweep step function**

This function sets the sweep step value in half of the tuning step, doubling the sweep resolution.

- 1) Click the [SET] button to bring up the [Setting] dialog box.
- 2) Click the [SCOPE] tab, select an optional function from within [Option], then click the [Close] button.

## About pick up signals

When you find a signal you want to listen to when

using the band scope function, move the mouse over the signal location in the band scope display and click. The receive frequency moves to that frequency. While pausing the band scope, you can also select the displayed signal frequency by clicking the waveform. In this case, the receive frequency is marked by a dotted line and the previously received frequency is displayed at center.

<<Note>>

- In SSB or CW mode, push the [STOP] button ([■])
- when using the communications receiver screen) or the [|| (pause)] button to receive the audio.

## General functions and terminology

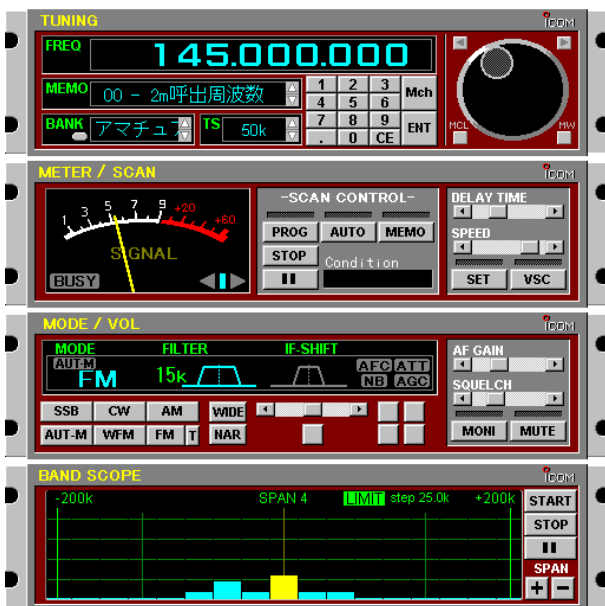
Component screen

Radio screen

Communications receiver screen

## Component screen

For a description of labels and functions or when you want to learn more in general about this screen, see the paragraphs on following pages.



The screen shot shows the IC-PCR1000 Revision 1.0J.

## Component screen

### FREQ (Frequency) indication

Indicates the receive frequency and data as it is being input such as memory channel numbers, etc.

1200.000.000  
 └──┬──┬──┘  
 MHz kHz Hz

### MEMO (Memory) indicator

Indicates the memory channel (and its name if it has one) being received.

**MEMO (Memory channel) ▲/▼ buttons**

Used to change the memory channel being received.

**BANK (Memory bank) indicator**

Indicates the memory bank (and its name if it has one) being received.

- The [BANK] button changes the indication.

**BANK (Memory bank) button**

Used to change the memory bank number indication and memory bank name indication when using the component screen.

- If a memory bank has no name, choosing the name indication does nothing.

**BANK (Memory bank) ▲/▼ buttons**

Used to change the memory bank being received.

**TS (Tuning step) indicator**

This is the frequency increment used when selecting a frequency using the [Main dial] and when searching for signals using a scan function.

**TS (Tuning step) ▲/▼ buttons**

Used to change the tuning step.

**Numeral buttons ([0] to [9])**

Used to input a receive frequency or memory channel directly.

**- (Decimal) button**

Used to set the MHz digit when inputting a frequency.

**CE (Clear) button**

Used to clear mistakes while inputting a receive frequency or memory channel.

**Mch (Memory channel) button**

Used to set the numeral buttons for memory channel input.

**ENT (Enter) button**

Used to set the numeral buttons for frequency input.

**Main dial**

Used to select a receive frequency.

**MCL (Memory clear) button**

Used to clear the contents of unneeded memory channels.

**MW (Memory write) button**

Writes the current receive frequency into a memory channel.

**Signal meter**

Indicates the receive signal strength. Also indicates the S-meter squelch receive level set via the [SQUELCH] scroll bar.

**BUSY indicator**

Appears when receiving a signal or when signal noise opens the squelch.

**Center indicators**

Indicate the tuning level when selecting the 6 kHz or 15 kHz IF filter in FM mode.

When both the left [◀] and right [▶] marks disappear, the center mark appears indicating that the signal is tuned.

**PROG (Program scan) button**

Used to start/stop program scan.

The indicator lamp lights during scan and Program

SCAN appears in the Condition indicator window.

**AUTO (Auto memory write scan) button**

Used to start/stop auto memory write scan.

The indicator lamp lights during scan and Auto MW SCAN appears in the Condition indicator window.

**MEMO (Memory scan) button**

Used to start/stop any of the memory scans.

The indicator lamp lights during scan and Memory SCAN appears in the Condition indicator window.

**STOP button**

Cancels scan operation.

**|| (Scan pause) button**

Used to pause/resume a scan.

When a scan is paused, Pause appears in the Condition indicator window.

**Condition indicator window**

Indicates the scan function operating condition.

When scan temporarily pauses to receive a signal Busy Stop appears.

**DELAY TIME scroll bar**

This sets the period in which a scan pauses after receiving a signal.

Moving the knob to the right increases the period; to the left decreases the period.

**SPEED (Scan speed) scroll bar**

Sets the speed at which scans search through frequencies/memories for signals.

Moving the knob to the right increases the speed; to the left decreases the speed.

**SET button**

Shows/hides the [Setting] dialog box used to adjust



settings for scan functions, the band scope function and the automatic mode function.

**VSC (Voice Scan Control) button**

Turns the voice scan control function on and off. This function detects whether signals are modulated (contain voice or music components, etc.) or not.

**VSC (Voice Scan Control) indicator**

Appears when the VSC function is in use.

**MODE (Receive mode) indicator**

Indicates the current receive mode (electromagnetic wave type). When the automatic mode function is in use [AUT-M] also appears.

**Receive mode buttons**

Select a receive mode.

Using the [AUT-M] button to select automatic mode also selects a receive mode.

**T (Tone squelch) button**

Shows/hides the [TONE SQUELCH] dialog box for setting tone squelch tone frequencies.

The [T-SQL] indicator appears when the tone squelch function is in use.

**FILTER (IF filter) indicator**

Indicates the IF filter in use and the signal passband width.

**FILTER (IF filter) buttons**

Change the IF filter in use.

The [WIDE] button selects a wider filter, the [NAR] button selects a narrower filter.

- Usable IF filters vary according to receive mode.

**IF-SHIFT (IF shift) indicator**

Indicates a received signals passband position.

**IF-SHIFT (IF shift) scroll bar**

Sets a signals passband position.

Moving the knob to the right sets the passband higher, moving the knob to the left sets the passband lower.

**Center button**

After moving a signals' passband position with the [IF-SHIFT] scroll bar, this button returns it to the center position.

**AFC (Automatic Frequency Control) button**

Turns the AFC function on and off. This function tracks the receive signal when drifting.

When the AFC function is on the center indicator appears.

**AFC (Automatic Frequency Control) indicator**

Appears when the AFC function is on.

**NB (Noise blanker) button**

Turns the noise blanker function on and off. The noise blanker is used to reduce pulse type noise.

**NB (Noise Blanker) indicator**

Appears when the noise blanker function is on.

**ATT (Attenuator) button**

Turns the attenuator on and off. The attenuator function reduces signal strength by approx. 20 dB.

**ATT (Attenuator) indicator**

Appears when the attenuator function is on.

**AGC (Automatic Gain Control) button**

Turns the AGC function on and off.

**AGC (Automatic Gain Control) indicator**

Appears when the AGC function is on.

**AF (Audio Frequency) GAIN scroll bar**

Adjusts the audio output.

**SQUELCH scroll bar**

Adjusts the squelch level.

**MONI (Monitor) button**

Turns the monitor function on and off. The monitor function is used to temporarily open the squelch to listen to weak signals.

**MUTE button**

Turns the mute function on and off. Used to temporarily mute audio output.

**START button**

Starts the band scope (sweep) function which is used to observe signal conditions around the receive frequency.

**STOP button**

Stops the band scope (sweep) function.

**|| (Sweep pause) button**

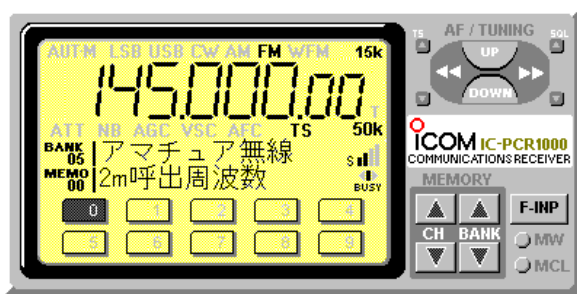
Pauses/resumes a band scope function sweep.

**SPAN +/- buttons**

Select one of four levels for the band scope frequency span.

## Radio screen

For a description of labels and functions see the paragraphs in following pages.



The screen shot shows the IC-PCR1000 Revision 1.0J.

## Radio screen

### FREQ (Receive frequency) indication

Indicates the current receive frequency and data while it is being input, such as memory channel numbers, etc. Also, clicking the frequency indication allows you to input a frequency from the keyboard.

1200.000.00  
 MHz kHz Hz

- When using the radio screen, frequency is indicated only to the 10 Hz digit.

### MEMO (Memory) indicator

Indicates the memory channel (and name if it has one) being received.

### MEMORY CH (Memory channel) ▲/▼ buttons

Change the memory channel in 10 channel increments.

Push the memory channel button (e.g. [0] to [9], [10] to [19]) to select the memory channel selection.

**Memory channel buttons**

Set the memory channel.

To display other memory channels push [MEMORY CH ▲/▼].

**BANK (Memory bank) indicator**

Indicates the memory bank (and name if it has one) being received.

**MEMORY BANK ▲/▼ buttons**

Change the memory bank being received.

**TS (Tuning Step) indicator**

Indicates the selected tuning step when selecting a frequency with the [TUNING] button and when scanning.

**TS (Tuning Step) ▲/▼ buttons**

Change the selected tuning step.

**TUNING ►►/◄◄ buttons**

Select a frequency.

**MCL (Memory clear) button**

Deletes the contents of unneeded memory channels.

**MW (Memory write) button**

Writes the frequency being received into a memory channel.

**S (Signal) indicator**

Indicates the receive signal strength. Also indicates the S-meter squelch receive level set with the [SQL ▲/▼] buttons.

**VSC (Voice Scan Control) indicator**

Appears when the VSC function is on.

**MODE (Receive mode) indicators**

Change the receive mode and indicate the current receive mode. Also, clicking the [AUT-M] indicator turns the automatic mode function on and off.

**T (Tone squelch) indicator**

Shows/hides the [TONE SQUELCH] dialog box for setting tone squelch tone frequencies.

**FILTER (IF filter) indicator**

Changes the IF filter and indicates the currently selected IF filter.

- Usable IF filter varies according to receive mode.

**AFC (Automatic Frequency Control) indicator**

Turns the AFC function on and off and shows the center indicator.

**NB (Noise blanker) indicator**

Turns the noise blanker function on and off and indicates the on or off condition.

**ATT (Attenuator) indicator**

Turns the attenuator function on and off and indicates the on or off condition.

**AGC (Automatic Gain Control) indicator**

Turns the AGC function on and off and indicates the on or off condition.

**AF (Audio Frequency) UP/DOWN buttons**

Adjust the audio output.

**SQL (Squelch) ▲/▼ buttons**

Adjust the squelch level.

**F-INP (Frequency input) button**

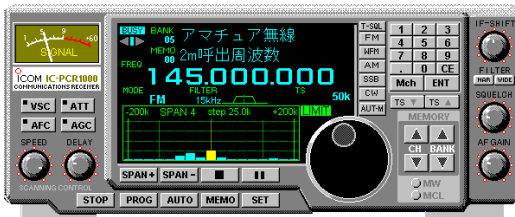
Toggles frequency input capability from the keyboard on and off.

Clicking the frequency indication has the same

function.

## Communications receiver screen

For a description of labels and functions or when you want to learn more in general about this screen, see paragraphs on following pages..



The screen shot shows the IC-PCR1000 Revision 1.0J.

## COMMUNICATIONS RECEIVER SCREEN

### FREQ (Receive frequency) indication

Displays the receive frequency or data as it is being input (such as memory channel numbers, etc.).

1200.000.000  
MHz kHz Hz

### MEMO (Memory) indicator

Indicates the memory channel (and name if it has one) being received.

### MEMORY CH (Memory channel) ▲/▼ buttons

Change the memory channel being received.

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**BANK (Memory bank) indicator**

Displays the memory bank (and name if it has one) being received.

**MEMORY BANK (Memory bank) ▲/▼ buttons**

Change the memory bank being received.

**TS (Tuning step) indicator**

Indicates the set tuning step used when changing the frequency with the main dial and when scanning.

**TS (Tuning step) ▲/▼ buttons**

Change the selected tuning step.

**Numeral buttons ([0] to [9])**

Used to input frequencies and channel numbers directly.

**- (Decimal) button**

Sets the MHz digit when inputting frequencies.

**CE (Clear) button**

When making a mistake inputting a frequency or channel number, use this button to clear the input.

**Mch (Memory channel) button**

Sets a memory channel entered with the numeral buttons.

**ENT (Enter) button**

Sets a frequency entered with the numeral buttons.

**Main dial**

Sets a receive frequency.

**MCL (Memory clear) button**

Clears the displayed memory channel contents of unneeded memory channels.



**MW (Memory write) button**

Writes the frequency being received into the displayed memory channel.

**SIGNAL meter**

Indicates the receive signal strength. Also indicates the receive signal level set with the [SQUELCH] knob (S-meter squelch function).

**PROG (Program scan) button**

Starts/stops program scan.  
The indicator lamp flashes during scan.

**AUTO (Auto memory write scan) button**

Starts/stops auto memory write scan.  
The indicator lamp flashes during scan.

**MEMO (Memory scan) button**

Starts/stops any of the memory scans.  
The indicator lamp flashes during scan.

**STOP button**

Cancels a scan in progress.

**DELAY (Delay time) knob**

Sets the period that a scan pauses after receiving a signal.  
Right-click to increase the period; left-click to decrease the period.

**SPEED (Scan speed) knob**

Adjusts the speed at which a scan searches through frequencies or memory channels.  
Right-click to increase the speed; left-click to decrease the speed.

**SET button**

Shows/hides the [Setting] dialog box which allows you to set scan function, band scope function and

automatic mode function details.

### **VSC (Voice Scan Control) button**

Turns the VSC function on and off. The VSC function is used to determine whether signals contain modulated (voice, music, etc.) components or not. The indicator lamp lights while the VSC function is on.

### **MODE (Receive mode) indicator**

Indicates the receive mode. When the automatic mode function is in use, the [AUT-M] indicator also appears.

### **T-SQL (Tone squelch) button**

Shows/hides the [TONE SQUELCH] dialog box which is used to set a tone frequency for tone squelch use. The [T-SQL] indicator appears when the tone squelch function is in use.

### **FILTER (IF filter) indicator**

Indicates the selected IF filter and signal passband width.

### **FILTER (IF filter) buttons**

Change the selected IF filter.

The [WIDE] button selects a wider filter; the [NAR] button selects a narrower filter.

- The usable IF filter varies according to the receive mode.

### **IF-SHIFT (IF shift) knob**

Sets the signal passband position.

Right-click to set the position higher; left-click to set the position lower.

### **AFC (Automatic Frequency Control)/NB (Noise blanker) button**

In FM mode, turns the AFC function on and off. The AFC function is used to track a signal when it drifts,

keeping the tuning center.

In SSB, CW and AM modes, turns the noise blanker function on and off. The noise blanker function is used to reduce pulse type noise.

The indicator lamp lights while either function is on; in addition the center indicator appears when the AFC function is on.

**ATT (Attenuator) button**

Turns the attenuator function on and off. This function attenuates signals by approx. 20 dB.

The indicator lamp lights when the function is on.

**AGC (Automatic Gain Control) button**

Turns the AGC function on and off.

The indicator lamp lights when the function is on.

**AF (Audio Frequency) GAIN knob**

Adjusts the audio output.

Right-click to increase the volume; left-click to decrease the volume.

**SQUELCH knob**

Adjusts the squelch level.

Right-click to increase the squelch level; left-click to decrease the squelch level.

**▶ / ■ (Start/stop) button**

Starts/stops the band scope function for observing nearby signal conditions.

**|| (Sweep pause) button**

Pauses/resumes the band scope sweep function.

**SPAN+/- buttons**

Select one of four levels for the band scope frequency span.

**Frequency span indication**

Indicates the frequency span selected with the [SPAN+/-] button.

**+200k/- 200k (Max. frequency span value) indicators**

Indicate the upper and lower observable frequency limits around a receive frequency.

In the diagram, the upper and lower limits are +200 kHz and -200 kHz.

**LIMIT indicator**

Indicates when the tuning step is greater than the automatic sweep step setting.

In the diagram, the tuning step is greater than the automatic sweep step setting and the tuning step (TS) and the sweep step width are not the same.

**step (Sweep step) indicator**

Indicates band scope sweep step.

**Center frequency indicator**

Indicates the center frequency of the frequency span; this is for the currently received frequency.

**Please Note:**

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