

TS-990S**Firmware update information**

Last updated : November 17, 2016

The TS-990S firmware has been updated from Version 1.12 to Version 1.13 as follows.

TS-990S owners can update the transceiver's firmware by using a USB flash drive as detailed below.

Updated item : (Version 1.12 ⇒ 1.13) [November 17, 2016]

Revises the following symptom.

1. In split-frequency operation, antenna relay circuit might not work correctly.

Updated item : (Version 1.11 ⇒ 1.12) [August 3, 2016]

Revises the following symptom.

1. The internal antenna tuner may not work correctly under certain conditions.

Updated items : (Version 1.10 ⇒ 1.11) [April 20, 2016]

Revises the following symptoms.

1. In a stored CW message with text entry, "%N" (contest number) may not be sent correctly under certain conditions.
2. In a stored CW message with text entry, the leading space character is not recognized as an interval.

Updated items : (Version 1.09 ⇒ 1.10) [May 12, 2015]

Updates the following features:

1. Adds a new algorithm within the main band NB2 (Digital noise blanker in the IF stage).
 - When pressing and holding in the [NB2] key of the main band, the NB2 function setting display appears on the main screen. This then allows toggling between "TYPE A" (conventional algorithm) and "TYPE B" (newly added algorithm) by pressing the [TYPE][F6] key. If "TYPE B" is selected, the "WIDTH" (width of the pulse noise blanking) and "DEPTH" (depth of the pulse noise blanking) parameters can be adjusted.
 - Pressing and holding in [NB2] or pressing [ESC] closes the NB2 function setting screen.
 - The "TYPE A" discriminates and suppresses the pulse noise by calculating the received signal's envelope. Since the algorithm does not cut off the receiving signal, it would be effective for a weak signal buried in strong pulse noise conditions.
 - The "TYPE B" discriminates and blanks the pulse noise by calculating the transient of signal amplitude. However, it cuts off the received signal momentarily, thus allowing adjustment of the "WIDTH" and "DEPTH" to appropriate levels.
 - The "TYPE B" is not applied to the sub band due to limitations of the DSP memory capacity.
 - For both of the NB2 "TYPE A" and "TYPE B", using NB1 (Analog noise blanker in the IF stage) simultaneously, or configuring a wider roofing filter manually, it would be effective to reduce the pulse noise level under some noise conditions.
2. Changing of the RX IF filter passband is enabled by rotating the [HI/SHIFT]/[LO/WIDTH] knobs while transmitting.
 - If Menu No.8-01 (TX Audio Waveform Display) is set to "On" (default), the current status of the RX IF filter is not displayed in the sub screen while transmitting in SSB/AM/FM mode. If you need to view the status of the RX IF filter while transmitting in SSB/AM/FM mode, set the Menu No.8-01 to "Off".
 - **Please also update the Radio Control Program [ARCP-990](#) which includes above revisions for functional compatibility.**

Revises the following symptom.

1. When playing and transmitting a stored CW messages with text entry, the consecutive space characters for intervals are deleted.

Updated item : (Version 1.08 ⇒ 1.09) [January 30, 2015]

Revises the following symptom.

1. After updating the firmware, some indications might not work correctly until full-resetting.

Updated items : (Version 1.07 ⇒ 1.08) [January 29, 2015]

Updates the following features.

1. Revises the functions of the Band Scope in Fixed mode.
 - Adds "Auto Scroll function" when long pressing [CTR/FIX] (F3) to apply Center mode display frequency range to Fixed mode. When the marker for the selected band becomes off-range, the scope area shifts automatically in order to display the marker near the center. ("Auto Scroll" appears on the upper left side of the grid then.)
 - When long pressing [CTR/FIX] (F3) to apply Center mode display frequency range to Fixed mode, or pressing [MKR.CTR] in Fixed mode, the revised lower / upper limit frequencies do not overwrite the configurations in Menu 8-05 ~ 8-32.
2. Enables the selection of "0"(Off) for "Main Display" and "Sub Display" in "Dimmer 4" settings.
3. Revises the behavior when AC power is switched on.
 - When selecting "Off" in Advanced Menu 22 (Standby State Low Power Consumption), after AC power is switched on by pressing the main I/O power switch or switched on at the household AC outlet using the AC cable, after 40 seconds the front panel power switch LED blinks orange for a few seconds and quick start by the front panel power switch becomes available.
4. Enables output of the 475kHz band (472~479kHz) signal from the rear panel DRV (drive output) connector as well as the 135kHz band.
5. When frequency tracking is on, changing frequency band for the main band does not turn the frequency tracking off.
6. Enables changing the band, mode, memory channel, or split operation settings while the CW/Voice Message screen is displayed.
 - **Please also update the Radio Control Program [ARCP-990](#) which includes above revisions for functional compatibility.**

Revises the following symptoms.

1. After turning the transceiver off and on, status of the internal antenna tuner might not be backed up correctly.
2. When Menu No.0-10 (Meter Display Pattern) is set to "Type 1" (Digital), S-meter might indicate while transmitting.
3. In full break-in operation, may not save the transmitted CW signal correctly in Full-time Recording.
4. Transverter Power Limit (Advanced Menu 08) or Max. Power Limit affect the output level from the rear panel DRV (drive output) connector.
 - **To avoid any unexpected damage to external devices using the drive output, please confirm the drive output level again after updating the firmware.**

Updated item : (Version 1.06 ⇒ 1.07) [November 13, 2014]

Revises the following symptom.

1. When NB1 is active on the main band, just after returning to receive mode the main band RX audio might be muted.
 - The above symptom appears only in the serial number range from S/NO.B47xxxx through S/NO.B4Axxxx.
 - The firmware Ver.1.07 only revises the electronic device compatibility issue. There is no other functional change from Ver.1.06.

Updated items : (Version 1.05 ⇒ 1.06) [March 27, 2014]

Revises the following symptoms.

1. On 21.5MHz ~ 30MHz when preamplifier is on, the S-meter may appear too sensitive to variations in signal levels due to excessive IF gain. (The update does not affect RX sensitivity.)
2. Just after TX tuning starts, a click noise may be heard momentarily.
3. Stored band memory number may not be indicated correctly just after the power is turned OFF and ON by the rear panel main power switch.

Updated items : (Version 1.04 ⇒ 1.05) [November 15, 2013]

Revises the following symptoms.

1. When RIT is on and the [VOICE] key is pressed, the transceiver announces a frequency which does not include the RIT frequency offset.
2. TX tuning RF output power might exceed the preset value momentarily.
3. In SSB-DATA, FM-DATA, or AM-DATA mode, XIT may not work correctly.

Updated items : (Version 1.03 ⇒ 1.04) [August 23, 2013]

Revises the following symptoms.

1. When sending certain character sequences using the built-in RTTY function, garbled text might be encoded.
2. When Advanced Menu No.22 "Standby State Low Power Consumption" is set to "On" and the TS-990S is turned off by the front panel power switch, the ARCP-990 may not detect the power off status correctly.

Updated items : (Version 1.02 ⇒ 1.03) [July 12, 2013]

Updates the following features.

1. Enables use of the TF-SET function while the CW/Voice Message screen is displayed.
2. Enables toggling Sub Band reception between ON and OFF while the CW/Voice Message screen is displayed.
3. When PF keys are pressed to play a CW/Voice Message while CW/Voice Message screen is not displayed, the CW/Voice Message screen is opened. It closes again after playing the message is completed.
 - If playing a message is stopped by F4[STOP] key, the CW/Voice Message screen remains.
4. Enables TF-SET function in Simplex mode while "XIT is ON and RIT is OFF".
 - While [TF-SET] key is pressed, XIT offset frequency can be set by [Tuning] (Main) control as well as [RIT/XIT] control.
 - The function does not work when RIT is ON.
 - **Please also update the Radio Control Program [ARCP-990](#) which includes above revisions.**
5. Increases TX monitor maximum level by approximately 6dB.
6. Reduces CW full break-in RX noise.
7. Extends default AGC time constant values in "FAST", "MIDDLE", "SLOW"

Updated items : (Version 1.01 ⇒ 1.02) [April 12, 2013]

Updates the following feature.

1. Changes default value of the Menu No.9-00 "Send Message by Function Keys (USB Keyboard)" from "Off" to "On".

Revises the following symptom.

1. TX output power fed back to other ANT connectors might affect internal circuits. (The firmware Ver.1.02 deactivates (opens) other ANT relays every time the radio transmits.)

Updated items : (Version 1.00 ⇒ 1.01) [March 29, 2013]

Updates the following feature.

1. Adds the following menus for audio output terminal configurations. (USB, ACC2, Optical)
 - Menu No.7-16 "USB: Audio Output Configuration"
 - Menu No.7-17 "ACC 2: Audio Output Configuration"
 - Menu No.7-18 "Optical: Audio Output Configuration"
 You can set the value to "Normal"(default), "Reversed", or "Mixed" for each output terminal above.
 For details, please refer to the [revised Instruction Manuals](#).
 - The above configurations are necessary when operating the TS-990S with [KENWOOD NETWORK COMMAND SYSTEM](#).

Revises the following symptom.

1. While in TX TUNE, incorrect SWR value is indicated when Type2 or Type 3 (analog type) meter is configured.

●Applicable units :

The firmware update is applicable to the following units.

Model: TS-990S

Serial numbers: From S/NO.B32xxxx through S/NO.B6Bxxxx approx.

Notes : You can find the serial number imprinted on the rear panel model name label; it consists of an 8-digit number beginning with "S/NO."

: You can check the firmware version of your TS-990S by pressing [M.IN](Memory) + Power ON. After startup, the Firmware Update screen appears and shows the firmware version.

*There are two [M.IN] keys on this transceiver; one is for Memory and the other is for Quick Memory. To view the firmware version, ensure you use the [M.IN](Memory) key.

●Notes on usage

- Users are required to obtain an approval from JVC KENWOOD Corporation, in writing, prior to redistributing this software on a personal web page.
- Users are prohibited to assign, rent, lease, or resell the software.
- Users are prohibited to revise, change, translate, merge, de-compile, or reverse engineer the software.
- JVC KENWOOD Corporation does not warrant that quality and functions of this software comply with each user's purpose of use of this software, and unless specifically described in this document, JVC KENWOOD Corporation shall be free from any responsibilities to any defects and indemnities to any damages or losses. Selection and installation of this software shall be done by the user's own designation. The user shall take full responsibility for the use and effects of this software.

- JVC KENWOOD Corporation shall be free from any responsibilities for any incidental losses or damages, such as missing communications or a call opportunity, caused by a failure or performance error of this software.
- JVC KENWOOD Corporation shall own all copyrights and other intellectual properties for the software and all manuals and documents attached to the software. The user shall be allowed to use, not to resell, the software by obtaining a license from JVC KENWOOD Corporation. While the media on which the software is stored is possessed by the user, the ownership for the software itself shall be reserved for JVC KENWOOD Corporation.

●Firmware updating procedure

- 1)Download the firmware file "TS-990_V113.zip" onto your PC.
- 2)Save the downloaded firmware file "TS-990_V113.zip" to a USB flash drive.
***You must store the firmware file "TS-990_V113.zip" in the root directory of the USB flash drive without extracting the zip file, otherwise the firmware cannot be updated.**
- 3)Press and hold the [M.IN](Memory) key, then turn the transceiver ON.The transceiver starts up with the Firmware Update screen after the start screen appears. You can verify the current firmware version.
- 4)Insert the USB flash drive containing the firmware file in the USB-A connector on the front panel.The firmware updating progress bar appears on the main screen. Upon completion of the firmware updating, "The firmware update is completed" appears on the main screen.
***Depending on the number of CPUs being updated, the time necessary for updating may vary. It can take 20 to 30 minutes to update the firmware.**
- 5)Turn the transceiver OFF.
- 6)Remove the USB flash drive.
- 7)Turn the transceiver ON again.
The transceiver restarts with the new firmware enabled.

Notes:

:If a message notifying you of an update failure appears during the firmware updating, refer to the Instruction Manual page 18-4. (Troubleshooting.)

:You can also update the firmware by connecting the transceiver to your PC using a USB cable.For details, please refer to the Instruction Manual page 17-2.

If you agree with the details listed above, click the following link to download the firmware file.

(The latest version includes all previous updates.)

TS-990S Firmware Version 1.13 (November / 2016)

[TS-990_V113.zip : 12.5MB download](#)