

# IC-7700

## Firmware update information— Ver. 2.00

Thank you for using the Icom Download Service.

Version 2.00 of the firmware will provide the following additional functions or changes to your IC-7700.

- ➔ A new feature, another procedure is added to the IF filter passband width setting. (p. 2)
- ➔ New features, the waveform outline, water fall, wide screen size displays and USB mouse operation are added to the spectrum scope screen. (pp. 3 to 7)
- ➔ A new feature, the audio scope function is added. (pp. 8, 9)
- ➔ A new feature, the QSO voice recording function is added and the Voice recorder function is changed. (pp. 10 to 23)
- ➔ A new feature, the repeat transmit function is added to the Voice transmission. (p. 19)
- ➔ A new feature, the audio adjustment for audio peak filter for CW operation, is added. (p. 24)
- ➔ A new feature, adjustment of the transmission's timing for HF and 50 MHz bands is added to prevent damage to the external devices. (p. 25, Other set mode: TX delay (HF), TX Delay (50M))
- ➔ A new feature, the Server function for remote control stations with the optional RS-BA1, is added. (pp. 25 to 28, Other set mode)
- ➔ Some CI-V commands are added, as described on pages 29 and 30.

Before updating, see Section 16 'UPDATING THE FIRMWARE' in the IC-7700 instruction manual, for details.

### **IMPORTANT!**

Make a backup file of the transceiver's settings, such as stored memory channels, filter settings, to the USB flash drive before updating the firmware.

The CPU will be automatically reset when the firmware update is performed; the transceiver's memory contents will be cleared and ALL settings will be returned to their default settings.

See Section 12 '■ File saving' in the IC-7700 instruction manual, for details.

### **About the [USB] connector:**

- Supported only USB flash drive, keyboard, mouse or hub.
- **KEEP** the transceiver power OFF when connecting or disconnecting a USB keyboard, mouse or hub.
- **DO NOT** connect the following devices:
  - Two or more the same kind of USB devices.  
(Example: Two USB hubs or two USB mice)
  - Multimedia adapter
  - USB HDD
  - Larger than 32 GB USB flash drives
  - Bluetooth® keyboard or mouse.

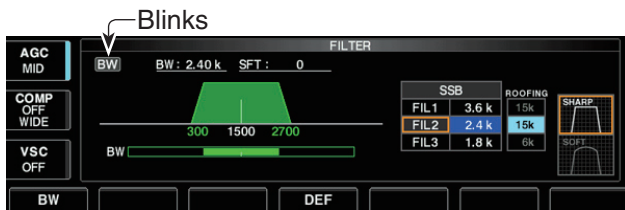
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## ■ Filter passband width setting (except FM mode)



• During the passband width setting



- ① Hold down **[FILTER]** for 1 second to enter filter set screen.
- ② Select any mode except FM.
  - Passband widths for FM modes are fixed and cannot be adjusted.
- ③ Push **[FILTER]** several times to select the desired IF filter.
- ④ Push **[BW] [F-1]**, then rotate the main dial to set the desired passband width. Then push **[BW] [F-1]** again.
  - Hold down **[DEF] [F-4]** for 1 second to select the default value.
  - While holding down **[BW] [F-1]**, rotating the main dial also adjusts the desired passband width.
- ⑤ If desired, repeat steps ② to ④.
- ⑥ Push **[EXIT/SET]** to exit filter set screen.

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

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

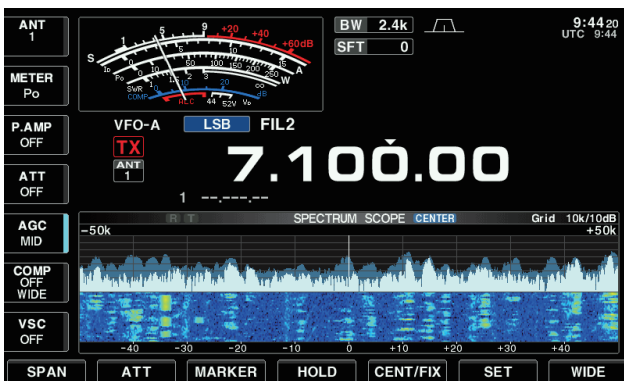
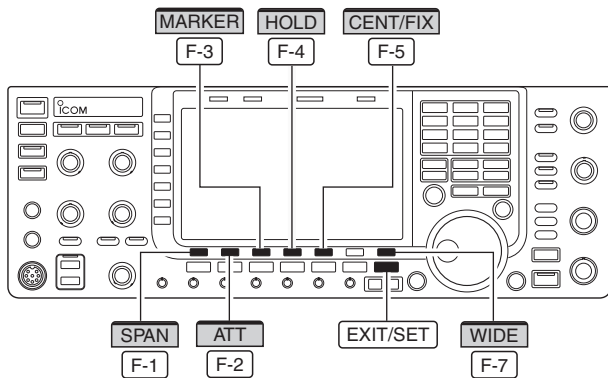
Mode	IF filter	Adjustable range (steps)
SSB	FIL1 (3.0 kHz)	50 to 500 Hz (50 Hz) 600 Hz to 3.6 kHz (100 Hz)
	FIL2 (2.4 kHz)	
	FIL3 (1.8 kHz)	
SSB-D CW PSK	FIL1 (1.2 kHz)	50 to 500 Hz (50 Hz) 600 Hz to 3.6 kHz (100 Hz)
	FIL2 (500 Hz)	
	FIL3 (250 Hz)	
RTTY	FIL1 (2.4 kHz)	50 to 500 Hz (50 Hz) 600 Hz to 2.7 kHz (100 Hz)
	FIL2 (500 Hz)	
	FIL3 (250 Hz)	
AM AM-D	FIL1 (9.0 kHz)	200 Hz to 10 kHz (200 Hz)
	FIL2 (6.0 kHz)	
	FIL3 (3.0 kHz)	
FM FM-D	FIL1 (15 kHz)	Fixed
	FIL2 (10 kHz)	
	FIL3 (7.0 kHz)	

## ■ Spectrum scope screen

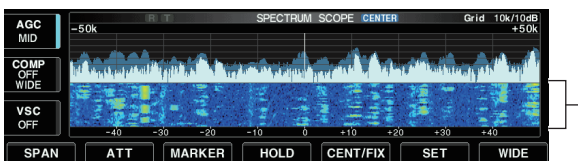
This DSP-based spectrum scope allows you to display the frequency and relative signal strength of received signals on the strengths of signals. The IC-7700 has two modes for the spectrum display— one is center mode, and the other is fixed mode.

In addition, the IC-7700 has a mini scope screen to save screen space.

### ◇ Center mode



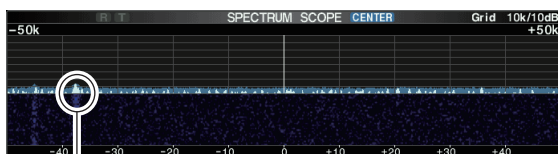
### • Spectrum scope



Waterfall

### • Scope spurious signal example

Spurious signals may be received on the spectrum scope screen regardless of the transceiver's state (TX or RX). They are generated in the scope circuit. This does not indicate a transceiver malfunction.



Scope spurious example

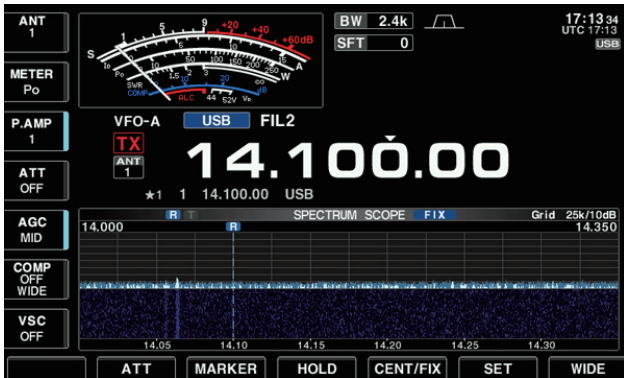
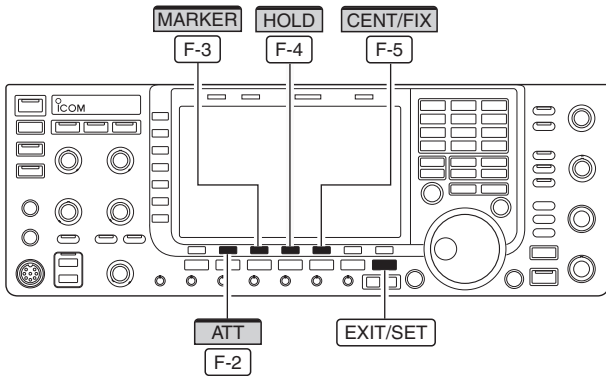
Displays signals around the set frequency within the selected span. The set frequency is always displayed at the center of the screen.

- ① Push [EXIT/SET] several times to close any multi-function screens, if necessary.
- ② Push [SCOPE] [F-1] to select the scope screen.
  - Push [WIDE] [F-7] to toggle the screen size between normal and wide.
- ③ Push [CENT/FIX] [F-5] to select the center mode.
  - “**CENTER**” is displayed when center mode is selected.
- ④ Push [SPAN] [F-1] several times to select the scope span.
  - $\pm 2.5$ ,  $\pm 5.0$ ,  $\pm 10$ ,  $\pm 25$ ,  $\pm 50$ ,  $\pm 100$  and  $\pm 250$  kHz are selectable.
  - Hold down [SPAN] [F-1] for 1 second to return to  $\pm 2.5$  kHz span.
  - Sweep speed is selectable for each span independently in scope set mode.
- ⑤ Push [ATT] [F-2] several times to activate an attenuator or turn the attenuator OFF.
  - 10, 20 and 30 dB of attenuation is available.
  - Hold down [ATT] [F-2] for 1 second to turn OFF the attenuator.
- ⑥ Push [MARKER] [F-3] to turn the marker for transmit frequency ON or OFF.
  - “**TX**” displays the marker at the transmit frequency.
  - “<<” or “>>” appears when the marker is out of range.
  - The spectrum scope shows the transmit signal while transmitting. This can be deactivated in scope set mode.
  - The spectrum scope shows the peak level hold 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.
- ⑦ Push [HOLD] [F-4] to freeze the current spectrum display.
  - “**HOLD**” appears while the function is in use.
  - The peak hold function can be deactivated in scope set mode.
- ⑧ Push [EXIT/SET] to exit the scope screen.

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

## ■ Spectrum scope screen (continued)

### ◇ Fixed mode



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

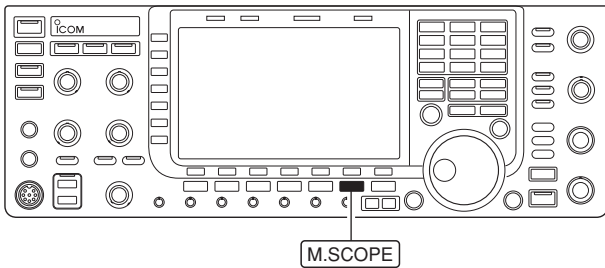
- ① Push [EXIT/SET] several times to close any multi-function screens, if necessary.
- ② Push [SCOPE] [F-1] to select the scope screen.
  - Push [WIDE] [F-7] to toggle the screen size between normal and wide.
- ③ Push [CENT/FIX] [F-5] to select the fixed mode.
  - “**FIX**” is displayed when fixed mode is selected.
- ④ Push [ATT] [F-2] several times to activate an attenuator or turn the attenuator OFF.
  - 10, 20 and 30 dB of attenuation is selectable.
  - Hold down [ATT] [F-2] for 1 second to turn OFF the attenuator.
- ⑤ Push [MARKER] [F-3] several times to select the marker for transmit frequency or turn the marker OFF.
  - “**R**” displays the marker at the receive frequency. (always displayed)
  - “**T**” displays the marker at the transmit frequency.
  - “<<” or “>>” appears when the marker is out of range.
  - The spectrum scope shows the transmit signal while transmitting. This can be deactivated in scope set mode.
  - The spectrum scope shows the peak level hold 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.
- ⑥ Push [HOLD] [F-4] 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.
- ⑦ Push [EXIT/SET] to exit the scope screen.

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

/// The scope bandwidth can be specified for each frequency band independently in scope set mode.

## ■ Spectrum scope screen (continued)

### ◇ Mini scope screen display

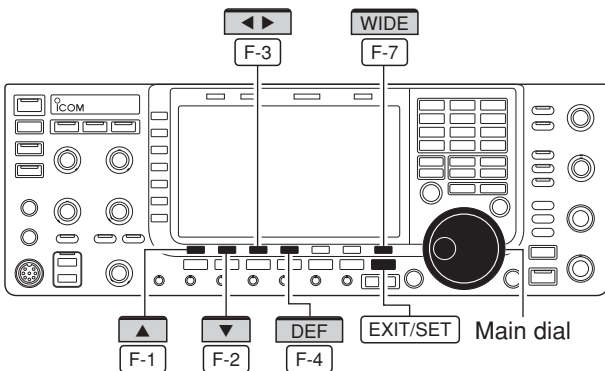


The mini scope screen can be displayed with another screen display, such as set mode menu, decode screen, memory list screen, etc. simultaneously.

- ① Set the scope mode (center or fixed), marker, attenuator, span, etc. in advance. (pp. 3, 4)
- ② Push **[M.SCOPE]** to toggle the mini scope display ON or OFF.
  - The S/R/F meter type during mini scope display can be selected in display set mode (Meter Type (Wide Screen) item). (IC-7700 instruction manual Section 12)



### ◇ Scope set mode




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

- ① During spectrum scope display ON, push **[SET]** **[F-6]** to select scope set mode screen.
  - Push **[WIDE]** **[F-7]** to toggle the screen size between normal and wide.
- ② Push **[▲]** **[F-1]** or **[▼]** **[F-2]** to select the desired set item.
- ③ Set the desired condition using the main dial.
  - Hold down **[DEF]** **[F-4]** for 1 second to select the default condition or value.
  - Push **[◀▶]** **[F-3]** to select the set contents for some items.
- ④ Push **[EXIT/SET]** to exit from set mode.



■ Spectrum scope screen

◇ Scope set mode (continued)

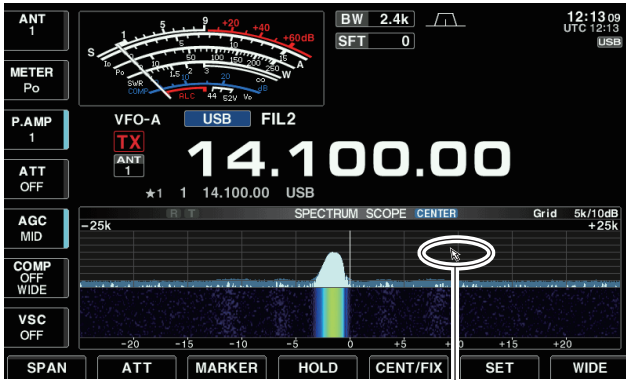
Waveform Type	Fill
<p>Select the outline indication of the waveform for the spectrum scope.</p>	<ul style="list-style-type: none"> <li>• Fill : The waveform is described by only the color.</li> <li>• Fill + Line : The waveform is described by the color and outline.</li> </ul>
Waveform Color (Line)	
<p>Set the waveform color for the currently received signals.</p>	<ul style="list-style-type: none"> <li>• The color is set in RGB format.</li> <li>• Push [◀ ▶] [F-3] to select R (Red), G (Green) and B (Blue), and rotate the ratio from 0 to 255 range.</li> <li>• The set color is indicated in the box beside the RGB scale.</li> </ul>
Waterfall Display	ON
<p>Set the waterfall display to ON or OFF.</p>	<ul style="list-style-type: none"> <li>• ON : Displays the waterfall of the spectrum scope.</li> <li>• OFF : Does not display the waterfall.</li> </ul>
Waterfall Peak Color Level	Grid 8
<p>The signal level that reaches a peak color is set to Grid 1 to Grid 8 for the waterfall display.</p> <p>Higher signal levels are Red, Yellow, Green, Light-blue, Blue and Black in order.</p>	

■ Spectrum scope screen (continued)

◇ USB mouse operation

If you connect a USB mouse to the transceiver, a mouse pointer appears on the spectrum scope screen. Now, you can change the frequency by using the mouse.

⚡ While holding down [XFC], the mouse changes the transmit frequency.



Mouse pointer

• Mouse operation on the Center mode

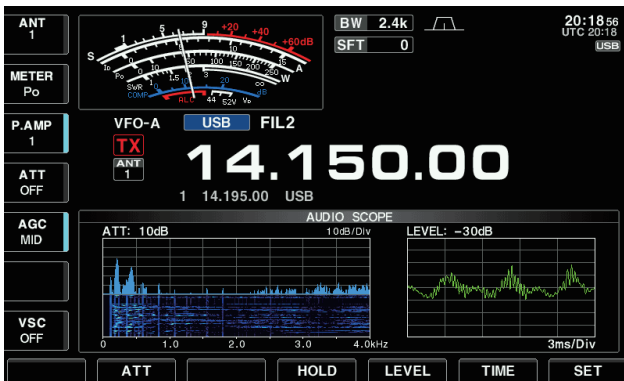
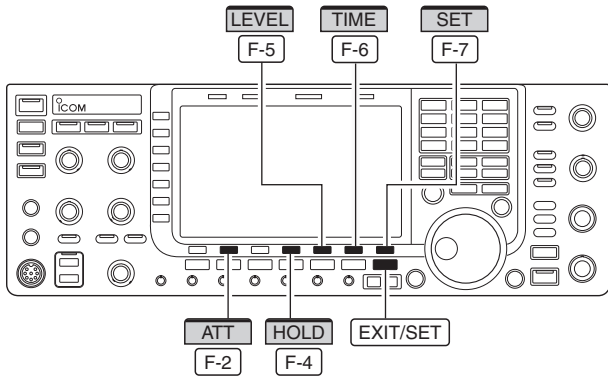
Button	Operation	Description
Left	Click	The frequency changes to the clicking point and mouse pointer move to the center of the screen.
	Drag	The frequency changes to the clicking point and mouse pointer move to the center of the screen, and then the frequency increases or decreases.
Right	Click/Drag	The Right button temporarily changes the frequency. While holding the button, same action as the Left button, but release it to return to the original frequency.

• Mouse operation on the Fix mode

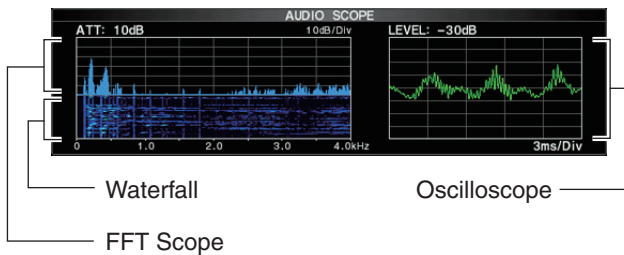
Button	Operation	Description
Left	Click	The frequency and marker change to the clicking point.
	Drag	The frequency and marker change to the clicking point, and then the frequency increases or decreases.
Right	Click/Drag	The Right button temporarily changes the frequency. While holding the button, same action as the Left button, but release it to return to the original frequency.

⚡ Changing frequencies in the Drag operation differ depending on the tuning step settings.

## ■ Audio scope screen



### • Audio scope



This audio scope allows you to display the received signal's frequency component to the FFT scope, and its waveform component to the Oscilloscope. The FFT scope has a waterfall.

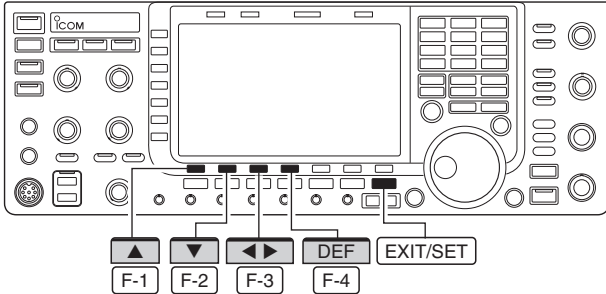
- ① Push [EXIT/SET] several times to close any multi-function screens, if necessary.
- ② Push [AUDIO] [F-6] to select the scope screen.
- ③ Push [ATT] [F-2] several times to activate an attenuator or turn OFF the attenuator for the FFT scope.
  - 0 (OFF), 10, 20 and 30 dB attenuators are selectable.
  - Holding down [ATT] [F-2] for 1 second to turn the attenuator OFF.
- ⑤ Push [LEVEL] [F-5] to select the level setting for the Oscilloscope.
  - 0, -10, -20 and -30 dB are selectable.
- ⑥ Push [TIME] [F-6] several times to select the time setting for the Oscilloscope.
  - 1, 3, 10, 30, 100 and 300 ms/Div are selectable.
- ⑦ Push [HOLD] [F-4] to freeze the current audio waveform.
  - "[HOLD]" appears while the function is in use.
- ⑧ Push [EXIT/SET] to exit the scope screen.

- When the Monitor function is ON, you can see the TX audio on the Audio scope.
  - Rotate [MONI GAIN] to adjust the level setting for the TX audio.



■ Audio scope screen (continued)

◇ Audio scope set mode



This set mode is used to set the FFT scope waveform type, color, waterfall display and oscilloscope waveform color.

- ① During audio scope display ON, push [SET] [F-7] to select the Audio scope set mode screen.
- ② Push [▲] [F-1] or [▼] [F-2] to select the desired set item.
- ③ Set the desired condition using the main dial.
  - Hold down [DEF] [F-4] for 1 second to select the default condition or value.
  - Push [◀▶] [F-3] to select the set contents for some items.
- ④ Push [EXIT/SET] to exit from set mode.

<b>FFT Scope Waveform Type</b>	<b>Fill</b>
Select the waveform type for the FFT scope.	<ul style="list-style-type: none"> <li>• Fill : The waveform is represented by the color.</li> <li>• Line : The waveform is represented by outline.</li> </ul>
<b>FFT Scope Waveform Color</b>	
Set the waveform color for the FFT scope.	<ul style="list-style-type: none"> <li>• The color is set in RGB format.</li> <li>• Push [◀▶] [F-3] to select R (Red), G (Green) and B (Blue), and rotate the ratio from 0 to 255 range.</li> <li>• The set color is indicated in the box beside the RGB scale.</li> </ul>
<b>FFT Scope Waveform Display</b>	<b>ON</b>
Select the waterfall display ON or OFF.	<ul style="list-style-type: none"> <li>• ON : Displays the waterfall on the FFT scope.</li> <li>• OFF : Does not display the waterfall.</li> </ul>
<b>Oscilloscope Waveform Color</b>	
Set the waveform color for the Oscilloscope.	<ul style="list-style-type: none"> <li>• The color is set in RGB format.</li> <li>• Push [◀▶] [F-3] to select R (Red), G (Green) and B (Blue), and rotate the ratio from 0 to 255 range.</li> <li>• The set color is indicated in the box beside the RGB scale.</li> </ul>

'Section 7 VOICE RECORDER FUNCTIONS' in the IC-7700 instruction manual has been changed, and a lot of operations are different. So all instructions in Section 7 are described on pages 10 to 23.

## ■ Recording a QSO audio

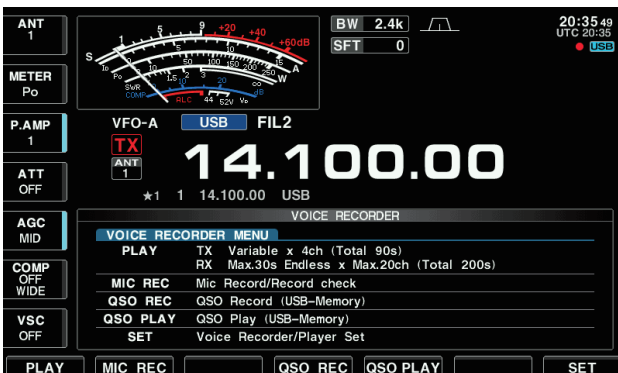
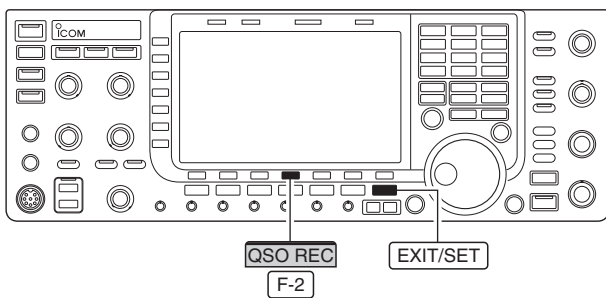
### NOTE:

- Be sure to connect a USB flash drive before recording a QSO audio.
- Once recording starts, it continues, even if the transceiver is turned OFF and then ON again.

The Voice recorder function records a QSO (communication) audio onto a USB flash drive.

This function enables you to record both received and transmitted audio, a QSO with a DX'pedition, and playback the recorded audio after the QSO.

### ◇ To start or stop recording



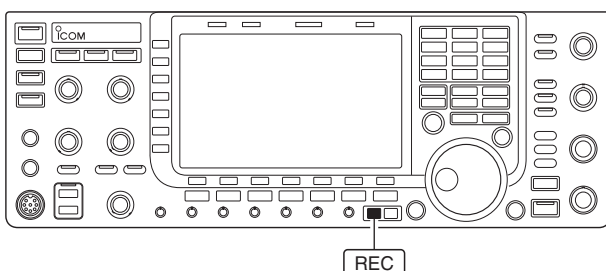
- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Push [VOICE] [F-2] to display the Voice Recorder menu.
- ③ Hold down [QSO REC] [F-4] for 1 second to start voice recording.
  - The "■" indicator appears and the "USB" indicator blinks.
  - Recording is continuous until you manually stop recording, or the USB flash drive becomes full.
  - If the recording file's content reaches 2GB, the transceiver automatically creates a new file, and continues recording.
  - The "▣" indicator appears instead of the "■" indicator while recording is paused.
- ④ Hold down [QSO REC] [F-4] for 1 second to stop recording.
  - The "■" indicator disappears and the "USB" indicator stops blinking.
- ⑤ Push [EXIT/SET] to exit the Voice Recorder screen.

### ✓ Convenient!

When the PTT Automatic Recording function is set to ON in the Voice set mode, the recording automatically starts when you push [PTT]. (p. 22)

## ■ Recording quick operation

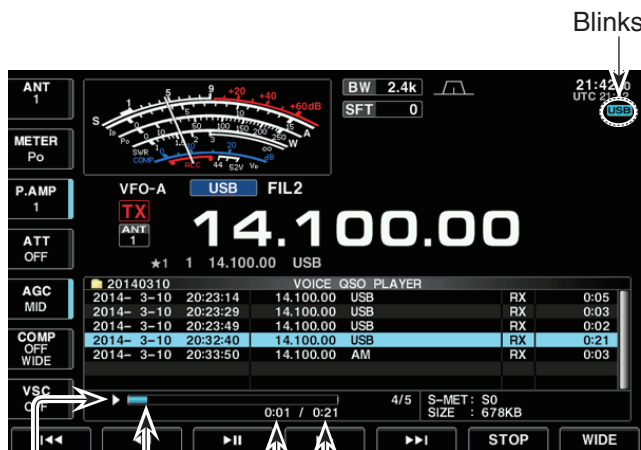
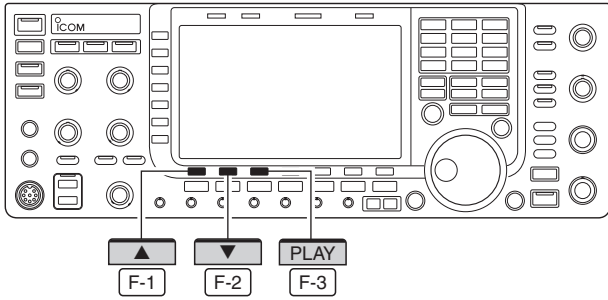
### ◇ To start or stop recording



- ① Hold down [REC] for 1 second to start voice recording.
  - The "■" indicator appears and the "USB" indicator blinks.
- ② Hold down [REC] for 1 second again to stop recording.

## ■ Playing back the recorded audio (QSO)

### ◇ Basic playing



Blinks

**Progress bar**  
Shows the play back progress bar.

**Played back time**  
Shows the played back time.

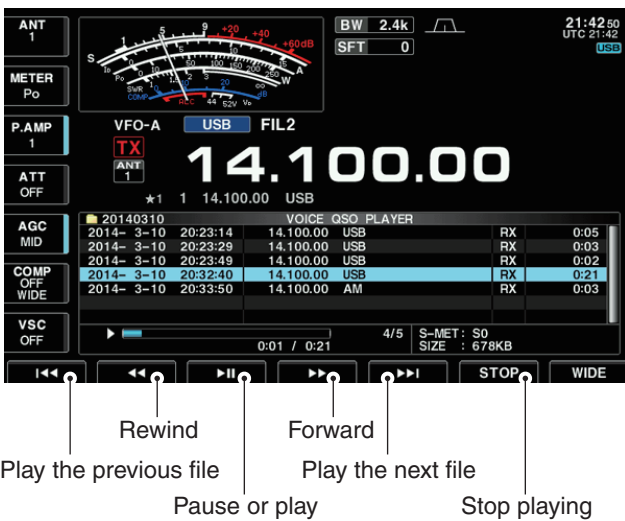
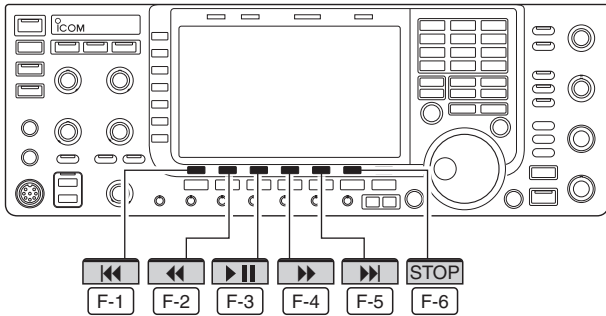
**Total time**  
Shows the file's total playback time.

**Playback mark**  
Appears while the audio is playing back.  
• The mark disappears while pausing.

- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Push [VOICE] [F-2] to display the Voice Recorder menu.
- ③ Push [QSO PLAY] [F-5] to call up the voice QSO player screen.
  - The folder list is displayed.
  - The folder name is formatted yyyyymmdd (yyyy: year, mm: month, dd: day).
- ④ Push [▲] [F-1] or [▼] [F-2] to select the folder that contains the file you want to play.
  - Rotating the main dial also selects the folder.
- ⑤ Push [FILE] [F-3] to open the folder .
  - The file list is displayed.
  - The file name is formatted yyyy-mm-dd hh:mm:ss (yyyy: year, mm: month, dd: day, hh: hour, mm: minute, ss: second).
- ⑥ Push [▲] [F-1] or [▼] [F-2] to select the file that you want to play.
  - Rotating the main dial also selects the file.
- ⑦ Push [PLAY] [F-3] to start playback.
  - The "USB" indicator blinks.
  - Playback continues to next file, and it is terminated when the bottom file in the folder is played.
- ⑧ Push [EXIT/SET] several times to exit the QSO player screen.

## ■ Playing back the recorded audio (continued)

### ◇ Operating while playing back



#### ✓ Convenient!

You can fast forward or rewind the file that is playing by rotating the main dial.

The fast forward/rewind time is one twentieth of the total file time, regardless of the skip time setting.

Holding down the switch repeats the action until it is released (other than the [▶||] [F-3] switch).

Example: Hold down [▶▶] [F-4] to repeat skipping 10 seconds until you release the [▶▶] [F-4] switch.

(Default: 10 seconds)

You can fast forward or rewind while playing back.

#### • Fast forward while playing

Push [▶▶] [F-4] to fast forward to the skip time point. (Default: 10 seconds)

You can change the skip time in the voice set mode. (p. 22)

#### • Rewind while playing

Push [◀◀] [F-2] to rewind to the skip time point. (Default: 10 seconds)

You can change the skip time in the voice set mode. (p. 22)

• If you push [◀◀] [F-2] within the first second of the file, the skip time at the end of the previously recorded file will playback.

#### • Pause while playing

Push [▶||] [F-3] to pause.

• Touch [▶||] [F-3] again to resume.

#### • Playing the previous file

Push [◀◀] [F-1] to play the previous file.

• In case there are other files in the folder, while the oldest file is playing back, Push [◀◀] [F-1] to start playing the beginning of the file.

#### • Playing the next file

Push [▶▶] [F-5] to play the next file.

• In case there are other files in the folder, while the most recent file is playing back, Push [▶▶] [F-5] to stop the playback.

#### • Moving to the beginning of the previous file

When the playback is paused anywhere within the file, Push [◀◀] [F-2] one or more times to return to the beginning of the file, and pause.

• Push [▶||] [F-3] to play it back.

When the playback is paused at beginning of a file, Push [◀◀] [F-1] to move to the beginning of the previous file, and pause.

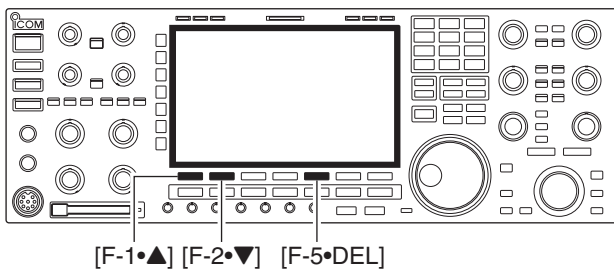
• Push [▶||] [F-3] to play it back.

#### • Moving to the beginning of the next file

When the playback is paused, Push [▶▶] [F-5] to move to the beginning of the next file, and pause.

• Push [▶||] [F-3] to play it back.

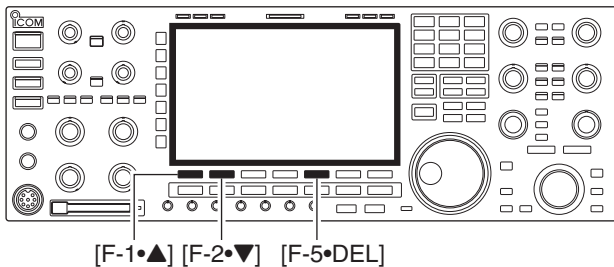
## ■ Deleting recorded audio file



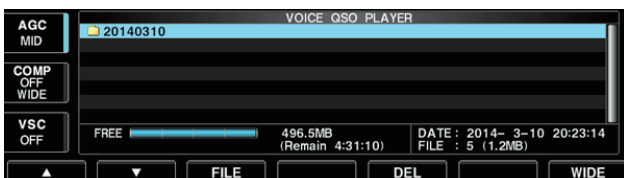
- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Push [VOICE] [F-2] to display the Voice Recorder menu.
- ③ Push [QSO PLAY] [F-5] to call up the voice QSO player screen.
  - The folder list is displayed.
  - The folder name is formatted yyyyymmdd (yyyy: year, mm: month, dd: day).
- ④ Push [▲] [F-1] or [▼] [F-2] to select the folder that contains the file you want to delete.
  - Rotating the main dial also selects the folder.
- ⑤ Push [FILE] [F-3] to open the folder .
  - The file list is displayed.
  - The file name is formatted yyyy-mm-dd hh:mm:ss (yyyy: year, mm: month, dd: day, hh: hour, mm: minute, ss: second).
- ⑥ Push [▲] [F-1] or [▼] [F-2] to select the file that you want to delete.
  - Rotating the main dial also selects the file.
- ⑦ Hold down [DEL] [F-5] for 1 second to delete the file.
  - The confirmation window “Are you sure?” appears.
- ⑧ Push [OK] [F-6] to delete the file.
  - The selected file is deleted.
  - Push [EXIT/SET] to cancel deleting.
- ⑨ Push [EXIT/SET] several times to exit the QSO player screen.



## ■ Deleting recorded audio folder



- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Push [VOICE] [F-2] to display the Voice Recorder menu.
- ③ Push [QSO PLAY] [F-5] to call up the voice QSO player screen.
  - The folder list is displayed.
  - The folder name is formatted yyyyymmdd (yyyy: year, mm: month, dd: day).
- ④ Push [▲] [F-1] or [▼] [F-2] to select the folder that you want to delete.
  - Rotating the main dial also selects the folder.
- ⑤ Hold down [DEL] [F-5] for 1 second to delete the folder.
  - The confirmation window “Are you sure?” appears.
- ⑥ Push [OK] [F-6] to delete the folder.
  - The selected folder is deleted.
  - Push [EXIT/SET] to cancel deleting.
- ⑦ Push [EXIT/SET] several times to exit the QSO player screen.

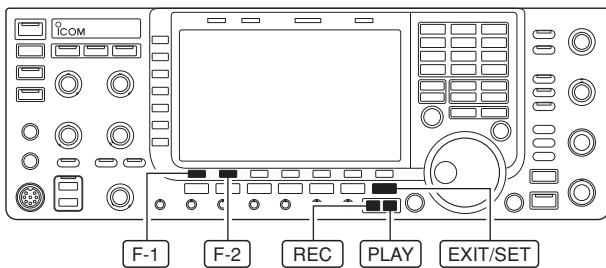


## ■ About digital Voice Recorder

The IC-7700 has digital voice memories, up to 4 messages for transmit, and up to 20 messages for receive.

A maximum message length of 30 seconds can be recorded into a receive memory (total message length for all channels of up to 209 seconds) and a total message length of up to 99 seconds can be recorded in transmit memory.

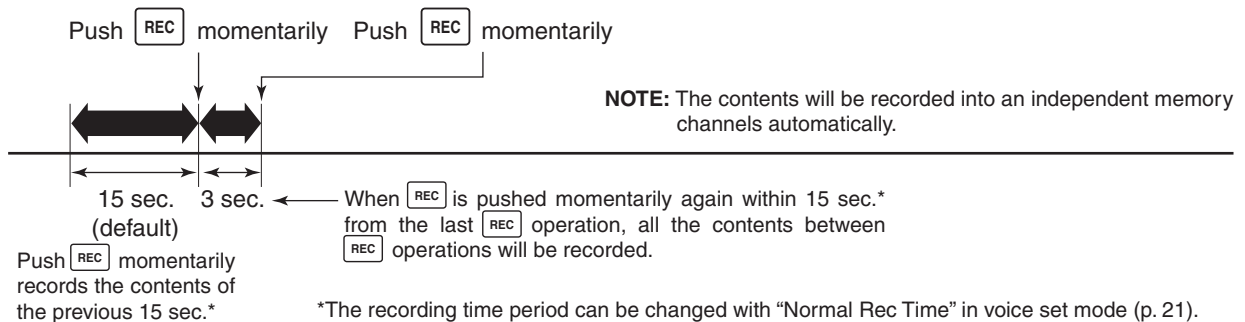
The transmit memory is very convenient for repeated CQ and exchange transmissions in contests, as well as when making repeated calls during DX'peditions.



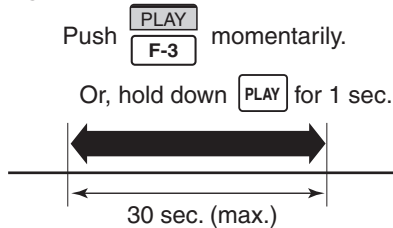
- ① Select any mode.
- ② Push [VOICE] [F-2] to display voice recorder menu.
- ③ Push [PLAY] [F-1] or [MIC REC] [F-2] to select the desired memory channel screen, then record audio or playback the contents as described below.
- ④ Push [EXIT/SET] twice to exit voice recorder screen.

### • About recording received audio and playing back the contents

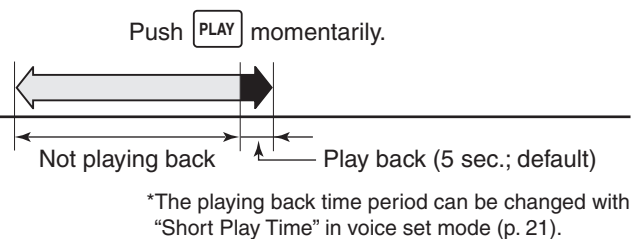
#### • Example— When [REC] is pushed momentarily



#### • Playing back the all contents in a channel



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

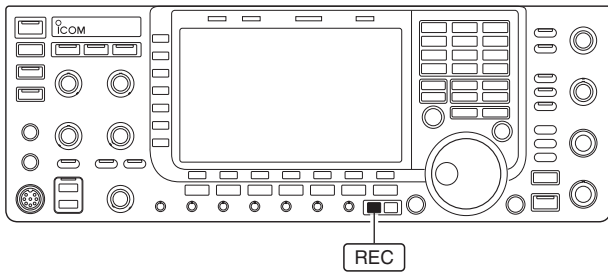


## ■ Recording a received audio (Short REC)

Up to 20 channels of receive voice memories are available in the IC-7700. And the total audio length of up to 209 seconds can be recorded in receive channels. However, the maximum recordable length into a single memory is 30 seconds.

This Voice Recorder does not record only the received audio, but also the information such as set operating frequency, mode, and the recording time for your future reference.

### ◇ One-touch recording



➤ Push [REC] momentarily to records the previous 15 seconds audio.

- The recordable time period can be set in voice set mode. (p. 21)
- The operating frequency, mode and current time are automatically programmed as the memory names.

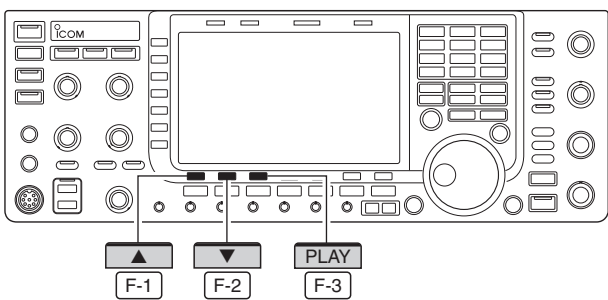
▨ **NOTE:** When transmit (or [PTT] is pushed) within the set period, no audio will be recorded.

### ▨ **IMPORTANT!**

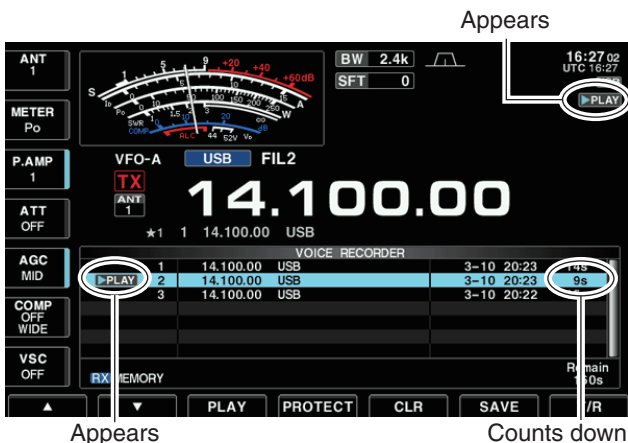
When you record the 21st audio segment, or when the total audio length exceeds 209 seconds, the oldest recorded audio is automatically erased to make room for the new audio.

## ■ Playing back the recorded audio (Short REC)

### ◇ Basic playing

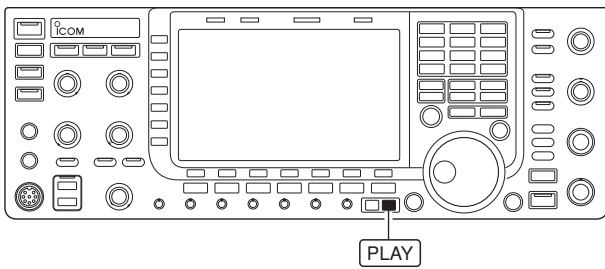


- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Push [VOICE] [F-2] to display the Voice recorder menu.
- ③ Push [PLAY] [F-1] to display the Voice recorder screen.
  - Previously selected screen, TX or RX memory, is displayed. If the TX memory message (T1–T4) appears, push [T/R] [F-7] to select RX memory message.
- ④ Push [▲] [F-1] or [▼] [F-2] to select the desired voice memory to playback.
- ⑤ Push [PLAY] [F-3] to start playback.
  - “PLAY” indicators appear and the timer counts down.
- ⑥ Push [PLAY] [F-3] again to stop playback if desired.
  - Playback is terminated automatically when all of the recorded contents in the message are played.
- ⑦ Push [EXIT/SET] twice to exit the voice recorder screen.



## ■ Playing back the recorded audio (Short REC) (continued)

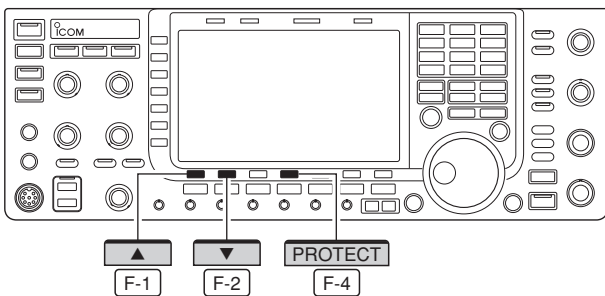
### ◇ One-touch playing



The previously recorded audio in message 1 can be played back without selecting voice recorder screen.

- Push **[PLAY]** momentarily to play back the last 5 seconds of the previously recorded audio.
  - “**PLAY**” indicator appears.
  - Playback is terminated automatically after 5 seconds.
  - The playback time period can be set in voice set mode. (p. 21)
- Hold down **[PLAY]** for 1 second to playback all of the previously recorded audio.
  - “**PLAY**” indicator appears.
  - Playback is terminated automatically when all of the recorded contents in the channel are played.

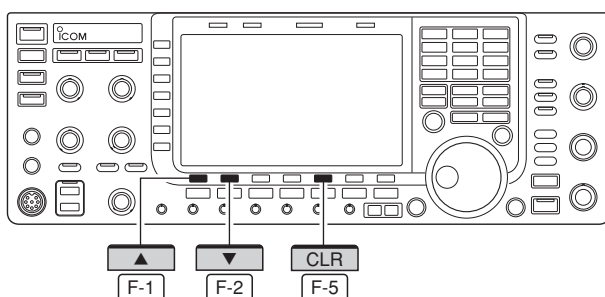
## ■ Protect the recorded contents



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

- ① Push **[EXIT/SET]** several times to close a multi-function screen, if necessary.
- ② Push **[VOICE] [F-2]** to display the Voice recorder menu.
- ③ Push **[PLAY] [F-1]** to display the Voice recorder screen.
  - Previously selected screen, TX or RX memory, is displayed. If the TX memory message (T1–T4) appears, push **[T/R] [F-7]** to select RX memory message.
- ④ Push **[▲] [F-1]** or **[▼] [F-2]** to select the desired voice message.
- ⑤ Push **[PROTECT] [F-4]** to turn the protect function ON or OFF.
  - “**■**” indicator appears when the contents is protected.
- ⑥ Push **[EXIT/SET]** twice to exit the voice recorder menu.

## ■ Erasing the recorded contents



The recorded contents can be erased independently by message.

- ① Perform the steps ① to ③ as “■ Protect the recorded contents” above.
- ② Push **[▲] [F-1]** or **[▼] [F-2]** to select the desired voice message to be erased.
- ③ Hold down **[CLR] [F-5]** for 1 second to erase the contents.
  - Push **[PROTECT] [F-4]** to release the protection in advance if necessary.
- ④ Push **[EXIT/SET]** twice to exit the voice recorder menu.

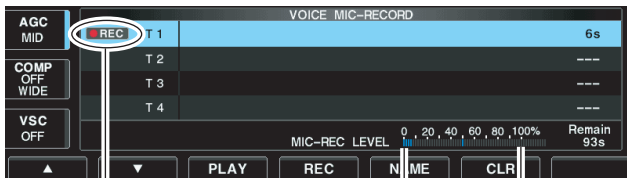
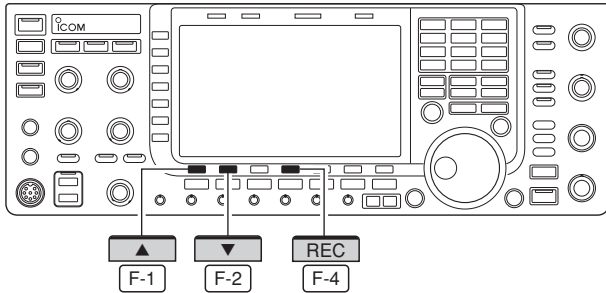


## ■ Recording a message for transmit

To transmit a message using the Voice recorder, record the desired message in advance as described below.

The IC-7700 has digital voice memories for transmission, up to 4 messages and you can record message in length of up to 99 seconds.

### ◇ Recording

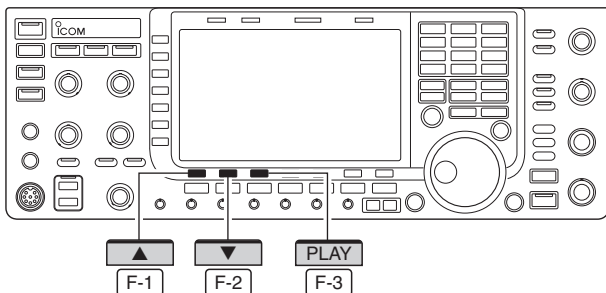


Appears

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

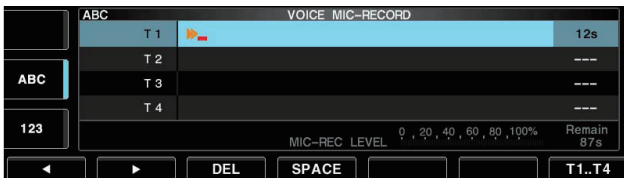
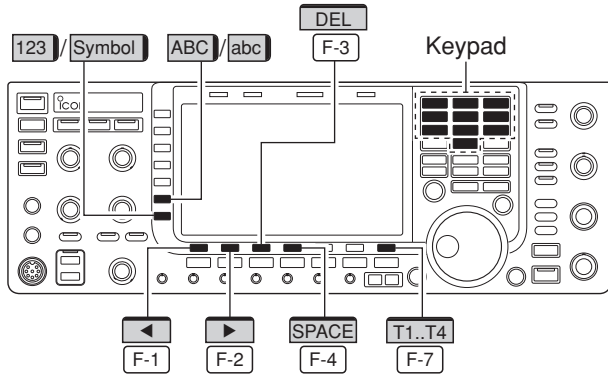
- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Push [VOICE] [F-2] to display the Voice recorder menu.
- ③ Push [MIC REC] [F-2] to select the voice mic. record screen.
- ④ Push [▲] [F-1] or [▼] [F-2] to select the desired message.
- ⑤ Hold down [REC] [F-4] for 1 second to start recording.
  - "REC" indicator appears.
  - Speak into the microphone without holding down [PTT].
  - Previously recorded contents are cleared.
  - Audio output from the internal speaker is automatically muted.
- ⑥ While speaking into the microphone with your normal voice level, adjust the [MIC] control so that the [MIC-REC LEVEL] indicator reads within 100%.
- ⑦ Push [REC] [F-4] momentarily to stop recording.
  - The recording is terminated automatically when the remaining time becomes 0 second.
- ⑧ Push [EXIT/SET] twice to exit the Voice recorder menu.

### ◇ Confirming a message for transmit

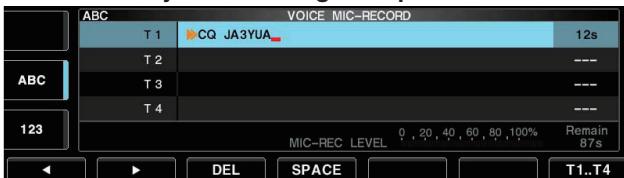


- ① Perform the steps ① to ③ as "◇ Recording" above.
- ② Push [▲] [F-1] or [▼] [F-2] to select the desired message.
- ③ Push [PLAY] [F-3] to playback the recorded contents.
  - "PLAY" indicator appears.
- ④ Push [PLAY] [F-3] again to stop playback.
  - Playback is terminated automatically when all of the recorded contents in the message are played.
- ⑤ Push [EXIT/SET] twice to exit the voice recorder screen.

## ■ Programming a memory name



### • Voice memory name editing example



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

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

- ① Record a message as described in page 17.
- ② During the voice mic. record screen display, push [NAME] [F-5] to enter memory name edit condition.
  - A cursor appears and blinks.
- ③ Push [T1..T4] [F-7] several times to select the desired voice message.
- ④ Input the desired character by rotating the main dial or by pushing the band key for number input.
  - Push [ABC] (MF6) or [abc] (MF6) to toggle capital and small letters.
  - Push [123] (MF7) or [Symbol] (MF7) to toggle numerals and symbols.
  - Push [◀] [F-1] or [▶] [F-2] for cursor movement.
  - Push [DEL] [F-3] to delete the selected character.
  - Push [SPACE] [F-4] to input a space.
  - Pushing the transceiver's keypad, [0]–[9], can also enter numerals.
- ⑤ Push [EXIT/SET] to input and set the name.
  - The cursor disappears.
- ⑥ Repeat steps ③ to ⑤ to program another voice message's name, if desired.
- ⑦ Push [EXIT/SET] twice to exit the voice recorder screen.

### • Usable characters

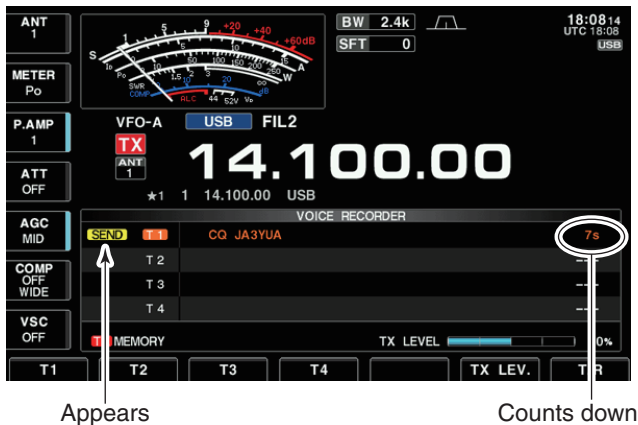
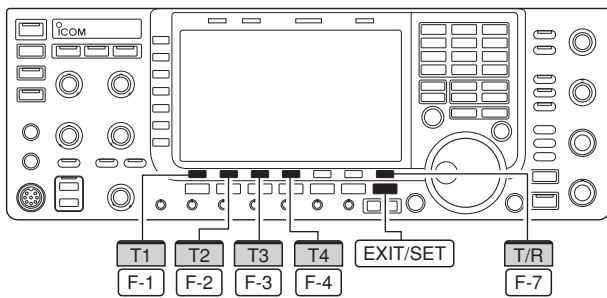
Key selection	Editable characters
	A to Z (capital letters)
	a to z (small letters)
	0 to 9 (numbers)
	! # \$ % & ¥ ? “ ‘ ` ^ + - * / . , ; = < > ( ) [ ] { }   _ ~ @

#### ✓ For your convenience

When a PC keyboard is connected to [USB] connector on the front panel, the memory name can also be edited from the keyboard.

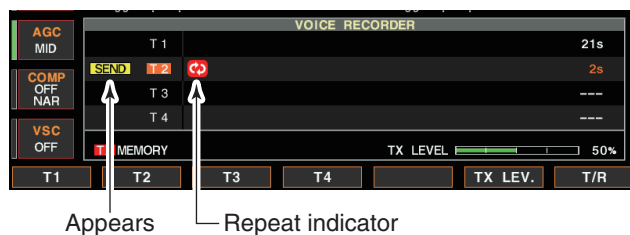
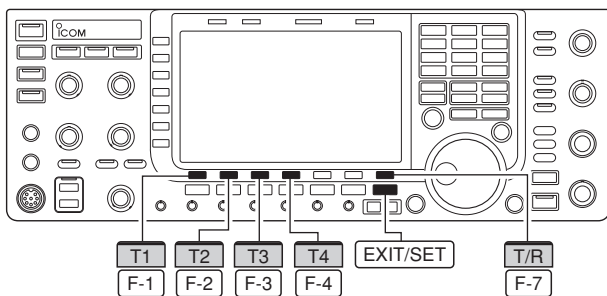
## ■ Sending a recorded message

### ◇ Single TX



- ① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
- ② Select a phone mode by pushing [SSB] or [AM/FM].
- ③ Push [VOICE] [F-2] to enter the Voice recorder menu.
- ④ Push [PLAY] [F-1] to enter the Voice recorder screen.
  - If the receive voice message appears, push [T/R] [F-7] to select TX message (T1–T4).
- ⑤ Push a desired message switch, [T1] [F-1] to [T4] [F-4], to transmit the contents.
  - The transceiver transmits automatically.
  - “SEND” indicator appears and the memory timer counts down.
  - You hear the transmitted message from the speaker as the default. This can be turned OFF in voice set mode. (p. 21)
- ⑥ Push the selected message switch, [T1] [F-1] to [T4] [F-4], again to stop, if desired.
  - The transceiver returns to receive automatically when all of the recorded contents in the message are transmitted.
- ⑦ Push [EXIT/SET] twice to exit the voice memory screen.

### ◇ Repeat TX



- ① Perform steps ① to ④ above.
- ② Hold down a desired message switch, [T1] [F-1] to [T4] [F-4], for 1 second to repeatedly transmit the recorded voice audio for up to 10 minutes at the interval specified in “Repeat Time.”
  - Even if 10 minutes pass while transmitting, the voice audio is completely transmitted.
  - One of the following steps will cancel the transmission.
    - Push the memory again.
    - Push another memory (except for [TX LEV.]).
    - Exit the TX Voice memory screen.
    - Turn OFF the power, then turn it ON again.
    - Activate the transmission.
  - The repeat transmission is cancelled. But while transmitting, the voice audio is completely transmitted.
  - Once the Repeat TX is made, the transceiver pauses until the end of the “Repeat Time,” then transmits again. After the second transmission, the Repeat TX continues pausing, if receiving a signal. But if the squelch is manually opened, the voice audio is repeatedly transmitted, according to the repeat time setting.

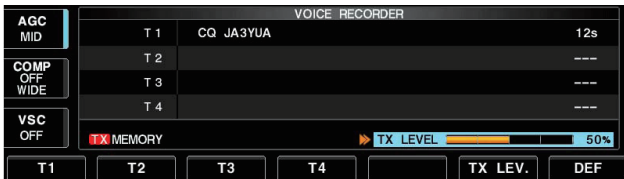
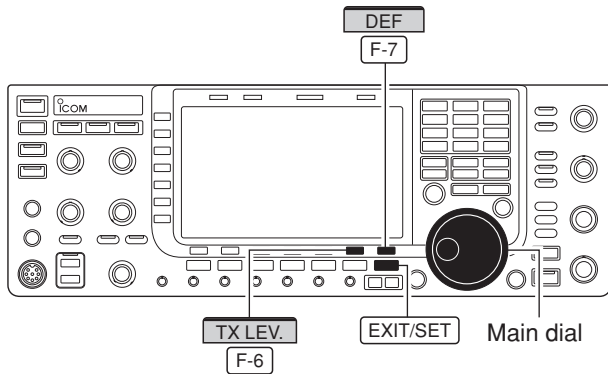
#### ✓ For your convenience

When an external keypad or PC keyboard is connected, the recorded message, T1 to T4, can be transmitted without opening the Voice Recorder screen. See the IC-7700 instruction manual’s Section 2 and Section 12 for details.

- The recorded message, T1 to T4 is transmitted once when pushing one of four switches on the external keypad; the recorded message is repeatedly transmitted when holding down a switch.
- The recorded message, T1 to T4 is transmitted once when pushing one of [F1] to [F4] key on the PC keyboard; the recorded message is repeatedly transmitted when pushing a key while holding down [SHIFT] key.

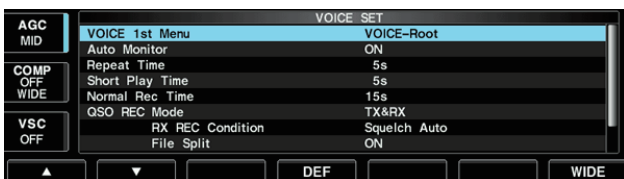
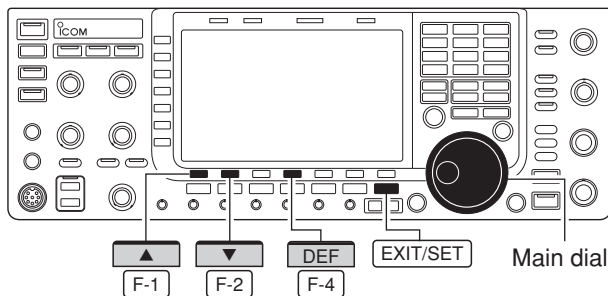
## ■ Sending a recorded message (continued)

### ◇ Transmit level setting



- ① Call up the Voice recorder screen as described above.
- ② Push [TX LEV.] [F-6] to select the voice memory transmit level set condition.
- ③ Push the desired message switch, [T1] [F-1] to [T4] [F-4], momentarily to transmit the contents.
  - The transceiver transmits automatically.
  - “SEND” indicator appears and the memory timer counts down.
- ④ Rotate the main dial to adjust the transmit voice level.
  - Hold down [DEF] [F-7] for 1 second to select the default condition.
- ⑤ Push [EXIT/SET] to return to the voice recorder screen.

## ■ Voice set mode



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

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

■ Voice set mode (continued)

<b>Voice 1st Menu</b>	<b>VOICE-Root</b>
Select VOICE-Root or VOICE-PLAY as the menu that appears first after pushing [VOICE] [F-2].	<ul style="list-style-type: none"> <li>• VOICE-Root : The voice menu appears first.</li> <li>• VOICE-PLAY : Either the RX or TX voice Recorder screen appears first.</li> </ul>
<b>Auto Monitor</b>	<b>ON</b>
Turn on the automatic monitor function for recorded audio contents transmission.	<ul style="list-style-type: none"> <li>• ON : Monitors transmit audio automatically when sending a recorded audio.</li> <li>• OFF : Monitors transmit audio only when the monitor function is in use.</li> </ul>
<b>Repeat Time</b>	<b>5s</b>
Set the repeat interval for the voice repeat transmission to between 1 and 15 seconds (in 1 second steps). The transceiver repeatedly transmits the recorded voice audio at this interval.	
<b>Short Play Time</b>	<b>5s</b>
Set the desired time period for one-touch playback (when [PLAY] is pushed momentarily).	<ul style="list-style-type: none"> <li>• 3 to 10 seconds in 1 second steps can be set. (default: 5 seconds)</li> </ul>
<b>Normal Rec Time</b>	<b>15s</b>
Set the desired time period for one-touch recording (when [REC] is pushed momentarily).	<ul style="list-style-type: none"> <li>• 5 to 30 seconds in 1 second steps can be set. (default: 15 seconds)</li> </ul>
<b>QSO REC Mode</b>	<b>TX&amp;RX</b>
Select the recording mode for recording a QSO audio.	<ul style="list-style-type: none"> <li>• TX&amp;RX : Records both the transmitted and received audio.</li> <li>• RX only : Records only the received audio.</li> </ul>
<b>RX REC Condition</b>	<b>Squelch Auto</b>
Select whether or not the squelch status affects the RX voice audio recording.	<ul style="list-style-type: none"> <li>• Always: The transceiver always records the RX audio, regardless of the squelch status.</li> <li>• Squelch Auto: The transceiver records the RX audio only when a signal is received (the squelch is opened). When the squelch closes while recording, the recording will continue for 2 seconds, and then pause.</li> </ul>

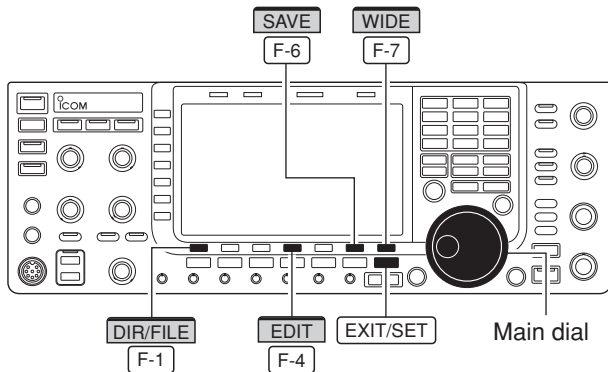
■ Voice set mode (continued)

<b>File Split</b>	<b>ON</b>
Turn the File Split function ON or OFF.	<ul style="list-style-type: none"> <li>• OFF: The audio is continuously recorded into the file, even if you switch between transmit and receive or the squelch status changes between open and closed.</li> <li>• ON: While recording, and if you switch between transmit and receive, or the squelch status changes between open and closed, a new file is automatically created in the same folder, and the audio is saved into the new one.</li> </ul>
<b>PTT Auto REC</b>	<b>OFF</b>
Turn the PTT Automatic Recording function ON or OFF.	<ul style="list-style-type: none"> <li>• OFF: The recording does not start even if a signal is transmitted.</li> <li>• ON: The recording automatically starts when a signal is transmitted. The recording will continue when: <ul style="list-style-type: none"> <li>• A signal is transmitted again within 10 seconds after the last transmission.</li> <li>• A signal is received within 10 seconds after the last transmission, the received audio is also recorded. <ul style="list-style-type: none"> <li>- A signal is received within 10 seconds after the last reception.</li> </ul> </li> <li>• The squelch is open in the FM modes.</li> </ul> The recording will stop when: <ul style="list-style-type: none"> <li>• The frequency or operating mode is changed.</li> <li>• The operating method (V/M, M-CH, Band Stacking Register, and so on) is changed.</li> <li>• 10 minutes has past after the last transmission while the squelch is open in the SSB, CW, RTTY, PSK or AM modes.</li> </ul> </li> </ul>
<b>QSO PLAY Skip Time</b>	<b>10s</b>
Set the Skip time for forwarding or rewinding while playing back the QSO audio. 3, 5, 10 and 30 seconds are selectable.	

## ■ Saving a voice message into the USB flash drive

### ◇ Saving the received audio memory

The USB flash drive is not supplied by Icom.



### • Voice recorder RX memory screen

VOICE RECORDER					
AGC	MID	1	14,100.02	USB	3-11 21:34 15s
		2	14,100.00	USB	3-10 20:23 14s
COMP	OFF	3	14,100.00	USB	3-10 20:23 15s
	WIDE	4	14,100.00	USB	3-10 20:22 15s
VSC	OFF	RX MEMORY			Remain 144s
					PLAY PROTECT CLR SAVE T/R

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

VOICE FILE SAVE			
ABC	IC-7700		
	-DECODE		
	-SETTING		
	-VOICE		
	-VOICE2		
123	FREE	494.7MB	FILE NAME: RX031101.WAV
DEL SPACE WIDE			

### • While saving

VOICE FILE SAVE			
AGC	MID	IC-7700	
		-DECODE	
		-SETTING	
		-VOICE	
		-VOICE2	
COMP	OFF	FREE	494.7MB
	WIDE		FILE NAME: RX031101.WAV
VSC	OFF	*** FILE SAVING... ***	
Please wait...			
DIR/FILE EDIT SAVE WIDE			

When a PC keyboard is connected to [USB] connector on the front panel, the file name can also be edited from the keyboard.

### ◇ Saving the TX memory

The recorded RX memory contents can be saved into the USB flash drive.

- During Voice recorder RX memory screen display, push [SAVE] [F-6] to select voice file save screen.
  - Previously selected screen, TX or RX memory, is displayed. If the TX message (T1–T4) appears, push [T/R] [F-7] to select RX message.
- Change the following conditions if desired.

#### • File name:

- Push [EDIT] [F-4] to select file name edit condition.
  - Push [DIR/FILE] [F-1] several times to select the file name, if necessary.
- Push [ABC] (MF6), [123] (MF7) or [Symbol] (MF7) to select the character group, then rotate the main dial to select the character.
  - [ABC] (MF6) : A to Z (capital letters); [123] (MF7): 0 to 9 (numerals); [Symbol] (MF7): ! # \$ % & ' ` ^ - ( ) { } \_ ~ @ can be selected.
  - Push [◀] [F-1] to move the cursor left, push [▶] [F-2] to move the cursor right, push [DEL] [F-3] to delete a character and push [SPACE] [F-4] to insert a space.
- Push [EXIT/SET] to set the file name.

#### • Saving location

- Push [DIR/FILE] [F-1] to select tree view screen.
- Select the desired directory or folder in the USB flash drive.
  - Push [◀▶] [F-4] to select the upper directory.
  - Push [▲] [F-2] or [▼] [F-3] to select folder in the same directory.
  - Hold down [◀▶] [F-4] for 1 second to select a folder in the directory.
  - Push [REN/DEL] [F-5] to rename the folder.
  - Hold down [REN/DEL] [F-5] for 1 second to delete the folder.
  - Hold down [MAKE] [F-6] for 1 second to making a new folder. (Edit the name with the same manner as the “• File name” above.)
- Push [DIR/FILE] [F-1] twice to select the file name.


- Push [SAVE] [F-6].
  - After the saving is completed, return to voice recorder RX memory screen automatically.

The TX memory contents can also be saved into the USB flash drive. However, the contents are saved with the message list, set mode conditions, etc. at the same time.

See the IC-7700 instruction manual's Section 12 for details.


## ■ Level set mode

You can adjust the audio level for the audio peak filter in the CW mode.

<b>APF AF Level</b>	 <b>0dB</b>
Sets the audio level that the audio peak filter is ON in the CW mode, from 0 to +6 dB in 1dB step. (default: 0dB)	

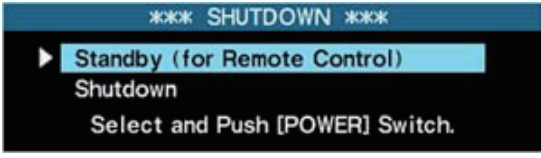
## ■ ACC set mode

You can adjust the input level for the Ethernet connector [LAN], and also can select it for each operating modes.

<b>LAN MOD Level</b>	 <b>50%</b>
Sets the desired input level for modulation from [LAN], within 0 to 100% in 1% steps. (default: 50%)	
<b>DATA OFF MOD</b>	<b>MIC,ACC</b>
Selects the desired connector(s) for modulation input when data mode is not in use.	<ul style="list-style-type: none"> <li>• MIC : Use the signals from [MIC].</li> <li>• ACC : Use the signals from [ACC1] (pin 4).</li> <li>• MIC,ACC : Use the signals from [MIC] and [ACC1] (pin 4). (default)</li> <li>• S/P DIF : Use the signals from [S/P DIF].</li> <li>• LAN : Use the signals from [LAN].</li> </ul>
<b>DATA1 MOD</b>	<b>ACC</b>
Selects the desired connector(s) for modulation input when data 1 mode (D1) is in use.	<ul style="list-style-type: none"> <li>• MIC : Use the signals from [MIC].</li> <li>• ACC : Use the signals from [ACC1] (pin 4). (default)</li> <li>• MIC,ACC : Use the signals from [MIC] and [ACC1] (pin 4).</li> <li>• S/P DIF : Use the signals from [S/P DIF].</li> <li>• LAN : Use the signals from [LAN].</li> </ul>
<b>DATA2 MOD</b>	<b>MIC,ACC</b>
Selects the desired connector(s) for modulation input when data 2 mode (D2) is in use.	<ul style="list-style-type: none"> <li>• MIC : Use the signals from [MIC].</li> <li>• ACC : Use the signals from [ACC1] (pin 4).</li> <li>• MIC,ACC : Use the signals from [MIC] and [ACC1] (pin 4). (default)</li> <li>• S/P DIF : Use the signals from [S/P DIF].</li> <li>• LAN : Use the signals from [LAN].</li> </ul>
<b>DATA3 MOD</b>	<b>MIC</b>
Selects the desired connector(s) for modulation input when data 3 mode (D3) is in use.	<ul style="list-style-type: none"> <li>• MIC : Use the signals from [MIC]. (default)</li> <li>• ACC : Use the signals from [ACC1] (pin 4).</li> <li>• MIC,ACC : Use the signals from [MIC] and [ACC1] (pin 4).</li> <li>• S/P DIF : Use the signals from [S/P DIF].</li> <li>• LAN : Use the signals from [LAN].</li> </ul>





## Other set mode

<p><b>TX Delay (HF)</b></p> <p>Sets the transmission's timing for the HF bands. When an external device, such as a vacuum tube linear amplifier or a receiver preamplifier, is connected to the transceiver and you use the SEND line, a problem could possibly occur. If the device's transmit/receive switching time is slower than the time for the Icom transceiver, the device may not yet ready for a transmitted signal, and could be damaged by the transceivers RF power. If necessary to prevent damage to the external device, set an appropriate TX delay.</p>	<p><b>OFF</b></p> <ul style="list-style-type: none"> <li>• OFF : The transmission delay is disabled. (default)</li> <li>• 10 to 30ms: After transmit operation, the TX output is delayed for the set period of time (10, 15, 20, 25 or 30 milliseconds).</li> </ul>
<p><b>TX Delay (50M)</b></p> <p>Sets the transmission's timing for the 50 MHz band. See above item "TX Delay (HF)" for more details.</p>	<p><b>OFF</b></p>
<p><b>Shutdown Function</b></p> <p>Selects the shutdown option between Standby/Shutdown and Shutdown, for turning ON the transceiver by Remote stations. (default: Shutdown)</p> <p><b>When this item is set to "Standby/Shutdown:</b></p> <ol style="list-style-type: none"> <li>1 Holding down [POWER] for 1 second displays the dialog box below.</li> </ol>  <ol style="list-style-type: none"> <li>2 Push [POWER] to turn OFF the power with the Standby mode. <ul style="list-style-type: none"> <li>• If you want to select "Shutdown," rotate the main dial or push [▼] [F-2], then push [POWER].</li> </ul> </li> </ol>	<p><b>Shutdown</b></p> <p>Standby/Shutdown: You can turn ON the transceiver's power using external equipment such as a PC with RS-BA1.</p> <p>Shutdown: Only the [POWER] switch turns ON the transceiver.</p> <p><b>NOTE while in the standby mode:</b></p> <ul style="list-style-type: none"> <li>• The internal cooling fan is active, this is normal; not malfunction.</li> </ul>
<p><b>CI-V LAN→REMOTE Transceive Address</b></p> <p>Sets the CI-V address for sending the transceive data from [LAN] to [REMOTE] or [RS-232C]. The [REMOTE] or [RS-232C] connectors output the transceive data with this setting Address.</p> <p>When your system are configured with any other transceivers or receivers, and you do not want to change their frequency or operating mode by operating the RS-BA1, sets this address different with 00h.</p>	<p><b>00h</b></p> <p>Only when you configure the remote control system using an optional RS-BA1, you need this setting.</p> <p>The IC-PW1 can receive the transceive data from other than 00h, so you can still operate the IC-PW1 by operating RS-BA1. In that case you must reset the IC-PW1 and set the CI-V settings again. See the IC-PW1's instruction manual for details.</p>
<p><b>Default Gateway (Valid after Reboot)</b></p> <p>Sets the default gateway of the router that you want to connect the IC-7700 to.</p> <p>Only when you configure the remote control system using an optional RS-BA1 through the Internet, you need this setting.</p>	<p>Turn the transceiver power OFF then ON to make the setting effective.</p>

■ Others set mode (continued)

<p><b>Network Control (Valid after Reboot)</b></p> <p>Selects the remote control capability ON or OFF. (default : OFF)</p> <p>Only when you configure the remote control system using an optional RS-BA1, you need this setting.</p>	<p><b>OFF</b></p> <p>Turn the transceiver power OFF then ON to make the setting effective.</p>
<p><b>Control Port (UDP) (Valid after Reboot)</b></p> <p>Sets the Control port of the IC-7700 by accessing from the remote station.</p> <p>Only when you configure the remote control system using an optional RS-BA1, you need this setting.</p>	<p><b>50001</b></p> <p>Turn the transceiver power OFF then ON to make the setting effective.</p>
<p><b>Serial Port (UDP) (Valid after Reboot)</b></p> <p>Sets the Serial port of the IC-7700 by accessing from the remote station.</p> <p>Only when you configure the remote control system using an optional RS-BA1, you need this setting.</p>	<p><b>50002</b></p> <p>Turn the transceiver power OFF then ON to make the setting effective.</p>
<p><b>Audio Port (UDP) (Valid after Reboot)</b></p> <p>Sets the Audio port of the IC-7700 by accessing from the remote station.</p> <p>Only when you configure the remote control system using an optional RS-BA1, you need this setting.</p>	<p><b>50003</b></p> <p>Turn the transceiver power OFF then ON to make the setting effective.</p>
<p><b>Internet Access Line (Valid after Reboot)</b></p> <p>Selects the your internet access line type.</p> <p>Only when you configure the remote control system using an optional RS-BA1 through the Internet, you need this setting.</p>	<p><b>FTTH</b></p> <ul style="list-style-type: none"> <li>• FTTH : Fiber To The Home</li> <li>• ADSL/CATV : ADSL or Cable television</li> </ul> <p>Turn the transceiver power OFF then ON to make the setting effective.</p>
<p><b>Network User1 ID</b></p> <p>Register the Users ID to allow them to remotely access the IC-7700. The IC-7700 can register three users to Network User1 ID to Network User3 ID.</p> <p>Only when you configure the remote control system using an optional RS-BA1, you need this registration.</p> <p>The IC-7700 verifies the User ID and password when Remote stations attempt to access the transceiver. If the User ID or password is incorrect, the Remote station cannot access the transceiver.</p>	<ol style="list-style-type: none"> <li>1 Push [EDIT] [F-5] to enter the User ID Edit mode.</li> <li>2 Rotate the main dial to input a User ID of up to 16 characters. <ul style="list-style-type: none"> <li>• Push [ABC] (MF6) or [abc] (MF6) to toggle upper and lower case letters.</li> <li>• Push [123] (MF7) or [Symbol] (MF7) to toggle between numerals and symbols.</li> <li>• You cannot register the same ID with User2 or User3, if the ID is already registered.</li> <li>• Push [◀] [F-1] or [▶] [F-2] for cursor movement.</li> <li>• Push [DEL] [F-3] to delete the selected character.</li> </ul> </li> <li>3 Push [SET] [F-5] to set.</li> </ol>

■ Others set mode (continued)

<b>Password</b>	
Register the password for the Network User1 ID.	<ol style="list-style-type: none"> <li>1 Push [EDIT] [F-5] to enter the Password Edit mode.</li> <li>2 Rotate the main dial to input a Password of 8 to 16 characters, case-sensitive. <ul style="list-style-type: none"> <li>• At least two different characters must be used.</li> <li>• Push [ABC] (MF6) or [abc] (MF6) to toggle upper and lower case letters.</li> <li>• Push [123] (MF7) or [Symbol] (MF7) to toggle between numerals and symbols.</li> <li>• Push [◀] [F-1] or [▶] [F-2] for cursor movement.</li> <li>• Push [DEL] [F-3] to delete the selected character.</li> </ul> </li> <li>3 Push [SET] [F-5] to set.</li> </ol>
<b>Administrator</b> <span style="float: right;"><b>NO</b></span>	
Selects the administrator setting YES or NO for Network User1 ID. (default: NO)	When this item is set to “YES,” the Remote station can terminate a connection between another Remote station and the IC-7700.
<b>Network User2 ID</b>	
Register the Users ID to allow them to remotely access the IC-7700. The IC-7700 can register three users to Network User1 ID to Network User3 ID.   Only when you configure the remote control system using an optional RS-BA1, you need this registration.	<p>See the Network User1 ID on the previous page for setting details.</p> <ul style="list-style-type: none"> <li>• You cannot register the same ID with User1 or User3, if the ID is already registered.</li> </ul>
<b>Password</b>	
Register the password for the Network User2 ID.	See the Password of Network User1 ID above for setting details.
<b>Administrator</b> <span style="float: right;"><b>NO</b></span>	
Selects the administrator setting YES or NO for Network User2 ID. (default: NO)	When this item is set to “YES,” the Remote station can terminate a connection between another Remote station and the IC-7700.
<b>Network User3 ID</b>	
Register the Users ID to allow them to remotely access the IC-7700. The IC-7700 can register three users to Network User1 ID to Network User3 ID.   Only when you configure the remote control system using an optional RS-BA1, you need this registration.	<p>See the Network User1 ID on the previous page for setting details.</p> <ul style="list-style-type: none"> <li>• You cannot register the same ID with User1 or User2, if the ID is already registered.</li> </ul>
<b>Password</b>	
Register the password for the Network User3 ID.	See the Password of Network User1 ID above for setting details.
<b>Administrator</b> <span style="float: right;"><b>NO</b></span>	
Selects the administrator setting YES or NO for Network User3 ID. (default: NO)	When this item is set to “YES,” the Remote station can terminate a connection between another Remote station and the IC-7700.

■ Others set mode (continued)

<b>Network Radio Name</b>		<b>IC-7700</b>
<p>Enters the Network Radio name of up to 16 characters. The name displays on an RS-BA1's Remote Utility.</p> <p><b>DO NOT</b> use the duplicated name on your network.</p> <p>/// Only when you configure the remote control system using an optional RS-BA1, you need this registration.</p>	<ol style="list-style-type: none"> <li>1 Push [EDIT] [F-5] to enter the Network Radio Name Edit mode.</li> <li>2 Rotate the main dial to input a Network Radio Name of up to 16 characters. <ul style="list-style-type: none"> <li>• Push [ABC] (MF6) or [abc] (MF6) to toggle upper and lower case letters.</li> <li>• Push [123] (MF7) or [Symbol] (MF7) to toggle between numerals and symbols.</li> <li>• Push [◀] [F-1] or [▶] [F-2] for cursor movement.</li> <li>• Push [DEL] [F-3] to delete the selected character.</li> </ul> </li> <li>3 Push [SET] [F-5] to set.</li> </ol>	
<b>Network AF Sample Rates</b>		<b>8kHz, 12kHz, 16kHz</b>
<p>Selects the limitation of the received audio sampling rate that Remote stations can adjust.</p> <p>8 kHz, 12 kHz, 16 kHz, 24 kHz and 48 kHz are selectable. (default: 16 kHz)</p>	<p>Higher sampling rates will improve the audio quality. However, they also increase the amount of data, which can cause voice delay or jumpiness, depending on the network condition.</p> <p>Lower sampling rates will decrease the audio quality. However, they also decrease the amount of data.</p>	
<b>Codecs</b>		<b>LPCM 8bit, u-law 8bit, LPCM 16bit</b>
<p>Sets the received audio codecs that Remote stations can adjust.</p>	<p>LPCM 8 bit, u-law 8 bit and LPCM 16 bit are selectable. (default: LPCM 8bit, u-law 8bit, LPCM 16bit)</p>	
<b>Network MOD Use</b>		<b>ON</b>
<p>Selects whether or not to allow Remote stations to send the modulation audio. (default : ON)</p>	<ul style="list-style-type: none"> <li>• ON: The Remote stations send the modulation audio.</li> <li>• OFF: The Remote stations do not send the modulation audio.</li> </ul>	
<b>Sample Rates</b>		<b>8kHz</b>
<p>Selects the limitation of the modulation audio sampling rate that Remote stations can adjust.</p> <p>8 kHz, 12 kHz, 16 kHz, 24 kHz and 48 kHz are selectable. (default: 8 kHz)</p>	<p>Higher sampling rates will improve the audio quality. However, they also increase the amount of data, which can cause voice delay or jumpiness, depending on the network condition.</p> <p>Lower sampling rates will decrease the audio quality. However, they also decrease the amount of data.</p>	
<b>Codecs</b>		<b>LPCM 8bit, u-law 8bit, LPCM 16bit</b>
<p>Sets the transmit audio codecs that Remote stations can select.</p>	<p>LPCM 8 bit, u-law 8 bit and LPCM 16 bit are selectable. (default: LPCM 8bit, u-law 8bit, LPCM 16bit)</p>	

## ■ Remote jack (CI-V) information

### ◇ Command table

Cmd.	Sub Cmd.	Data	Description
18	00		Turn ON the transceiver.
	01		Turn OFF the transceiver. This command is available only when the transceiver is standby mode.
1A	05	0032 00 to 03	Send/read MOD input connector during DATA OFF (00=MIC; 01=ACC; 02=MIC/ACC; 03=S/P DIF; 04=LAN)
		0033 00 to 03	Send/read MOD input connector during DATA1 (00=MIC; 01=ACC; 02=MIC/ACC; 03=S/P DIF; 04=LAN)
		0034 00 to 03	Send/read MOD input connector during DATA2 (00=MIC; 01=ACC; 02=MIC/ACC; 03=S/P DIF; 04=LAN)
		0035 00 to 03	Send/read MOD input connector during DATA3 (00=MIC; 01=ACC; 02=MIC/ACC; 03=S/P DIF; 04=LAN)
		0129 05 to 15	Send/read voice memory normal record time (05= 5 sec. to 30=30 sec.)
		0191 00 to 06	Send/read APF AF level. (00=0 dB to 06=+6dB)
		0192 0000 to 0255	Send/read LAN MOD output level (0000=0% to 0255=100%)
		0193 00 to 05	Send/read the TX Delay setting (HF) (00=OFF, 01=10 ms, 02=15 ms, 03=20 ms, 04=25 ms, 05=30 ms)
		0194 00 to 05	Send/read the TX Delay setting (50M) (00=OFF, 01=10 ms, 02=15 ms, 03=20 ms, 04=25 ms, 05=30 ms)
		0195 00, 01	Send/read the Shutdown function. (00=Shutdown, 01=Standby/Shutdown)
		0196 0000 to 0223	Send/read the transceiver CI-V Address for LAN to REMOTE in hexadecimal code. (0000=00h to 0223=DFh)
		0197	Send/read the default gateway set (0000000000000001=0.0.0.1 to 0255 025502550254=255.255.255.254, or FF=Blank)
		0198 00, 01	Send/read the remote control capability. (00=OFF, 01=ON)
		0199 000001 to 065535	Send/read the control port setting by accessing from internet. (000001=1 to 065535=65535)
		0200 000001 to 065535	Send/read the serial port setting by accessing from internet. (000001=1 to 065535=65535)
		0201 000001 to 065535	Send/read the audio port setting by accessing from internet. (000001=1 to 065535=65535)
		0202 00, 01	Send/read the internet access line setting. (00=FTTH (Fiber To The Home), 01=ADSL/CATV)
		0203 see p. 30	Send/read Network radio name (up to 16-character)
		0204 00 to 04	Send/read the maximum AF sample rates for remote stations. (00=8 kHz, 01=12 kHz, 02=16 kHz, 03=24 kHz, 04=48 kHz)

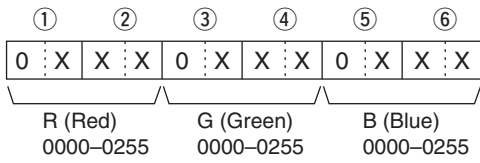
Cmd.	Sub Cmd.	Data	Description
1A	05	0205 00 to 02	Send/read the AF codecs for remote stations. (00=LPCM 8bit, 01=LPCM 8bit, u-law 8bit, 02=LPCM 8bit, u-law 8bit, LPCM 16bit)
		0206 00, 01	Send/read the network TX audio setting for remote stations. (00=OFF, 01=ON)
		0207 00 to 04	Send/read the maximum modulation sample rates for remote stations. (00=8 kHz, 01=12 kHz, 02=16 kHz, 03=24 kHz, 04=48 kHz)
		0208 00 to 02	Send/read the modulation codecs for remote stations. (00=LPCM 8bit, 01=LPCM 8bit, u-law 8bit, 02=LPCM 8bit, u-law 8bit, LPCM 16bit)
		0209 00, 01	Send/read the waveform outline indication on the spectrum scope. (00=Fill, 01=Fill+Line)
		0210 see p. 30	Send/read the waveform outline color for receiving signal.
		0211 00, 01	Send/read the waterfall display on the Spectrum scope. (00=OFF, 01=ON)
		0212 00 to 07	Send/read the peak color level for displaying the waterfall. 00=Grid 1, 01=Grid 2, 02=Grid 3, 03=Grid 4, 04=Grid 5, 05=Grid 6, 06=Grid 7, 07=Grid 8
		0213 00, 01	Send/read waveform type on the Audio FFT scope. (00=Fill, 01=Line)
		0214 see p. 30	Send/read waveform color for Audio FFT scope.
		0215 00, 01	Send/read the waterfall display on the Audio FFT scope. (00=OFF, 01=ON)
		0216 see p. 30	Send/read waveform color for Audio Oscilloscope scope.
		0217 00, 01	Send/read the voice 1st menu. (00=VOICE-Root, 01=VOICE-PLAY)
		0218 01 to 15	Send/read the repeat interval to transmit the recorded voice audio. (01=1 sec. to 15=15 sec.)
		0219 00, 01	Send/read the recording mode. (00=TX&RX, 01=RX Only)
		0220 00, 01	Send/read the squelch status for the RX voice audio recording (00=Always, 01=Squelch Auto)
		0221 00, 01	Send/read the QSO audio record file Split function setting. (00=OFF, 01=ON)
		0222 00, 01	Send/read the PTT Automatic Recording function setting. (00=OFF, 01=ON)
		0223 00 to 03	Send/read QSO PLAY Skip time. (00=3 sec., 01=5 sec., 02=10 sec., 03=30 sec.)
		21	00
01	00, 01		Send/read RIT setting. (00=OFF, 01=ON)
02	00, 01		Send/read ΔTX setting. (00=OFF, 01=ON)

■ Remote jack (CI-V) information

◇ Data contents description

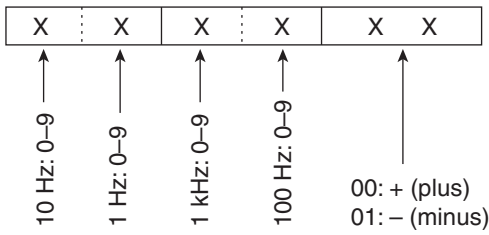
• Color setting

Command : 1A 05 0210, 0214, 0216



• RIT frequency setting

Command : 21 00



• Codes for Network Radio name contents

Command : 1A 05 0203

- Character's code— Number

Character	ASCII code	Character	ASCII code
0-9	30-39		

- Character's code— Alphabetical characters

Character	ASCII code	Character	ASCII code
A-Z	41-5A	a-z	61-7A

- Character's code— Symbols

Character	ASCII code	Character	ASCII code
!	21	#	23
\$	24	%	25
&	26	?	3F
"	22	'	27
`	60	^	5E
+	2B	-	2D
*	2A	/	2F
.	2E	,	2C
:	3A	;	3B
=	3D	<	3C
>	3E	(	28
)	29	[	5B
]	5D	{	7B
}	7D		7C
_	5F	-	7E
@	40		