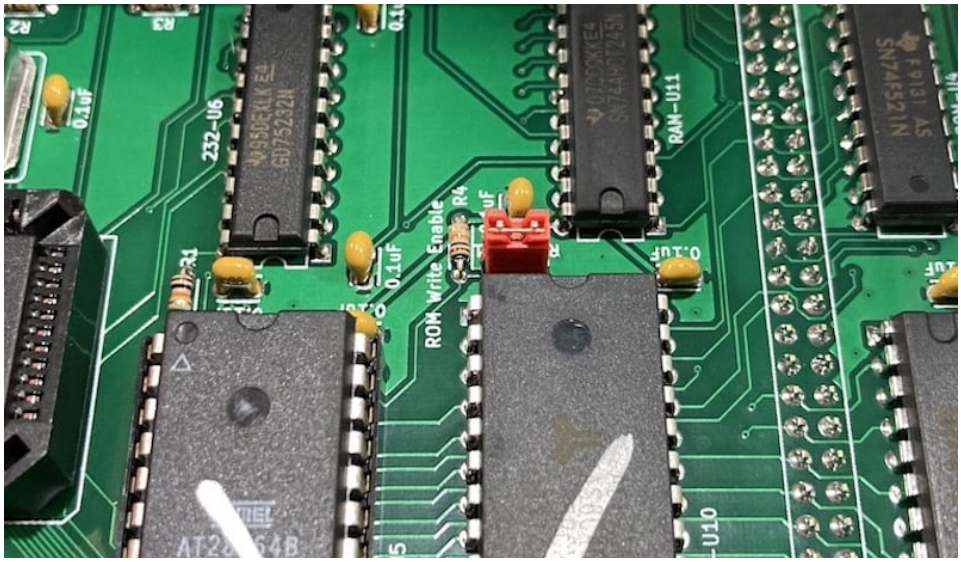
XT-IDE BIOS Flashing Directions

These directions will apply to those who are writing the XTIDE BIOS for the first time to a blank chip, as well as those who are interested in using the V20 Enhanced version of the BIOS, which nearly doubles the throughput rate of the CF interface for those who have an NEC V20 CPU installed into their EX/HX computer.

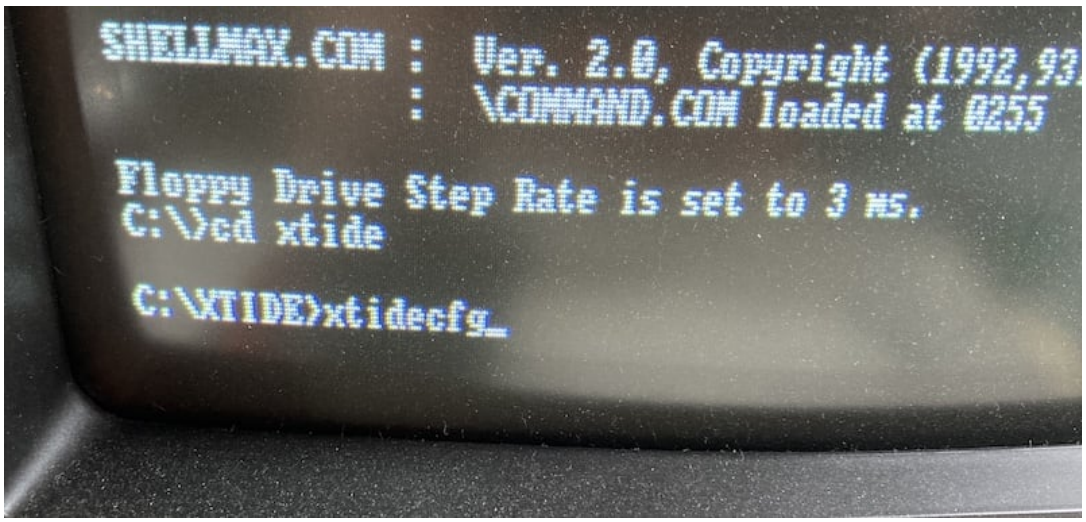
This document assumes that you already have the XTIDECFG program, and the appropriate BIOS file, all of which are located here: https://github.com/rkrenicki/Tandy-EX-HX-3in1/tree/master/BIOS

I have pre-loaded these files onto the CF Cards of the latest batch (September 2021) of pre-assembled cards. Anyone else will need to download the appropriate ZIP from the above website, and extracted onto a bootable floppy disk.

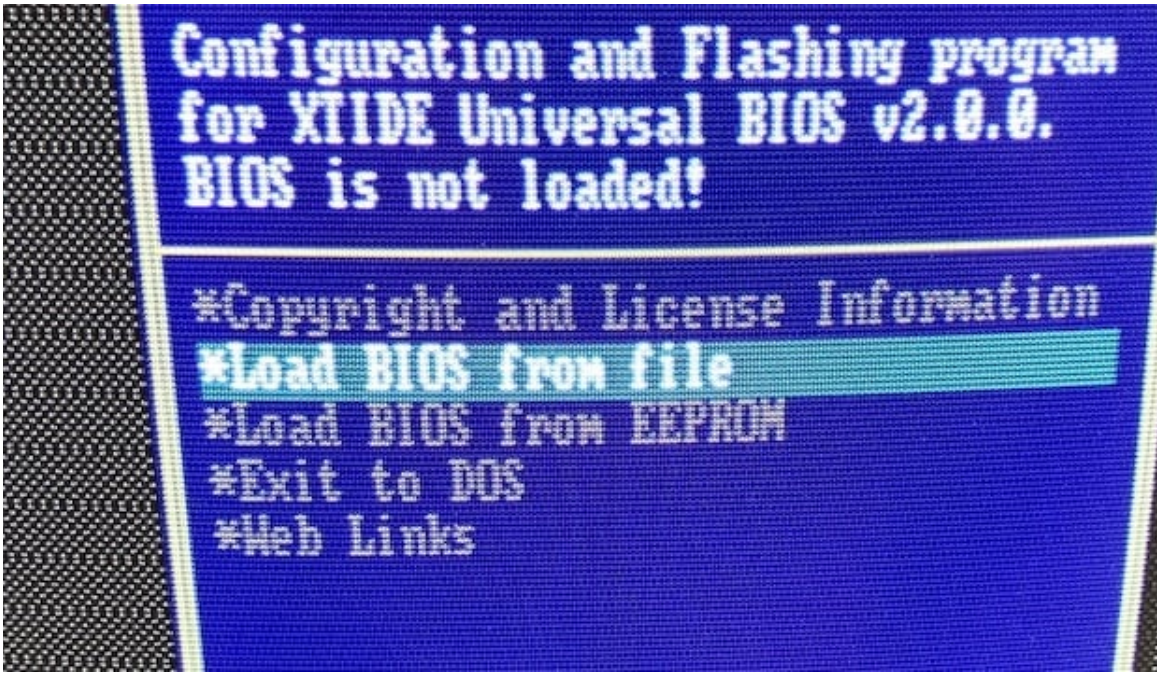
STEP 1: Make sure that the “ROM Write Enable” jumper is closed. Both pins should be inside the plastic jumper housing. NOTE: Some batches of cards do not have this jumper soldered in. It will need to be soldered into be able to upgrade to the V20 BIOS in the system.



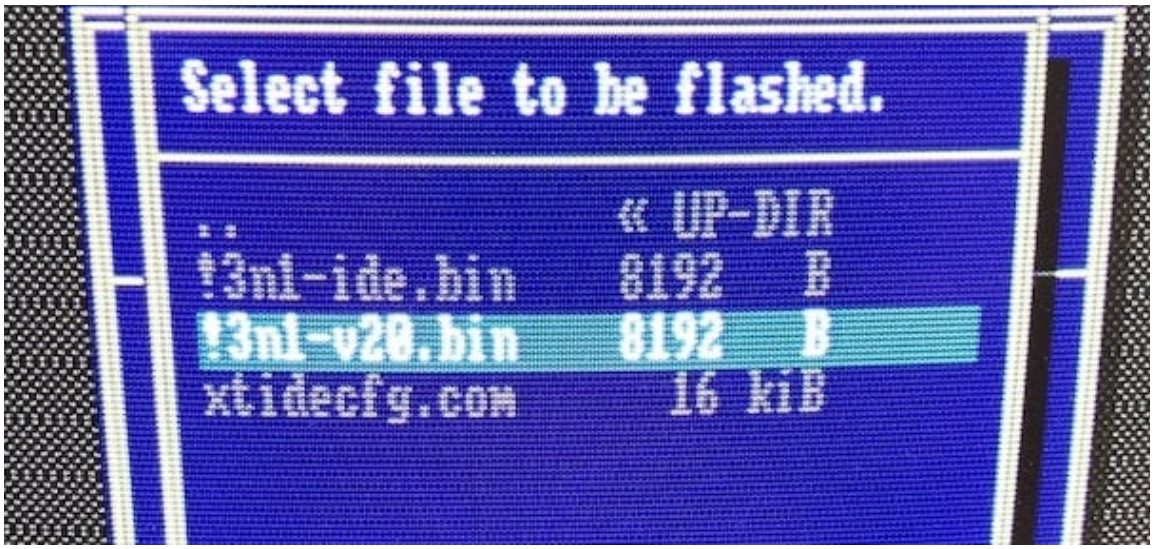
STEP 2: Run XTIDECFG. On the preconfigured card, this program is inside the \XTIDE directory.



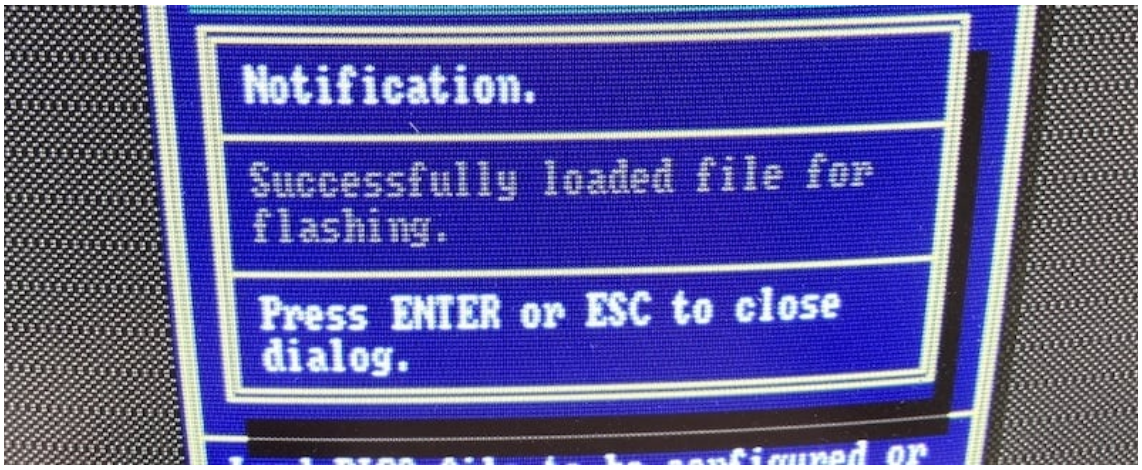
STEP 3: Select “Load BIOS from File”



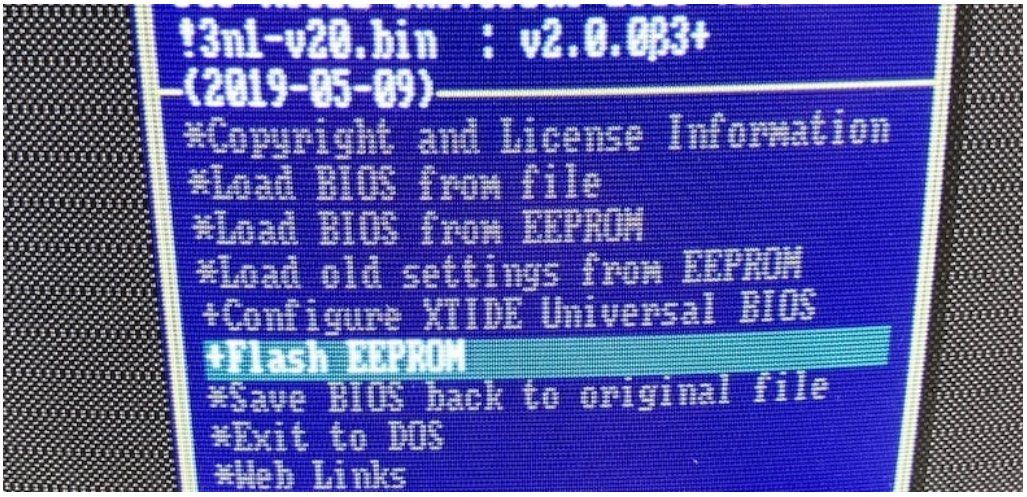
STEP 4: Select your desired BIOS version. !3n1-ide.bin works on all EX and HX machines, and would be appropriate for a new install. The !3n1-v20.bin file will only work on a computer equipped with a V20 CPU. The CF functions will STOP WORKING until reflashed back to the !3n1-ide.bin if you have an 8088 CPU.



It should report that it successfully loaded:

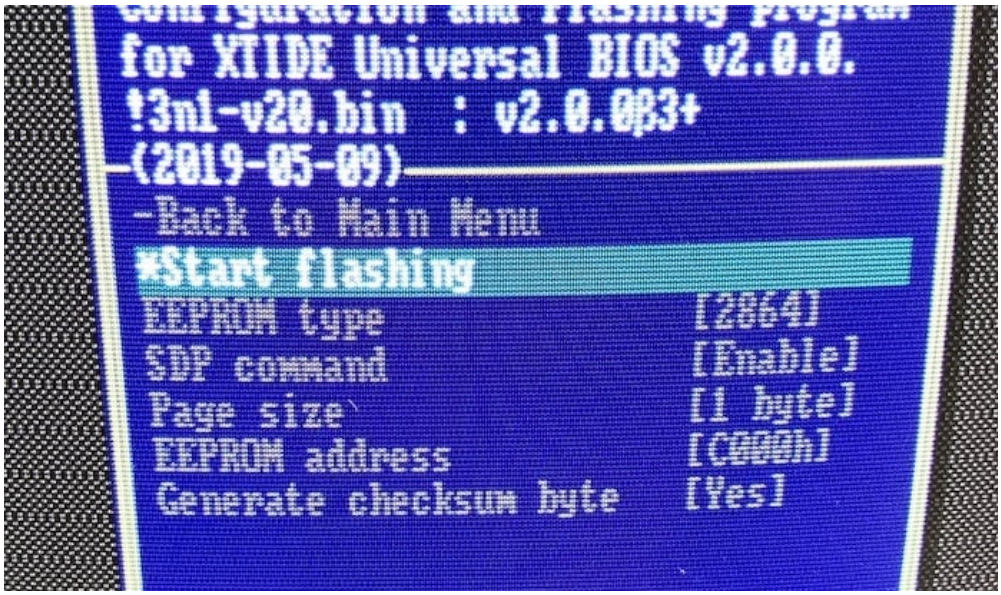


STEP 5: Select “Flash EEPROM”

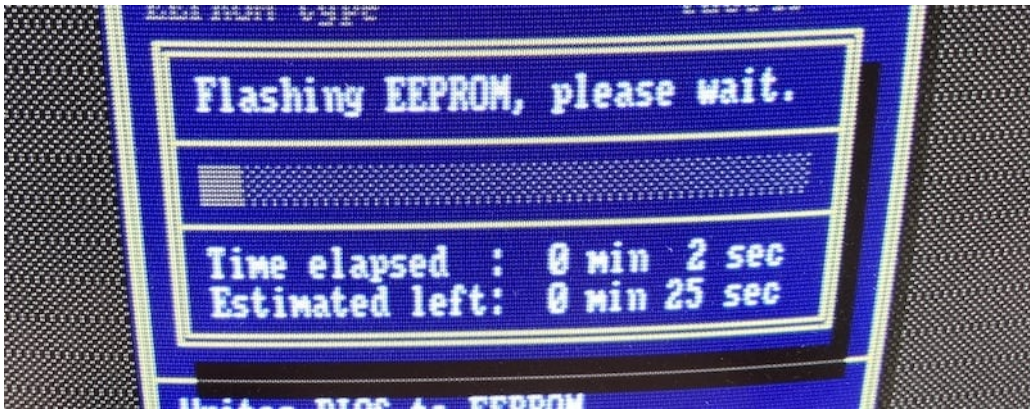


STEP 6: If you are programming a brand new chip, change the “EEPROM Address” to C000. Depending on the brand/model of EEPROM, you may also need to change the SDP mode to “None”, but most support the default.
If you are upgrading to the V20 version, the software should auto-detect everything here. Just double check that the “EEPROM Address” is *C000*.

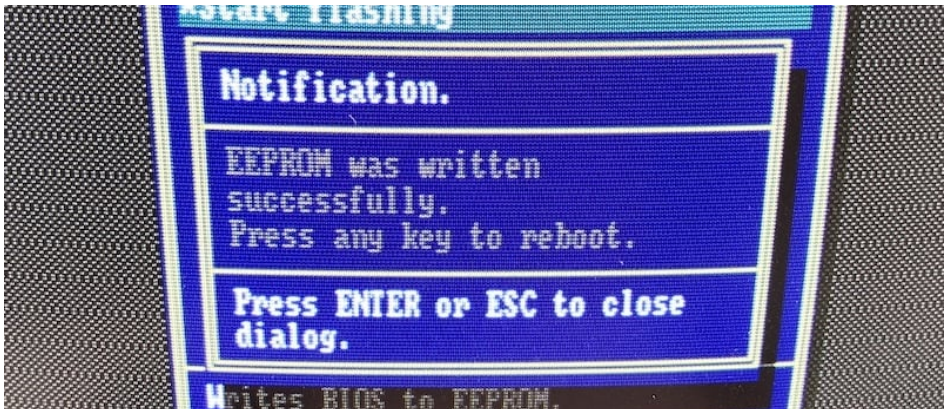
Select “Start Flashing”



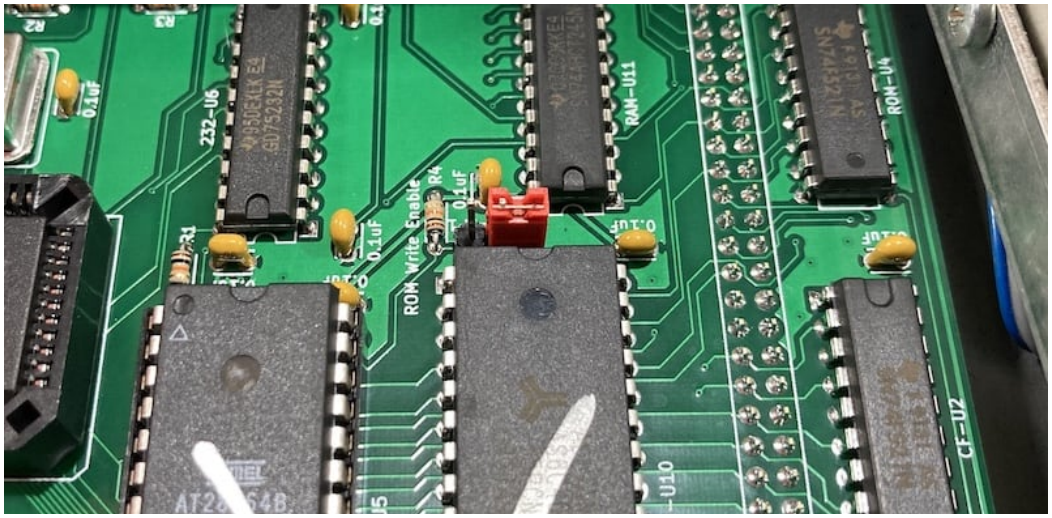
Flashing should take about 45-60 seconds. If it is less than 15 seconds, then the wrong EEPROM Address was selected.



STEP 7: Assuming there are no errors, you should be presented with a “Flashing Successful” message. If something went wrong, please reach out to me either on Discord (linked in the Github Readme) or via email at tandy.3in1@gmail.com.



STEP 8: Once programming is complete, make sure to remove the “ROM Write Enable” jumper. Placing it over just one pin will keep the jumper safe.



Upgrading to the V20 version of the BIOS increases the average throughput of the CF interface by 1.9x. This is a screenshot of CheckIt comparing the benchmarks of the same machine with both versions