

Installation Procedure for HP48SX calculator emulator  
and  
for the Atmospheric Thermodynamics calculator program  
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### Emulator Installation

1. Download program and install: Emu48 1.50 from <http://www.hpcalc.org/hp48/pc/emulators/> or from: <http://hp.giesselink.com/emu48.htm>  
Note: installation creates directory HP-emulator in Program Files and an icon on the desktop
2. Download HP 48SX revision J ROM image from: <http://www.hpcalc.org/hp48/pc/emulators/> to the Emu48 directory in program files.
3. Read EMU48.TXT
4. Convert ROM file format by typing at the command prompt:  
Convert <sxrom-j> ROM.48S. Verify that file ROM.48S has been created in your Emu48 directory.
5. Run by clicking the icon.
6. Select: Casey enhanced toolbar with touch screen HP48SX and click the always box.
7. On Calculator toolbar press {FILE}{Settings} – enter setting per the included screen print. Click the following boxes:
  - Automatic save file on exit
  - Always show KLM composite results
  - HP Mnemonics
  - Speaker
  - Port 1 is plugged
  - Port 1 is writeable
  - Port 2 is writeable

### RAM memory installation

1. Check initial memory by keying in: <MEMORY>[MEM], should be around 32 kb
2. On the emulator, key in <MEMORY> <NXT> <NXT> 1 [MERGE]. This will merge the 128 KB Port 1 memory card with the initial 32 KB. Check

- memory again as in step #1, it should be approximately 160 KB. Note that the Port 1 ram card is pre-configured to be 128 KB and this size cannot be changed.
3. Run: MkShared.exe and create a 256 kb RAM card for Port 2. Give the RAM memory a name - suggested name: SX256.bin.
  4. Assign RAM memory to Port 2 from the File Setting menu. Enter file name in the port 2 file name box.
  5. Merge RAM memory located in port 2 by keying in <MEMORY> <NXT> <NXT> 2 [MERGE]
  6. Check memory by keying in: <MEMORY>[MEM], should be approximately 288 kb.

#### Atmospheric Thermodynamics program installation

1. Download the latest version of Atmospheric Thermodynamic program AT1 from: <http://vortexengine.ca/Calculator.shtml>  
For example: [http://vortexengine.ca/misc/SX\\_AT1\\_AU10D.bin](http://vortexengine.ca/misc/SX_AT1_AU10D.bin)
2. Load the binary file in the calculator, enter the name 'AT1' and save as AT1.
3. Check available memory by keying in: <MEMORY>[MEM], should be approximately 160 kb.
4. Home directory should read [AT1]...as shown in printout.

#### Atmospheric Thermodynamics usage

Familiarity with the HP48SX calculators is useful but not essential for using the Atmospheric Thermodynamics HP48 calculator program.

Test Atmospheric Thermodynamics calculation functionality by duplicating the calculating in: <http://vortexengine.ca/Isabel/Table1.pdf>

#### Useful skills and tools

1. Familiarity with HP RPN calculators
2. Familiarity with HP48SX
3. HP48SX Owner Manual volumes I and II - Difficult to obtain may be available from web sites like ACE Books.

Studying existing programs can be an alternative to reading the owner manual. Starting with easy AT1 and AT2 programs can be a good way of getting familiar with HP48 programming.