BANKSWITCHING FOR TheNet X1

What follows is how to do the bankswitching modifications for the PacComm Tiny-2 and Tiny-2 Mk2.

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Modification for PacComm Tiny-2

Objective

The objective is to prepare the Tiny-2 for installation of the X1-J bankswitching EPROM code. This requires some basic modification to the TNC to provide the facility to permit the X1-J code to dynamically switch between HIGH and LOW 32K EPROM banks. This instruction is for revision 1.2 to revision 1.6 Tiny-2 PCB's.

Requirements:

Tiny-2 (or similar)
50mm of hookup wire
strong sharp blade (ie Stanley knife)
soldering iron (1.5mm chisel nose tip)
phillips head screwdriver (#1 blade)
IC extraction tool (28pin)
continuity tester (or multimeter)

Procedure

Follow the guide below step-by-step. **Do NOT bend the EPROM legs!** This will destroy the EPROM.

1 Read and understand this document before commencing.
2 Disconnect all leads and cables from the TNC,
3 Remove the PCB from the TNC chassis,
4 Remove the battery jumper (JPB),
5 Remove the existing EPROM (and store safely),
6 Remove the portion of the EPROM (U2)plastic socket directly between pins 1 and 28 using a strong sharp blade. **Exercise extreme care!,**
7 Cut the trace from U2 pin 1 to U2 pin 28 on the top side of the PCB,
8 Bare the ends of the hookup wire for a distance of 2mm and tin with solder,
9 Solder one end of the hookup wire to pin 1 of the EPROM (U2),
10 Solder the remaining end of the hookup wire to pin 5 of U6 (74HC14),
11 Check for unwanted solder bridges and shorts,
12 Check for continuity between pin 5 of U6, pin 1 of the EPROM (U2) and pin 16 of the SIO (U14). These should all be common,
13 Ensure pin 1 and pin 28 of the EPROM (U2) socket have **NO** continuity,
14 Install the X1-J EPROM in the EPROM socket (U2) (correctly oriented),
15 Re-install the battery jumper (JPB),
16 Re-assemble the TNC,
17 Refit the cables and leads to the TNC, ensuring that the **LAST** lead installed is the power lead.

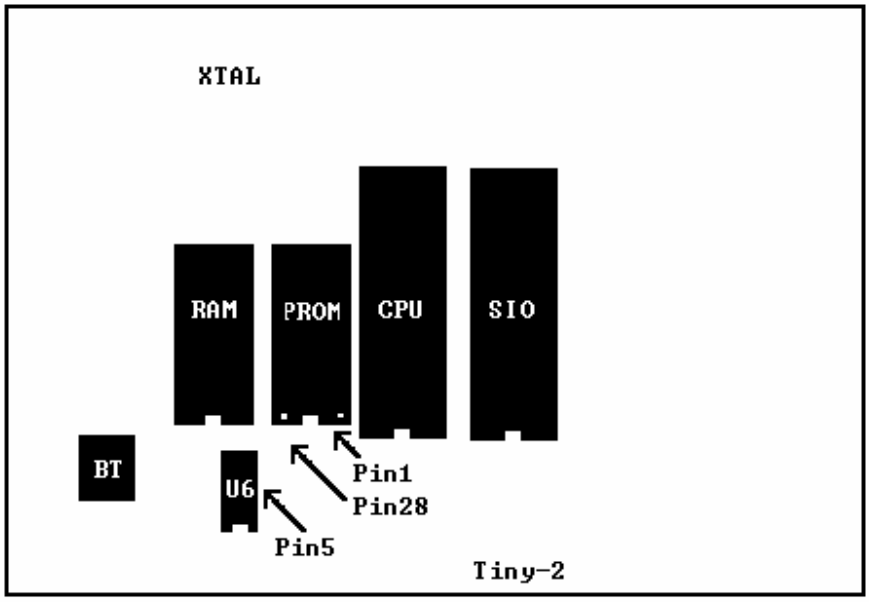
Test / Checkout

When the power is applied to the modified assembled TNC the STA LED will light at half intensity.
If this does not happen (ie it is OFF or ON at full intensity) the X1-J code is **NOT** running. Confirm the modification has been carried out correctly.

The STA LED operates at about half intensity, since it is on the same logic line as the EPROM bank select signal.

Approximately 60 seconds after successful power-up the node will do a netrom broadcast (ie the PTT will be activated). This can be confirmed by the PTT LED on the front panel.

If all the above has been confirmed, the node is operational, and just requires some (actually quite a few) parameters to be set.



Drawn for MPRGI by VK3TKJ

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Modification for PacComm Tiny-2 Mk2

Objective

The objective is to prepare the Tiny-2 for installation of the X1-J bankswitching EPROM code. This requires some basic modification to the TNC to provide the facility to permit the X1-J code to dynamically switch between HIGH and LOW 32K EPROM banks. This instruction is for revision 1.7 Tiny-2 PCB's.

Requirements:

Tiny-2 (or similar)

50mm of hookup wire
strong sharp blade (ie Stanley knife)
soldering iron (1.5mm chisel nose tip)
phillips head screwdriver (#1 blade)
IC extraction tool (28pin)
continuity tester (or multimeter)

Procedure

Follow the guide below step-by-step. **Do NOT bend the EPROM legs!** This will destroy the EPROM.

1 Read and understand this document before commencing.
2 Disconnect all leads and cables from the TNC,
3 Remove the PCB from the TNC chassis,
4 Remove the battery jumper (JPB),
5 Remove the existing EPROM (and store safely),
6 Cut the track from pin 1 of the EPROM (U2) and the track as it runs towards the feed through on the bottom side of the PCB, using a sharp blade,
7 Bare the ends of the hookup wire for a distance of 2mm and tin with solder,
8 Solder one end of the hookup wire to pin 1 of the EPROM (U2) on the bottom side of the PCB,
9 Solder the remaining end of the hookup wire to pin 5 of U6 (74HC14), on the bottom side of the PCB,
10 Check for unwanted solder bridges and shorts,
11 Check for continuity between pin 5 of U6, pin 1 of the EPROM (U2) and pin 16 of the SIO (U14). These should all be common,
12 Install the X1-J EPROM in the EPROM socket (U2) (correctly oriented),
13 Re-install the battery jumper (JPB),
14 Re-assemble the TNC,
15 Refit the cables and leads to the TNC, ensuring that the **LAST** lead installed is the power lead.

Test / Checkout

When the power is applied to the modified assembled TNC the STA LED will light at half intensity.
If this does not happen (ie it is OFF or ON at full intensity) the X1-J code is **NOT** running. Confirm the modification has been carried out correctly.

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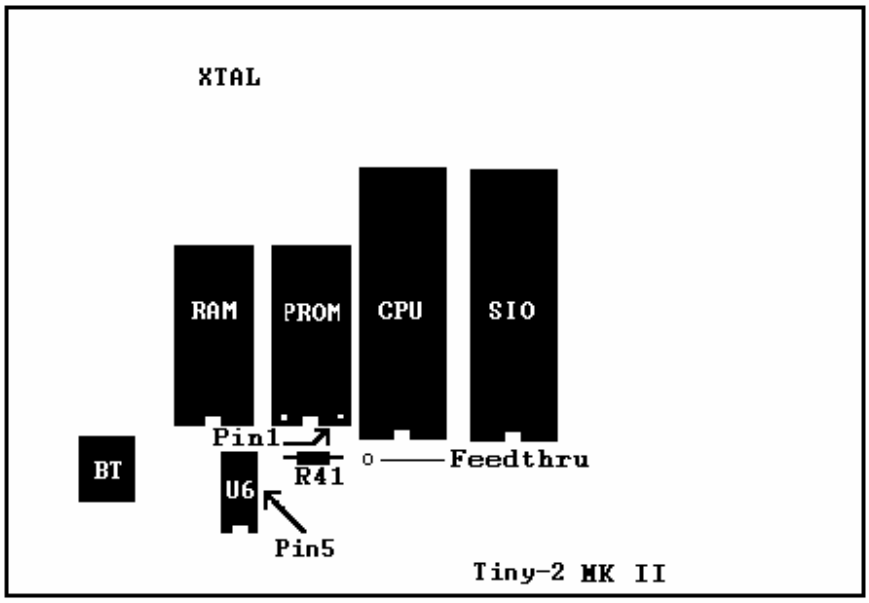

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