



## Modification for the Kenwood TKM-707

[www.r6-ru4montesecchieta.it](http://www.r6-ru4montesecchieta.it)

IZ5CCV

## Kenwood TKM-707 Marine Transceiver

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This file includes MODIFICATIONS, SETTINGS and CONTROL information for the excellent Kenwood TKM-707 Marine Transceiver. This information also applies in general (but not in detail) to the Land Mobile model, TRC-70, with which it shares the same circuit boards and case.

The MODIFICATIONS are very simple, and allow the TKM-707 to transmit from the "VFO" dial as well as from memory, and allow LSB and AM operation. The SETTINGS allow a choice of power level and control the memory behavior.

Modifications and Settings

MODIFICATIONS consist of adding or removing diodes D311 - D314 on the Controller board (the lower board). The diodes should be cut or linked with the power removed. The factory default condition is with ALL diodes connected.

Diode	Function	Connected	Not Connected
D311	Alarm Switch	Operates	Does not operate
D312	LSB transmission	Inhibited	LSB transmit operates
D313	Rotary dial operation	Transmit inhibited	Transmit operates
D314	AM (H3E) transmission	Transmit inhibited	AM Transmit operates

SETTINGS consist of setting the status of the four DIP switches of S301, which is located on the Controller board (the lower board), near D311-D314. These switches set the way in which memories operate, and the transmitter power levels. There are two main modes, set by S301/1. These are User mode (S301/1 ON) and Dealer mode (S301/1 OFF). In Dealer mode, memories for TX and RX can be written. In User mode, only RX memories can be written, and the Dealer TX and RX frequencies cannot be overwritten. The default settings are OFF-ON-ON-ON for the USA (Dealer mode, high and medium power), and OFF-ON-ON-OFF for elsewhere (Dealer mode, medium and low power).

Switch	Function	ON	OFF
S301/1	Memory mode	USER (no overwrites)	DEALER (write TX/RX
S301/2	Memory in USER mode	No RX freq write	RX freq can be written
S301/3	Power setting default	High/medium	Medium/low
S301/4	Power setting default	Higher choice	Lower choice

The micro must be reset after the switch settings have changed. To do this, apply power with the ENT key pressed.

Front Panel Controls**ALARM**

Turns on a two-tone warble alarm, audible from the speaker, which will also be transmitted.

**SP**

Enables / disables the internal speaker, but not the rear panel speaker socket. Note however that plugging in headphones DOES disconnect BOTH speakers.

#### DIMMER

Dims the LCD display in four steps. The default is brightest. Saves quite a bit of current if this is reduced.

#### MEMO/DIAL

Toggles operation between MEMO mode (main dial selects memory) and direct frequency dialing. In normal marine applications, DIAL operation won't transmit (see mod for D313).

#### A/B/ITU

Selects one of three memory banks, and switches to MEMO mode. Banks A and B are user / Dealer settable in kHz; ITU mode is settable in ITU channel number (presumably uses a ROM table).

#### 2182

Selects emergency frequency directly and sets USB mode. Modes are restricted to USB and AM. Not sure what the SEND/STOP indication under the switch implies.

#### MODE

Selects USB/LSB/AM/CW. Indicates J3E for SSB, H3E for AM.

#### TX-FREQ

Momentarily displays the TX frequency on split-frequency channels.

#### SQL

Turns on or off the Squelch. Squelch level is set internally.

#### TUNE

Causes a transmitter tuning cycle when an external auto-tuner is fitted.

#### Sub-panel Controls

These controls are under a small hinged panel at the top right of the front panel.

#### NUMERIC

0 - 9 keys for entering frequency.

#### ITU

Causes display (and memory entry) to be in ITU channel number format. Make sure ITU is off when trying to enter non-marine frequencies!

#### ENT

(Enter) Used to confirm frequency and other entries.

#### SCN

(Scan) Enables scan mode. Depending on whether in DIAL or MEMO mode whether it scans between dialled-in frequencies or the memories. It is not known how the scan limits are set.

#### NB

Turns the noise blanker on or off (three settings). There are two on positions, one for impulse noise, the other for "woodpecker" noises. The blanker is VERY effective.

#### C

Cancel. Also acts as the FUNCT button.

#### FUNCTIONS

FUNC-1 sets the DIAL mode in 100kHz steps.

FUNC-2 sets 1kHz steps.

FUNC-3 sets 100Hz steps.

FUNC-4, 5 and 6 set the transmitter power HI/MED/LOW.

There are also two-digit FUNCTIONS, but their purpose is unknown. They are entered in the form FUNC " nn " ENT. For example FUNC 84 may allow dial mode when it is inhibited by switches, and FUNC 85 may enable TX in dial mode if inhibited by the switches. (At least these are the functions in the similar TRC-70 land mobile unit).

## RESETTING

Turning on the power with C/FUNC pressed clears the User and Dealer memory settings. (In User mode, only the User memory settings are cleared). Turning o the power with ENT pressed resets the micro without clearing the memories.

## FREQUENCY

To enter frequency, enter all the significant frequency digits down to 100Hz. For example, for 3935 kHz, enter 39350. Then press ENT. This process will write to the DIAL, and is also used to write to memories.

## MEMORY WRITE

(In Dealer Mode) Select the memory bank required using the MEMO/DIAL and A/B/ITU buttons. (In ITU mode you can only enter ITU channel numbers). Press ENT, and the display enunciators will flash, indicating memory write mode. Then:

Select the channel to be written to with the main dial. If a channel is vacant, it will show as a series of dashes rather than a frequency.

Enter the RX frequency as outlined above.

Enter the RX mode by selecting it with the MODE switch.

Press ENT to store the RX frequency and mode.

Repeat steps 2 - 4 for the transmit frequency. Transmit frequency can be skipped by pressing C (cancel). The previous frequency will be used. There appears to be no way to leave the transmit frequency unassigned.

When the transmit frequency has been written, the memory write mode will exit. It will also exit if you don't press any buttons for a while, or if you press the C button. The new values won't be saved.

## Other Stuff

As well as being a great little HF rig for the Amateur bands, the TKM-707 is rated for 150W output 100% duty cycle, which you won't see in any Amateur rig! It also uses a single 30.0MHz reference OCXO reference for all oscillators, so is superbly stable and makes a perfect frequency measurement receiver if carefully calibrated. See the author for details.

If you have questions about the TKM-707, contact the author - [zl1bpu@nzart.org.nz](mailto:zl1bpu@nzart.org.nz)

Do I have a Service Manual or User Manual for the TKM-707 that you could have a copy of? NO, I DON'T!

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