

Place a towel or an old t-shirt on your work surface to prevent scratching the front panel of the TOM, then remove the bottom cover. It may be easier to simply remove the sides completely.

Find a piece of anti-static foam or a chip tube to place removed chips on/in. If you don't have any, just take some kind of foam, either the stiffer kind used for packing or Styrofoam, and wrap a flat (1/4" thick) slab of it with aluminum foil.

Remove the TOM firmware EPROM, and the I610, and I611 ROM or EPROM chips, noting the correct position of the notch at one end of the chip, and push them into the anti-static foam so that the pins are all connected together. When removing the chips, locate the gap under the end of the chip and **above** the socket, and pry there with a small screwdriver. Pry at both ends, a little at one end, then a little at the other end, so that the chip comes out straight up. If you only pry at one end, some of the pins will be bent and would need to be straightened before reuse. They can break when being straightened, so it's better not to bend them.

When the TOM is right-side up, the TOM16 will be upside-down. I am a little nervous about it eventually coming out of the socket. I do not have any great ideas yet for securing it, although I did use two wraps of a present-wrapping ribbon around the TOM16 and under the IC socket, which seemed to work. Other possibilities would be double-stick foam attached to the underside of the TOM16 and the ribs of the IC socket (probably OK, but I don't like having foam touching pcb traces), or possibly something on top of the TOM16 pcb which would press against the bottom cover of the TOM (I don't like this idea much either). If you have a great idea for holding the TOM16 in place, please let me know.

Chips have a notch in one end that indicates the location of pin 1. The IC sockets also have a notch, which **MUST** be aligned with the one on the chip. **If you insert a chip backwards and apply power, it will definitely be damaged.**

Insert the TOM16 into the ROM socket that is closer to the front edge of the TOM. Make sure that the pins are positioned correctly and are in the center of the IC socket contacts before you push it down. The gold pins are pretty easy to break.

Solder the three small wires to the eyelets on the pc board shown in the photos on my web site. Two of the eyelets are labeled A15b and A16b. These are address lines, after being inverted by gates on the TOM pcb. A15b must connect to the eyelet near the silkscreen text "L-001". (Please use the labels on my board to identify these signals, and not the position of the eyelets, which changed between the two revs of the board) The wire ends should be inserted into the vias on the TOM board, after you heat them with a soldering iron. If your TOM pc board is not REV C, please contact me, as I would like to know if the connection points are the same for the different pc board revs. If the eyelets look the same as my photo, then probably that part of the board is the same in all of the revs, but I would still like to know this.

I suggest that you test the TOM before putting it back together. To select the active cartridges, press Control at any time when control mode is already selected. The left display should show "Si" or select internal. Now use the <> or the number buttons to select the desired "cartridge" for the internal slot. Values must be 0-15. Now press the function down button. The display should show "SC" or select cartridge. Enter the number of the cartridge that you want and hit function down. This will send the selection for both cartridges to my board, and will tell the TOM to re-read the header information.

If you hit Control twice in a row by accident, you can just hit it again to return to the top fcn in the control group. Cartridge selections are saved in RAM, and will persist, but after you cycle power, you need to send them to the TOM16 again, as it will have been reset to the default (0 and 1).