



## Modifications for the Kenwood TM-V7A

### Expanding the Kenwood TM-V7: A & E versions

#### Original TM-V7A Mod:

Remove the top and bottom covers.

Look at the vertical p.c. board behind the front of the radio. There will be 2 small chip resistors on the left side of the board.

Carefully remove the one with the number 0. It will be the one closest to the left near the grounding spring. You will probably have to scrape it off with a pair of needle nose pliers.

After you remove it the VFO ranges should be:

VHF TX 136.995 - 173.995. RX should be 118-174.

UHF TX should be 410-469.995 RX should be 300-470.

#### Additional TM-V7E notes:

There is a row of five numbered links on the edge of the front panel board.

In my E version radio, 0, 2 & 3 were made as standard. I now have only one link fitted in the number 4 position which enables the repeater function not defaulted in European versions. I have removed all other links.

I can now also receive the AM Aircraft band (118-137MHz). It is possible to change from AM to FM by pressing the MHz button for 1 second. Plus I have discovered doing the same key press (MHz for 1s) in the UHF band gives a 800-999Mhz RX band.

The European version has a 1750Hz tone-burst function, a modified band plan for the auto-repeater shift function, adds a -7.6Mhz repeater shift and sets the band limits to 144-146 & 430-440 - the AM Air band & 800Mhz bands are disabled. All these European 'features' are lost when the radio is expanded. (The repeater offsets are still programmable, but you must learn how to whistle at 1750Hz). I think the only other difference between the A and E versions is that the E version has an N type antenna connector fitted.

Making link number 5 causes the radio to power up in a Memory recall mode (i.e., with channel numbers) and so is not overly useful!

I'm not sure exactly what links 0, 1, 2, & 3 all do individually! Maybe other configurations are possible: any information would be gratefully received.

As for RF performance, the front-end (and PA) must be tweaked to use frequencies other than the factory aligned defaults, with a little tweaking out of band performance should come good (at the expense of regular 2m/70cm performance).

The chip resistors are SMD zero ohm things - a wire link (or solder blob) will do the same job. They can be carefully removed (for re-use) by using a fine tipped iron, de-solder braid, and a pair of long nose pliers or tweezers. The front board can be carefully detached from the rest of the radio to make removing the links easier.

Mike Bowyer.

This information was sent to me by Alan, thank you.

## KENWOOD TM-V7a JUMPERS

To make the expanded receive and transmit modifications, it is only necessary to remove the transceiver bottom cover, but depending on the suitability of tools you have available for the job, if your soldering iron and tweezers are not small, you may have to remove the top cover and the front of the radio also.

Looking at the vertical p. c. board behind the front of the radio, you will see positions for 6 small surface mount resistors. These may be numbered 0 to 5, 0 being to the left near a flat metal grounding spring. Not all of these positions may be occupied by resistors, as the number and placement of the resistors varies, depending on the country that the transceiver was intended to be shipped to when it was assembled in the factory. The frequencies allowed for receive and transmit vary from country to country, the presence or absence of resistors, sets the frequencies for the intended country of sale.

The resistors fitted to any one of these 5 positions will be 0 ohm resistors, so a blob of solder or a piece of wire is just as good as one of the original 0 ohm resistors.

I used a piece of thin multi stranded hook up wire, removed the insulation, applied solder tinning to it, then soldered it across the position on the p. c. board. I then used the edge of a pair of finger nail clippers to trim off the excess length which I had used to hold it in position while soldering. I also used an earth wire between the soldering iron and the chassis of the transceiver to guard against any stray voltage on the soldering iron tip. Do not use a live tip (exposed element) type soldering iron.

Be prepared to loose all your pre programmed frequencies, tags and every thing else in memory when you do this modification. You may have to reload your memories from your computer (if you have programme and cable and have the information saved) or manually reprogramme your transceiver again.

Jumper 0 is R546

Jumper 1 is R544

Jumper 2 is R543

Jumper 3 is R 542

Jumper 4 is

Jumper 5 is

Jumpers 0, 1, 2, and 3 control the transmit and receive frequencies.

Jumper 4 enables or disables the cross band repeater function. Jumper 4 on = enabled.

Note that the transceiver MENU item 17 appears when jumper 4 is on and when the cross band repeater function is set for use, MENU item 18 appears.

Jumper 5 not sure of function did not experiment with this one.

During experiments these were the frequencies obtained with different settings.

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0 1 2 3

off off off off

Receive 118 - 173.995, 300 - 523.995

Transmit 136 - 173.995, 410 - 469.995

-----  
0 1 2 3

off off off on

Receive Not sure didn't record

Transmit 144 - 145.995, 430 - 439.995

-----0 1 2 3  
off off on off

Receive 118 - 173.995, 300 - 469.995, 800 - 999.9875

Transmit 136 - 173.995, 410 - 469.995

-----0 1 2 3

off off on on

Receive 118 -173.995, 300 - 469.995, 800 - 999.9875

Transmit 144 - 145.995, 430 - 439.995

-----0 1 2 3

off on off off

Receive 118 -173.995, 300 - 469.995, 800 - 999.9875

Transmit 136.995 - 173.995, 410 - 469.995

-----0 1 2 3

off on off on

Not tried

-----0 1 2 3

off on on off

Receive 118 -173.995, 300 - 469.995, 800 - 999.9875

Transmit 144 - 147.995, 430 - 439.995

-----0 1 2 3

off on on on

Receive Not sure didn't record, but less coverage than other settings.

Transmit Not sure didn't record, but less coverage than other settings

-----0 1 2 3

on off off off

Receive 118 -173.995, 300 - 523.995

Transmit 136 - 173.995, 410 - 469.995

-----

0 1 2 3

on off off on

Receive 118 -173.995, 400 - 523.995, 800 - 999.9875

Transmit 136 - 173.995, 400 - 469.995

-----

0 1 2 3

on off on off

Not tried

-----0 1 2 3

on off on on

Receive 144 -145.995, 430 - 439.995

Transmit 144 - 145.995, 430 - 439.995

-----0 1 2 3

on on off off

Receive 118-173.995, 300 - 469.995, 800 - 999.9875

Transmit 142-151.995, 420 - 449.995

-----0 1 2 3

on on off on

Not Tried

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0 1 2 3  
on on on off

Not Tried

---

0 1 2 3  
on on on on

Receive 144 -147.995, 438 - 449.995  
Transmit 144 - 147.995, 438 - 449.995

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As can be seen there are a possibility of 16 different settings on these Destination Bit jumpers. Probably not all combinations are factory settings, but this chart may tell some people why they havent got a certain frequency that they think they should have. The enabling or disabling of other features that the transceiver may have was not taken note of when these experiments were done so I can not comment on that subject.

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