

XTRS - Radio Shack TRS-80 Model 1, 3, & 4 Emulator for Slackware

The following information will assist you in getting XTRS by Tim Mann running on Slackware.

PREWORK:

1. Install XTRS (Version 4.9D) from SlackBuilds.org

<http://slackbuilds.org>

2. Read the XTRS Emulator Documentation.

SETTING UP XTRS

1. Remove any previous symbolic linked files (if needed):

```
cd ~/path/to/xtrs
sudo rm disk4-0
sudo rm disk4-1      #AS NEEDED
sudo rm disk4-2      #AS NEEDED
sudo rm disk4-3      #AS NEEDED
```

Model 1 files will be disk1-0, disk1-1, disk1-2, disk1-3

Model 3 files will be disk3-0, disk3-1, disk3-2, disk3-3

Model 4 files will be disk4-0, disk4-1, disk4-2, disk4-3

And real hardware drives can be used via Symbolic linking.

2. Copy the Model I, Model III, Model 4, and Model 4P ROM image files to /usr/share/xtrs The original location for other distros was /usr/local/lib/xtrs.

The TRS80 ROMS are not included in the XTRS package, but can be found by searching with Google.

```
cd ~/path/to/xtrs
sudo cp level2.rom /usr/share/xtrs/level2rom.hex      #(Original Filename
was level2.rom)
sudo cp model3.rom /usr/share/xtrs/romimage.m3      #(Original Filename
was model3.rom)
sudo cp model4.rom /usr/share/xtrs/romimage.m4      #(Original Filename
was model4.rom)
sudo cp model4p.rom /usr/share/xtrs/romimage.m4p    #(Original Filename
was model4p.rom)
```

These files need permissions as shown

```
-rwxr-xr-x 1 root staff 14336 Jul 10 03:51 romimage.m4
-rwxr-xr-x 1 root staff 504 Jul 10 03:34 romimage.m4p
-rwxr-xr-x 1 root staff 14336 Jul 10 03:32 romimage.m3
-rwxr-xr-x 1 root staff 12288 Jul 10 03:31 level2rom.hex
```

3. Locate the .DSK or .DMK (NEWDOS, DOSPLUS, LDOS, TRSDOS, ULTRADOS, MULTIDOS, or MONTEZUMA MICRO CP/M) OS files you will use:

If you are using Montezuma Micro 2.31 CP/M, use `mkdisk` to reset the write protect attribute of the file, so you can use CONFIG

to change the Drive Parameters and save the settings. If you don't change the file to unprotected, you won't be able to save the parameters so the settings won't survive a reboot.

```
mkdisk -u -k filename.dmk
mkdisk -u -k MMCPM231.DSK
```

4. Create the symbolic links to the files you will use, and to real (Physical) TRS-80 Model 1, 3, or 4 Drives:

```
ln -s /home/larry/xtrs/Mmcpm231/MMCPM231.DSK disk4-0
ln -s /home/larry/xtrs/Mmcpm231/MMT00LS.DSK disk4-1
ln -s /dev/fd0 disk4-2          #THESE ARE REAL FLOPPY DRIVES
ln -s /dev/fd1 disk4-3        #THESE ARE REAL FLOPPY DRIVES
```

Running XTRS the Radio Shack TRS-80 Model 1, 3, & 4 Emulator

Run `xtrs` (adjust `keystretch` down to around 500 from 4000 to prevent multiple keystrokes depending on how fast your Host system is running):

```
/usr/local/bin/xtrs -keystretch 400 -autodelay -model 4 -romfile
~/xtrs/ROMS/model4.rom -diskdir .
```

Use the **F8** Function Key to EXIT the Emulator.

Use the **F11** Function Key for HELP on the Emulator.

There is a man page with lots more information located at:

<http://manpages.ubuntu.com/manpages/lucid/man1/xtrs.1.html>

Now you have the full running Radio Shack OS (TRSDOS, LDOS, CP/M, etc.) of your choice available, assuming you know how to operate the

Old Radio Shack Model 1, 3, 4, & 4P Computers.

`CNTL+C` - is used to reload the Disk Directories in CP/M
It should be used any time a Floppy is Inserted in any Physical Drive.

USING THE CATWEASEL PCI CARD

HOW TO COPY THOSE OLD 5.25" FLOPPIES USING THE CATWEASEL PCI CARD:

The Catweasel MK4 PLUS is a multi-format floppy disk controller PCI Card that can be plugged into a spare PCI slot, and used from a terminal window in Linux. I plugged mine in my Desktop running Ubuntu 8.04.4 LTS.

CATWEASEL FEATURES:

- Read/write real Amiga floppy disk's on a Windows PC
- Use a real Amiga keyboard on a PC
- Use a real Amiga mouse/joystick on PC
- Ideal for WinUAE and Amiga Forever - transfer all your Amiga floppies over to the PC
- Empty SID chip socket for realistic C64 sound emulation

Third Party Support

- Catweasel MK4 drivers for classic Amiga available:
- Multidisk V3.65 uses OpenPCI to access the controller through the Prometheus PCI Busboard
- Third party driver support for Linux 2.6 also available
- Third party driver support for AmigaOS 4.1 now also available (limited)
- Third party driver support for AROS now also available

I purchased my Catweasel from:

http://amigakit.leamancomputing.com/catalog/product_info.php?products_id=842

Tim Mann has a nice website with support for the CP/M and TRS-80 Floppy Disks at:

<http://www.tim-mann.org/trs80.html>

<http://www.tim-mann.org/catweasel.html>

From Tim's website you can download his Catweasel Floppy Read/Write Tools, version 4.4
cw2dmk-4.4.zip or
cw2dmk-4.4.tar.gz and extract the folder containing his files for version 4.4.

LINUX: From within my Desktop running Ubuntu 8.04, I just opened a terminal window, and used the following commands:

```
cd ~
cd cw2dmk-4.4
sudo ./cw2dmk -v1 trstst01.dmk
sudo ./cw2dmk -v1 trstst02.dmk
sudo ./cw2dmk -v1 trststxx.dmk
```

to copy the TRS-80 floppy disks to the DMK image format that is used by most Emulators. My next

step is to get xtrs installed in Slackware, and all my TRS80 Files copied too.

WINDOWS: There are windows drivers on the Catweasel CDR along with other Software, but I haven't looked into that yet.

WARNING - UNAPPROVED METHOD:

One CAUTION here is that if your floppy disks are 25+ years old as mine were, the Oxide coating on most of the floppies is ready to fail, and you may ruin them by trying to read them. (You may find that a tiny bit of alcohol placed on a cotton swab will totally remove all the Oxide coating from the platter making then unreadable, so DON'T try alcohol as a cleaner or lubricant for your floppies.) Also, the inner lining of the old floppies have lost their lubricating ability by becoming dry over the years, and this causes DRAG on the heads as the platter tries to spin so the read heads can recover the data.

I chose use a lubricant from KANO LABS in Nashville, Tennessee USA called Aerosol SiliKroil to lubricate my floppies. I was able to recover about 85% of the disks using this TOTALLY UNAPPROVED method. I ruined the first 4-5 disks by trying to read them.
A costly ERROR!

<http://www.kanolabs.com>

SiliKroil is an Industrial Penetrating Lubricant that works wonders, and doesn't remove the Oxide coating as Alcohol and Silicone does.
Alcohol can be used to clean the floppy drives read heads as usual.

COPYING AMPRO DS/DD DISKS

COPYING AMPRO DS/DD DISKS - Using a real bootable Ampro system

Since I had the Catweasel installed, and I had 26 Ampro disks in a mix-n-match of SS/DS & DS/DD, I wanted to try and save all the information from these 5.25" disks. I read each disk several times with my Catweasel card making multiple attempts at good reads.

Examples for Disk #8 are:

```
sudo ./cw2dmk ADSDD008.DMK
sudo ./cw2dmk ADSDDa08.DMK
sudo ./cw2dmk ADSDDb08.DMK
sudo ./cw2dmk ADSDDc08.DMK
sudo ./cw2dmk ADSDDd08.DMK
```

This gave me an option of trying more than once at recovering the files as the multiple reads found different sectors bad for successive sequential reads. A step that was very valuable as I proceeded.

Since I had a system that contained two 5.25" TEAC 360K drives, I booted my Ampro SS/DD CP/M system disk and used AMPRODSK to FORMAT a FRESH DS/DD Disk, and used SYSGEN to copy the system. Next, I used NSWEEP to copy all the files. Now I have a good bootable DS/DD Boot SYSTEM Disk. Then, I used Catweasel to WRITE my first Disk 08 Image (ADSDD008.DMK) to a fresh floppy with:

```
sudo ./dmk2cw ADSDD008.DMK
```

I inserted that disk in my Drive after running NSWEEP. NSWEEP was used to LOG the New Disk, and to copy it to my PURGED DS/DD CP/M Disk. If the file copying had bad sectors for specific File Names, I made a note of those errors for attempt #2 by using ADSDDa08.DMK, then a third attempt using ADSDDb08.DMK.....etc.

When all the files were successfully copied I used my Catweasel to create a new image of this disk, renaming it ADSDD008.DMK with:

```
sudo ./cw2dmk ADSDD008.DMK
```

Then, I just repeated the process for the 26 Disks I had saved..... Unfortunately, Disks 1, 2, &3 were ruined in the process, but gave me the UNAPPROVED METHOD described above.

When all the disks had been gone through I burned a DVD of all the Images, with each disks' image in a separate folder just in case I needed to try and recover a file at a later date.

This method should also work for you on any CP/M System, such as Kaypro II or IV, Ampro, TRS-80 Model 1, 3, & 4, or by using Virtual Disks in an Emulator.

References for CP/M & TRS80 Archives

<http://www.trs-80.com/>

<http://trs80stuff.net/>

<http://www.retroarchive.org/cpm/>

<http://www.retroarchive.org/cpm/cdrom/>

<http://www.sharpmz.org/succpminfo06.htm>

<http://z80cpu.eu/mirrors/oak.oakland.edu/>

<http://www.classiccmp.org/cpmarchives/cpm/>

<http://z80cpu.eu/mirrors/oldcomputers.dyndns.org/rechner/>

<http://www.sydex.com/about.html>

Sources

- Contributions by [ldkraemer](#)

[howtos](#), [software](#), [emulators](#), [TRS80](#), [Z80](#), [CP/M](#), [XTRS](#), author [ldkraemer](#)

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