

## Instructions to run LTF model on any computer

1. Download DOSBox, either from Canvas or the link below.  
<https://sourceforge.net/projects/dosbox/files/dosbox/0.74/DOSBox0.74-win32-installer.exe/download>
2. Create a directory on a drive for the LTF model. Let us assume you are putting this on **drive c**, and the name of the directory you created is **LTF**.
3. Download the **Logantfm.exe** file to the LTF directory from Canvas, or from the website:  
<https://sites.psu.edu/brucelogan/trickling-filters/>
4. Install DOSBox on your computer.
5. Click on the screen icon to run it.
6. Enter: Mount c c:\LTF\  
7. Enter: c: (this changes you to the mounted drive on c)  
8. Enter dir (to check the Logantfm file is there)  
9. Enter: Logantfm (to extract all the files you will need)  
10. Enter: LTF (to run the LTF model)
11. On some computers (Microsoft Surface), you may have to use Fn + F2 key to run the F-keys.
12. When done, hit the F10 key
13. To exit DosBox, just type exit.

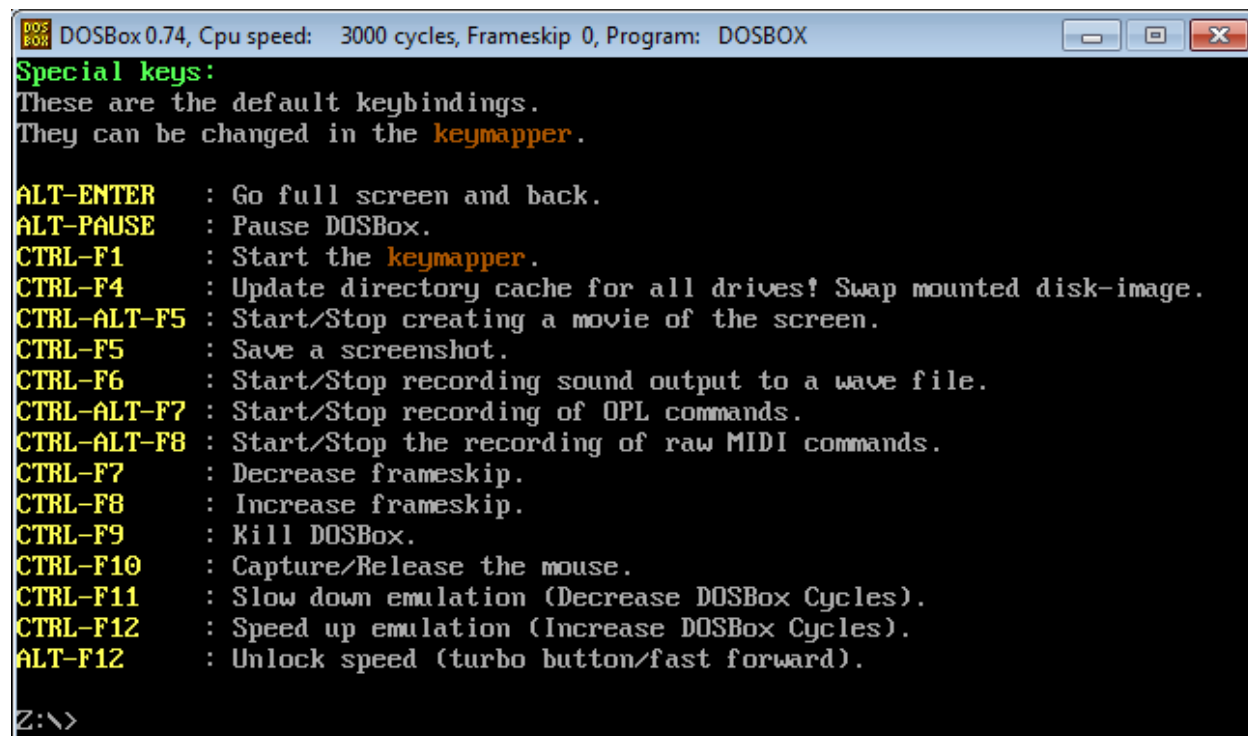
## For running the LTF model in the CEE Computer Lab

The program is already on the computer, but you have to run DOSbox to use it.

Use steps 5, 6, 7, 10, 11.

**Additional note:** Remember that  $R_f$  used in the model is different than  $R_r$  used in the Velz equation.

$R_r = Q_R/Q_{in}$ .  $R_f = \frac{R_r}{1 + R_r}$  = recycle fraction, or the fraction of applied flow that is recycled effluent.



The screenshot shows a DOSBox 0.74 window with a blue title bar. The text inside the window is as follows:

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DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DOSBOX
Special keys:
These are the default keybindings.
They can be changed in the keymapper.

ALT-ENTER      : Go full screen and back.
ALT-PAUSE      : Pause DOSBox.
CTRL-F1        : Start the keymapper.
CTRL-F4        : Update directory cache for all drives! Swap mounted disk-image.
CTRL-ALT-F5    : Start/Stop creating a movie of the screen.
CTRL-F5        : Save a screenshot.
CTRL-F6        : Start/Stop recording sound output to a wave file.
CTRL-ALT-F7    : Start/Stop recording of OPL commands.
CTRL-ALT-F8    : Start/Stop the recording of raw MIDI commands.
CTRL-F7        : Decrease frameskip.
CTRL-F8        : Increase frameskip.
CTRL-F9        : Kill DOSBox.
CTRL-F10       : Capture/Release the mouse.
CTRL-F11       : Slow down emulation (Decrease DOSBox Cycles).
CTRL-F12       : Speed up emulation (Increase DOSBox Cycles).
ALT-F12        : Unlock speed (turbo button/fast forward).

Z:\>
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