INFORMATION
IC-7300 Version 1.40

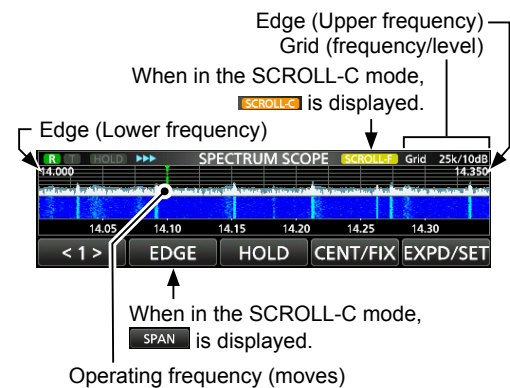The following features are changed in, or added to, the IC-7300.

■ Scope operation

- The Scroll mode is added.
- When the scope span or Edge frequency is changed, such as by touching [SPAN] or [EDGE], the selected scope span or the selected Edge frequency display is enlarged.
- In the SCOPE SET menu, "Marker Position (FIX Type)" is renamed to "Marker Position (FIX Type/ SCROLL Type)."
- The maximum number of Fixed Edges for each band is increased from 3 to 4.
- Each band memorizes the Reference level.
- When the Scope screen is open, holding down [M.SCOPE] for 1 second closes the screen.

◇ Scroll mode

Displays signals within a selected span. When the operating frequency moves outside of the screen, the displayed frequency range is automatically scrolled.

1. Display the SPECTRUM SCOPE screen.
   MENU » SCOPE

2. Touch [CENT/FIX] for 1 second to select the Scroll mode.
   - When changing the Center mode to the Scroll mode, "SCROLL-C" is displayed.
     You can change the scope span by touching [SPAN].
   - When changing the Fixed mode to the Scroll mode, "SCROLL-F" is displayed.
     You can change the Edge frequencies by touching [EDGE].

3. Touch [CENT/FIX] to return to the previous mode.
   - When returning to the Center mode, the scope span does not return to the previous setting.
   - When returning to the Fixed mode, the Edge frequencies return to the last selected "Fixed Edges." If the operating frequency is above the upper Edge frequency, or below the lower Edge frequency, "<<" or ">>" is displayed in the upper side corners of the SPECTRUM SCOPE screen.

Edge (Upper frequency)
Grid (frequency/level)
When in the SCROLL-C mode, SCROLL-C is displayed.
Edge (Lower frequency)
When in the SCROLL-C mode, SPAN is displayed.
Operating frequency (moves)

■ MENU screen

A second page of the MENU screen is added.
You can change between the MENU ① and ② by touching the page number.
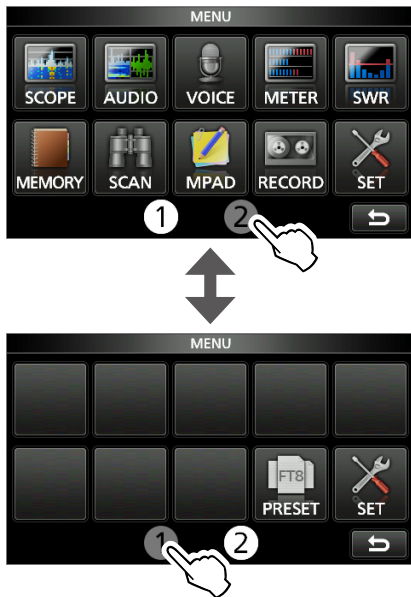
■ PRESET menu

[PRESET] is added to the second page of the MENU screen.
You can save the combination of the following settings for the data mode to quickly change the settings, depending on your operating needs.

Preset Name	SSB TBW
Mode	SSB TX Bandwidth
Filter	USB SEND
Filter BW	USB Keying (CW)
Filter Type (HF)	USB Keying (RTTY)
Filter Type (50M -)	Inhibit Timer at USB Connection
ACC/USB Output Select	
ACC/USB AF Output Level	CI-V Baud Rate
ACC/USB AF SQL	CI-V Address
ACC/USB IF Output Level	CI-V Transceive
USB MOD Level	USB Serial Function
DATA MOD	CI-V USB Port
SSB-D TX Bandwidth	CI-V USB Baud Rate
DATA OFF MOD	CI-V USB Echo Back
COMP	

ⓘThe transceiver has a total of 5 memories.

◇ Loading the preset memory

1. Push [MENU].
2. Touch ② at the center bottom of the screen.
3. Touch [PRESET].
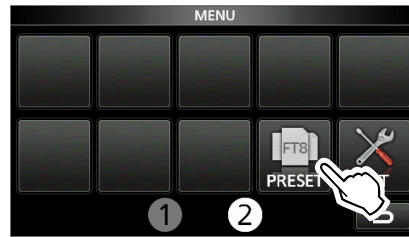
4. Touch the preset memory to load.
5. Touch [YES].
   • The selected preset memory is loaded, and "In Use" is displayed on the PRESET screen. If you change the transceiver settings, and they do not match the contents of the preset memory, "In Use" disappears.
   ⓘ Touching [UNLOAD] returns the transceiver settings to those set before loading the preset memory.

NOTE:
• You cannot load the preset memory content when you select a blank memory channel in the Memory mode.
• You cannot load a preset memory that is displayed as "(BLANK)."

◇ Editing the memory contents

NOTE: You cannot edit the preset memory that is in use. To edit it, first touch [UNLOAD], and then edit the memory.

1. On the PRESET screen, touch a preset memory to edit for 1 second.
   • Opens the QUICK MENU screen.
2. Touch "Edit the Preset Memory."
   ⓘ When touching "Save to the Preset Memory," all of the contents are set to the current settings before editing.
3. Touch the check box to select whether or not to load the item.
   • "✓" is displayed on the left side of the loading item.
4. Touch the item name, and then touch the option to set.
   ⓘ You can set the preset name of up to 16 characters.
5. Repeat steps 3 and 4 to edit the preset memory.
6. Touch "<<Write>>."
7. Touch [YES].

TIP: Depending on your software, you may need to change the "CI-V Address" setting.
For example, you use a software that is not compatible with the IC-7300. In that case, you may be able to use the software by setting "CI-V Address" to another transceiver's address.

■ Multi-function dial

The function of the Multi-function dial ((MULTI)) is enhanced.

When the Multi-function menu is closed, (MULTI) can be enabled to adjust functions by pushing or touching the item for 1 second on the Multi-function menus. The function is displayed in the upper right corner of the screen.


Function indicator for (MULTI)
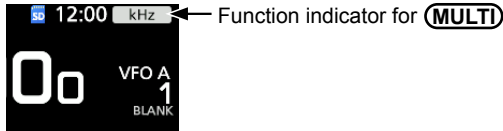
* On the Multi-function menus, touch the item for 1 second to assign the function to (MULTI).
To cancel the function assigned to (MULTI), touch the Function indicator for Multi-function control, or hold down (MULTI) for 1 second.

Indicator	Action	
RIT	Rotate	Adjusts the RIT frequency.
	Hold down	Clears the RIT frequency.
⊿TX	Rotate	Adjusts the ⊿TX frequency.
	Hold down	Clears the ⊿TX frequency.
RIT ⊿TX	Rotate	Adjusts the RIT ⊿TX frequency.
	Hold down	Clears the RIT ⊿TX frequency.
kHz	Changes the operating frequency in kHz steps. (VFO mode only) ⓘ Rapidly rotating (MULTI) automatically increases the tuning speed.	
M-CH	In the Memory mode, selects Memory channels.	
RF PWR*	Adjusts the transmit output power.	
MIC G*	Adjusts the microphone gain.	
COMP*	Adjusts the Speech Compressor level.	
MONI*	Adjusts the audio level for the Monitor function.	
SPEED*	Adjusts the Keying speed.	
PITCH*	Adjusts the CW pitch.	
NB LEV*	Adjusts the Noise Blanker level.	
NB DEP*	Adjusts the DEPTH (Noise attenuation level).	
NB WID*	Adjusts the WIDTH (Blanking duration time).	
NR LEV*	Adjusts the Noise Reduction level.	
NOTCH*	Adjusts the Notch filter frequency.	
VOX G*	Adjusts the VOX gain.	
A-VOX*	Adjusts the ANTI VOX level.	
VOX D*	Adjusts the VOX delay time.	
BKIN D*	Adjusts the Break-in delay time.	

■ Touch screen display

The appearance or location of the following indicators on the screen are changed, according to the Multi-function dial ((MULTI)) function enhancement.
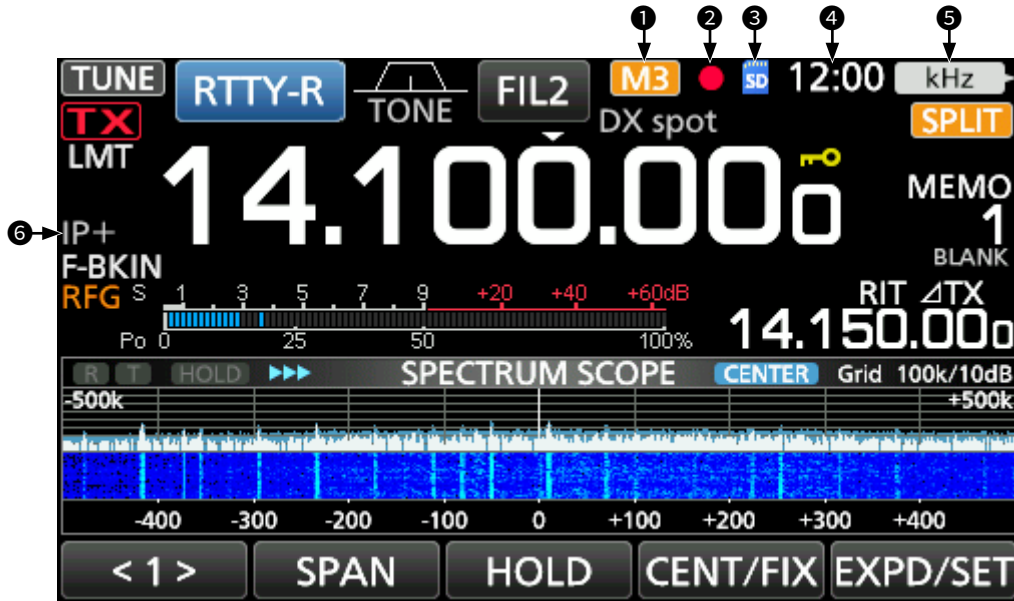
❶ **M1~M8/T1~T8 icons**
The location of "IP+" and "OVF" icons is moved to ❻. "M1"~"M8," and "T1"~"T8" icons are stayed here.

❷ **Voice recorder icons**
The appearance of the icons is changed.
●: Recording
❚❚: Paused

❸ **SD card icon**
The location of the icon is moved.

❹ **Clock readout**
The location of the readout is moved from ❺.
Touch the readout to display both the current local time and UTC time.

❺ **Function indicator for Multi-function control**
The indicator is added.
Displays the function that is assigned to (MULTI).

❻ **IP Plus/OVF icons**
The location of the icons is moved from ❶.

■ Band stacking register

The Band Stacking Register window is added.
You can select and restore one of the Band Stacking Register contents.

To display the Band Stacking Register contents:
● Touch the MHz digits for 1 second on the standby screen.
● Touch the MHz digits on the standby screen, and then touch a band key for 1 second.

■ Front Key Customize function

You can change the VOX/BK-IN , AUTOTUNE , ▲ , and ▼ keys function.

MENU » SET > Function > **Front Key Customize**

●: Default setting, ○: Assignable, N/A: Not assignable

Function	Description	[VOX/BK-IN]	[AUTOTUNE]	[▲]	[▼]
VOX/BK-IN	• Push to turn the VOX function in the Voice operation modes and the Break-in function in the CW mode ON or OFF. • Hold down for 1 second to open its function menu.	●	N/A	N/A	N/A
AUTOTUNE	**In the CW mode** Push to automatically tune the operating frequency to a close-by CW signal.	N/A	●	N/A	N/A
M-CH UP	Push to scroll Memory CH up.	N/A	N/A	●	○
M-CH DOWN	Push to scroll Memory CH down.	N/A	N/A	○	●
PRESET	Push to open the PRESET screen.	○	○	○	○
Voice/Keyer/ RTTY Memory 1 Voice/Keyer/ RTTY Memory 2 Voice/Keyer/ RTTY Memory 3 Voice/Keyer/ RTTY Memory 4	**In the SSB, AM, or FM mode** • Push to transmit the voice audio recorded on the SD card once. • Hold down for 1 second to repeatedly transmit the voice audio. ⓘ If the voice audio is not saved in the Voice TX memory (T1 ~ T4), this function is disabled. **In the CW mode** • Push to transmit the Keyer memory content once. • Hold down for 1 second to repeatedly transmit the memory content. ⓘ If the Keyer memory content (M1 ~ M4) is not entered, this function is disabled. **In the RTTY mode** Push to transmit the RTTY memory content once. ⓘ If the RTTY memory content (RT1 ~ RT4) is not entered, this function is disabled.	○	○	○	○

■ MIC Key Customize function

You can change the microphone's [UP]/[DOWN] keys function.

MENU » SET > Function > **MIC Key Customize**

[UP] (Default: UP (VFO: kHz))
[DN] (Default: DOWN (VFO: kHz))

Function	Description
---	No function
UP	Push to increase the frequency (in 50 Hz steps*), or Memory channel. * When the Tuning Step function is ON, increases the frequency in the selected Tuning Step.
DOWN	Push to decrease the frequency (in 50 Hz steps*), or Memory channel. * When the Tuning Step function is ON, increases the frequency in the selected Tuning Step.
UP (VFO: kHz)	Push to increase the frequency (in 1 kHz steps*), or Memory channel. * When the Tuning Step function is ON, increases the frequency in the selected Tuning Step.
DOWN (VFO: kHz)	Push to decrease the frequency (in 1 kHz steps*), or Memory channel. * When the Tuning Step function is ON, increases the frequency in the selected Tuning Step.
XFC	While holding down the key, the transceiver monitors signals.
VFO/MEMO	• Push to select the VFO mode and the Memory mode. • Hold down for 1 second to copy a Memory channel contents to the VFO.
BAND UP	**In the VFO mode** • Push to increase an operating band. • Hold down for 1 second to recall the Band Stacking Register contents.
BAND DOWN	**In the VFO mode** • Push to decrease an operating band. • Hold down for 1 second to recall the Band Stacking Register contents.
SPEECH	Push to announce the S-meter level, frequency, or operating mode. ⓘ In the VFO or Memory mode, the frequency and the operating mode are announced. ⓘ S-meter level is announced only when the S-level SPEECH function is ON.
MODE	• Push to select the operating mode. • Hold down to toggle USB and LSB, CW and CW-R, or RTTY and RTTY-R.

Function	Description
Voice/ Keyer/ RTTY Memory 1	**In the SSB, AM, or FM mode** • Push to transmit the voice audio recorded on the SD card once. • Hold down for 1 second to repeatedly transmit the voice audio.
Voice/ Keyer/ RTTY Memory 2	ⓘ If the voice audio is not saved in the Voice TX memory (T1 ~ T4), this function is disabled. **In the CW mode** • Push to transmit the Keyer memory content once.
Voice/ Keyer/ RTTY Memory 3	• Hold down for 1 second to repeatedly transmit the memory content. ⓘ If the Keyer memory content (M1 ~ M4) is not entered, this function is disabled.
Voice/ Keyer/ RTTY Memory 4	**In the RTTY mode** Push to transmit the RTTY memory content once. ⓘ If the RTTY memory content (RT1 ~ RT4) is not entered, this function is disabled.
TS	• Push to turn the Tuning Step function ON or OFF. • Hold down for 1 second to open the TS screen.
MPAD	• Push to sequentially call up the contents in the Memo Pads. • Hold down for 1 second to save the displayed contents into the Memo Pad.
SPLIT	• Push to turn the Split function ON or OFF. • Hold down 1 second to turn ON the Quick Split function.
A/B	• Push to select the VFO A or VFO B. • Hold down for 1 second to set the displayed VFO's frequency to the VFO that is not displayed.
TUNER	• Push to turn the antenna tuner ON or OFF. • While "TUNE" is displayed, hold down for 1 second to start manual tuning.

■ Tone Control settings in the Data mode

In the Data mode, the Tone Control settings are automatically disabled.

MENU » SET > Tone Control/TBW > **RX**

• RX HPF/LPF (Default: – – – – – – – – –)
• RX Bass (Default: 0)
• RX Treble (Default: 0)

■ REF Adjust

"REF Adjust" in the Set mode are displayed to the tenths place digit.

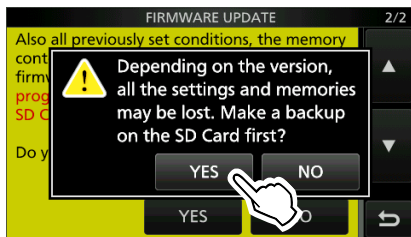**MENU** » SET > Function > **REF Adjust**

■ CI-V USB Port

The default setting of the CI-V USB Port is changed from "Link to [REMOTE]" to "Unlink from [REMOTE]."

MENU » SET > Connectors > CI-V > **CI-V USB Port**

■ Firmware Update screen

A dialog that recommends making a backup of the current setting is displayed before updating the firmware.

MENU » SET > SD Card > **Firmware Update**

■ Keyboard entry

On the Full Keyboard screen, the Capital Lock function is not canceled, even if you toggle between the alphabet and numeric modes.

■ Default tuning step in the CW mode

The default tuning step in the CW mode is changed from 1 kHz to 100 Hz.

■ CI-V commands

The following commands are changed in, or added to the conventional Command table.

Cmd.	Sub cmd.	Data	Description
1A*	05	0198	See the right.	Send/read the Front key customize [VOX/BK-IN] setting
		0199	See the right.	Send/read the Front key customize [AUTOTUNE] setting
		0200	See the right.	Send/read the Front key customize [▲] setting
		0201	See the right.	Send/read the Front key customize [▼] setting
		0202	See p. 9.	Send/read the MIC key customize [UP] setting
		0203	See p. 9.	Send/read the MIC key customize [DOWN] setting
		0204	See p. 9.	Send/read scope edge 4 frequencies for 0.03 - 1.60 MHz
		0205	See p. 9.	Send/read scope edge 4 frequencies for 1.60 - 2.00 MHz
		0206	See p. 9.	Send/read scope edge 4 frequencies for 2.00 - 6.00 MHz
		0207	See p. 9.	Send/read scope edge 4 frequencies for 6.00 - 8.00 MHz
		0208	See p. 9.	Send/read scope edge 4 frequencies for 8.00 - 11.00 MHz
		0209	See p. 9.	Send/read scope edge 4 frequencies for 11.00 - 15.00 MHz
		0210	See p. 9.	Send/read scope edge 4 frequencies for 15.00 - 20.00 MHz
		0211	See p. 9.	Send/read scope edge 4 frequencies for 20.00 - 22.00 MHz
		0212	See p. 9.	Send/read scope edge 4 frequencies for 22.00 - 26.00 MHz
		0213	See p. 9.	Send/read scope edge 4 frequencies for 26.00 - 30.00 MHz
		0214	See p. 9.	Send/read scope edge 4 frequencies for 30.00 - 45.00 MHz
		0215	See p. 9.	Send/read scope edge 4 frequencies for 45.00 - 60.00 MHz
		0216	See p. 9.	Send/read scope edge 4 frequencies for 60.00 - 74.80 MHz
27*	00		See p. 10.	Read the Scope waveform data • Only when "Scope ON/OFF status" (Command: 27 10) and "Scope data output" (Command: 27 11) are set to "ON," outputs the waveform data to the controller.
	14		See p. 10.	Send/read the Scope Center mode, Fixed mode, SCROLL-C mode, or SCROLL-F mode setting
	15		See p. 10.	Send/read the Span setting in the Center mode or SCROLL-C mode Scope
	16		See p. 10.	Send/read the Edge number setting in the Fixed mode or SCROLL-F mode Scope
	20		00/01	Send/read the Marker Position (FIX Type/SCROLL Type) setting (00=Filter Center, 01=Carrier Point)

*(Asterisk) Send/read data

◇ Command formats

• [VOX/BK-IN] setting
Command: 1A 050198

Data	Function
00	VOX/BK-IN
01	PRESET
02	Voice/Keyer/RTTY Memory 1
03	Voice/Keyer/RTTY Memory 2
04	Voice/Keyer/RTTY Memory 3
05	Voice/Keyer/RTTY Memory 4

• [AUTOTUNE] setting
Command: 1A 050199

Data	Function
00	AUTOTUNE
01	PRESET
02	Voice/Keyer/RTTY Memory 1
03	Voice/Keyer/RTTY Memory 2
04	Voice/Keyer/RTTY Memory 3
05	Voice/Keyer/RTTY Memory 4

• [▲]/[▼] setting
Command: 1A 050200, 050201

Data	Function
00	M-CH UP
01	M-CH DOWN
02	PRESET
03	Voice/Keyer/RTTY Memory 1
04	Voice/Keyer/RTTY Memory 2
05	Voice/Keyer/RTTY Memory 3
06	Voice/Keyer/RTTY Memory 4

■ CI-V commands
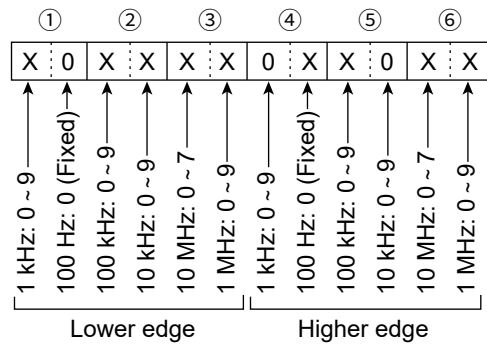◇ Command formats

• **MIC Key Customize setting**
Command: 1A 050202, 050203

Data	Function
00	No function
01	UP
02	DOWN
03	UP (VFO: kHz)
04	DOWN (VFO: kHz)
05	XFC
06	VFO/MEMO
07	BAND UP
08	BAND DOWN
09	SPEECH
10	MODE
11	Voice/Keyer/RTTY Memory 1
12	Voice/Keyer/RTTY Memory 2
13	Voice/Keyer/RTTY Memory 3
14	Voice/Keyer/RTTY Memory 4
15	TS
16	MPAD
17	SPLIT
18	A/B
19	TUNER

• **Bandscope edge frequency settings**
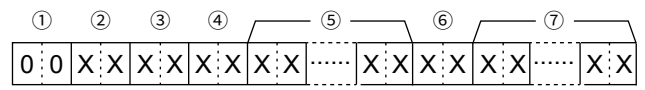Command: 1A 050112 ~ 1A 050150
         1A 050204 ~ 1A 050216

■ CI-V commands
◇ Command formats

・**Scope waveform data**
Command: 27 00

Outputs the waveform data to the controller.

①: 00 (Fixed)

②: Order of division data (Current): 01~11

③: Division number (Maximum): 11(USB)
　ⓘWhen sent through theUSB port, the data is divided by 11 and sent in sequential order.
　ⓘThe 1st data sends only the wave information (① ~ ⑥) without the waveform data (⑦). The 2nd or later data sends the minimum wave information (① ~ ③) with waveform data (⑦).

④: Spectrum scope mode data:
　• 00 = Center mode scope
　• 01 = Fixed mode scope
　• 02 = SCROLL-C mode scope
　• 03 = SCROLL-F mode scope

⑤: Waveform information:
　The waveform information differs, depending on the Spectrum scope mode.
　• In the Center mode:
　　Center frequency and span are sent.
　　See page 19-9 of the IC-7300 FULL MANUAL for Operating frequency data, and the Scope span settings (② ~ ⑥) to the right.
　• In the Fixed, SCROLL-C, and SCROLL-F modes:
　　Lower edge and higher edge frequencies are sent.

Lower edge　　　　　Higher edge
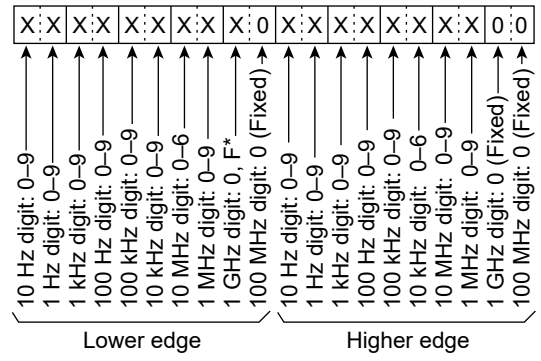
* "F" means that the Lower edge frequency is a negative value.

⑥: Out of range information:
　• 00 = In range
　• 01 = Out of range
　ⓘIf the scope data is out of range, the waveform data (⑦) is omitted.

⑦: Waveform data:
　The transceiver outputs the drawn waveform data. The data range or data length of the waveform data is judged by the controller. (The data range is basically the same as the display size of the scope on the controller.)
　• Data range: 0 ~ 160
　• Data length: 475

・**Spectrum scope mode settings**
Command: 27 14
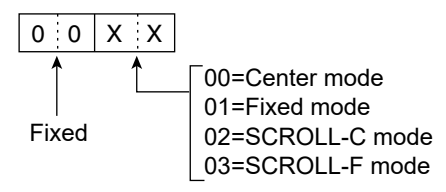
・**Scope span settings**
　(in the Center mode and SCROLL-C mode Scope)
Command: 27 15
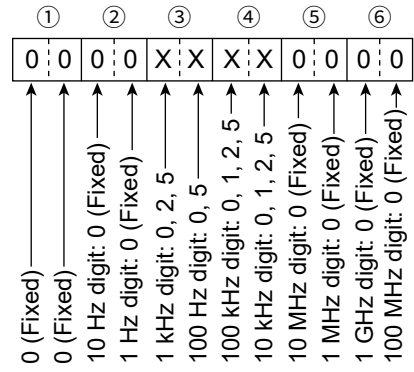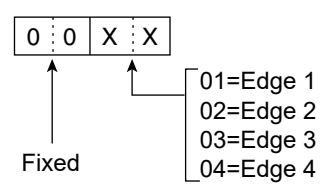

Span (kHz)	
2500	2.5
5000	5
10000	10
25000	25
50000	50
100000	100
250000	250
500000	500

・**Scope Edge number settings**
　(in the Fixed mode and SCROLL-F mode Scope)
Command: 27 16

■ CI-V commands
◇ Command formats

• **Scope Fixed edge frequency settings**
Command: 27 1E
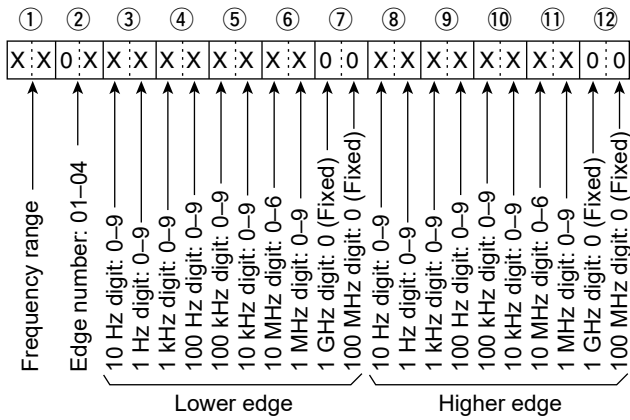
ⓘEntry of digits less than 1 kHz is ignored.

① Selectable Frequency ranges:

Data	Frequency range (Hz)
01	0.03 ~ 1.60
02	1.60 ~ 2.00
03	2.00 ~ 6.00
04	6.00 ~ 8.00
05	8.00 ~ 11.00
06	11.00 ~ 15.00
07	15.00 ~ 20.00
08	20.00 ~ 22.00
09	22.00 ~ 26.00
10	26.00 ~ 30.00
11	30.00 ~ 45.00
12	45.00 ~ 60.00
13	60.00 ~ 74.80

② Selectable Edge number: 01=1, 02=2, 03=3, 04=4

IC-7300
Firmware update information— Ver. 1.30

Thank you for using the Icom Download Service.
The Version 1.30 firmware will provide the following additional functions or changes to your IC-7300.

● The default settings of the IF filter are changed.
● The following Set mode items are added or changed.
  • The category "Tone Control" is renamed.
  • A passband width setting for the SSB-D mode is added.
  • The screen "USB SEND/Keying" is added.
  • An inhibit timer for the USB connection is added.
● CI-V commands are added. (p. 2)

Before updating, see Section 15 'UPDATING THE FIRMWARE' in the IC-7300 Full manual, that is included on the CD supplied with your transceiver.

IMPORTANT!
Make a backup file of the transceiver's settings, such as stored memory channels, filter settings, to the SD card before updating the firmware.
The CPU will be automatically reset when the firmware update is done, the transceiver's memory contents will be cleared and ALL settings will be returned to their default settings.
See Section 8 'Saving data onto the SD card' and 'Saving the setting data onto an SD card' in the Full manual, for details on the backing up operation.

■ Selecting the IF filter (p. 4-4)

The default settings of the SSB-D mode (FIL1 ~ FIL3) are changed.
The changed values are shown in bold below.
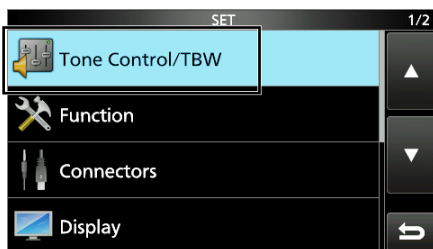
Mode	IF filter	Selectable range (steps)
SSB-D	FIL 1 (**3.0 kHz**)	50 Hz to 500 Hz (50 Hz)/ 600 Hz to 3.6 kHz (100 Hz)
	FIL 2 (**1.2 kHz**)	
	FIL 3 (**500 Hz**)	

■ Set mode description

◇ Tone Control/TBW (p. 8-2)

The category "Tone Control" is renamed to "Tone Control/TBW."

`MENU` » `SET > Tone Control/TBW`

ⓘ Read the "Tone Control" category in the manual as "Tone Control/TBW."

◇ Tone Control/TBW (p. 8-2)

A passband width setting for the SSB-D mode is added to the TONE CONTROL/TBW screen.

`MENU` » `SET > Tone Control/TBW > TX > SSB-D`

TBW (Default: 300 – 2700)

Sets the transmission passband width by changing the lower and higher cut-off frequencies.

◇ Connectors (p. 8-6)

The "USB SEND/KEYING screen is added.

`MENU` » `SET > Connectors > USB SEND/Keying`

The "USB SEND," "USB Keying (CW)," and "USB Keying (RTTY)" are moved onto it.
An inhibit timer for the USB connection is added on the USB SEND/KEYING screen.

```
SET
 ├Connectors
 ┊ ├USB SEND/Keying
 ┊ ┊ ├USB SEND
 ┊ ┊ ├USB Keying (CW)
 ┊ ┊ ├USB Keying (RTTY)
 ┊ ┊ └Inhibit Timer at USB Connection
```
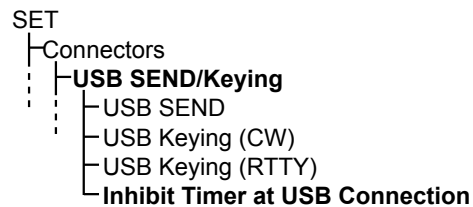
Inhibit Timer at USB Connection (Default: ON)

Turns the timer for SEND or Keying signal transmission ON or OFF.
When using a PC with an old USB driver installed, and an IC-7300 through a USB cable, turning ON the timer prevents an unintentional sending of the SEND or Keying signal when:

• Connecting a USB cable to the PC and IC-7300.
• A virtual serial port communication is established.
• Starting up the PC while it is connected to the IC-7300.
• Connecting or disconnecting another USB device to or from the PC, while the IC-7300 is connected to the PC.

OFF: Sends the SEND or Keying signal immediately.
ON: Pauses for a few seconds before sending the signal.

ⓘ If you change this setting to "OFF," first update the transceiver's USB driver and make sure the SEND or Keying signal will not be unintentionally sent.

■Additional CI-V commands (Full manual on the CD)

The following commands are added to the conventional Command table.

Cmd.	Sub Cmd.	Data	Description
1A*	05	0196	See below	Send/read SSB-D TX bandwidth
		0197	00/01	Inhibit Timer at USB connection (00=OFF, 01=ON)

* Send/read data

• **SSB-D transmission passband width settings**
Command : 1A 050196

```
        ┌───┬───┐
        │ X ┊ X │
        └───┴───┘
          │   │
          │   └── Lower edge:  0= 100 Hz
          │                    1= 200 Hz
          │                    2= 300 Hz
          │                    3= 500 Hz
          │
          └────── Higher edge: 0= 2500 Hz
                               1= 2700 Hz
                               2= 2800 Hz
                               3= 2900 Hz
```