BANKSWITCHING FOR TheNet X1 (TNC2 only)

What follows is two versions of how to do the bankswitching. Saying things in two different ways is a neat way of making sure that ambiguities are exposed, so here goes. The first version is by me, the second by Bob G8HBE.

At the end of these descriptions, is a note by Al, WB0YRQ, describing how to modify the MFJ1270C. My thanks for the information.

If you receive CQ magazine, I would recommend the detailed drawings and modifications published by Buck Rogers in his column for clear instructions on implementing bankswitching and the deviation meter PCB.

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For the TNC2 version, the instructions are simply as follows :

1. Bend out pin 1 of the EPROM so that when inserted into the socket it will not contact pin 1 of the socket or any other pin.

2. Connect a wire from the SIO-0 DTRA pin (pin 16) to the bent out pin (pin 1) of the eprom. The DTRA signal should also appear on pin 8 of the TAPR modem disconnect header.

The status led will flicker as it now shows the state of the bankswitch signal.

One word of caution - if you can, just check the signal on pin 1 of the eprom - make sure it switches fast and cleanly - I suspect that if it does not, errors will occur.

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BANKSWITCHING for TheNet X1

So that the 27C512 does not get damaged by the bending of pin 1 and soldering it I have made the modification to the TNC-200, Tiny 2 and MFJ1274 type TNC's as follows.

To modify your TNC you will require a piece of thin connecting wire about 100 mm long and a 28 pin IC socket, you may also need a little bit of inserlating tap.

Before starting the modification make sure that power to the TNC has been disconnected and that the lithium battery link as been removed.

Remove the 27C256, U23 in a MFJ1274/TNC200 or U2 on a Tiny 2 and put it in a safe place.

Taking your New 28 pin IC socket, bend pin 1 outwards and solder the end of the wire to the bent out pin.

Plug the IC socket into the socket you took the 27C256 from, making sure that you plug it in the correct

way round.

Depending on the type of IC socket that is mounted on the PC board you may find that pin 1 on both IC sockets may touch, if this seems to be the case put a little pieces of inserlating tap between them.

Also on the Tiny 2 make sure that the bent pin does not touch the CPU chip.

Now connect the other end of the wire to pin 16 on the Z80 SIO chip.

This signal can also be found on pin 8 of the modem disconnect header which is J5 on a Tiny 2, also the same signal can be found on pin 5 of U6 (74HC14) on the Tiny 2. On a TNC200 you can connect the wire to the side of R51 nearest U23, this is just 20 mm from pin 1 of U23 on the TNC200 board.

If in doubt use a test meter and check the continuity from pin 16 on the Z80 SIO chip to the point where you are going to solder the wire.

Once you have done this you can plug the new 27C512 Programmed with TheNet X into the new mounted IC sockets.

Re-insert the lithium battery link, Connect your computer to the RS232 socket, 12 volts to the TNC and switch on, if all is working well the the STA light will be flickering and after a second a message will appear on you screen.

Modification complete.
G8HBE 6-Oct-91

To modify the MFJ-1270C for use with X1J/TheNet EPROMS follow these instructions:

You must complete all of these steps in order for Net/Rom firmware to function.

NOTE: if you are not using X1J firmware skip the first step and make sure that JP15 is set for 256k.

Step 1: Bend pin 1 of 27c512 out so it will not touch socket, then jumper pin 1 of 27c512 to pin 8 of MODEM header J4. (see X1J docs)

Step 2: Remove U40. Add jumper from pin 16 to pin 1 (ground pin 16) NOTE - whilst the original MFJ notes state pin 1, pin 1 is not ground and I am told that this is a typo. Pin 10 is ground and it is likely that the correct instruction is to connect pin 16 to pin 10.

Step 3: Remove JMP9 altogether (no jumper on any pins)

Step 4: Cut JMPX "PAD" to prevent node from hearing itself

Step 5: Add 100ohm resistors to R14 and R15 if not already in place.

This information came directly from MFJ and I have used it successfully. Hope this helps you.

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