## X68000 SxSI-SCSI HDD Image Install Guide

Rev. A

FOR v1.09 - v2.20

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--- ABOUT THIS GUIDE ---

This install guide was created to help new users install the SxSI-SCSI HDD image on their X68000 systems (minimum 2MB RAM). Since v1.09, there was a change to the partitions and the overall image size was changed to 3GB. As a result, some extra configuration in SCSI2SD is required. This guide will show the steps needed, as well as install steps for other devices and emulators. This is a work in progress and will be updated as frequently as possible to cover all possible configurations.

All that being said, this guide and the HDD image are to be used at your own risk. I will not be held responsible for damage you may cause to your X68000.

--- WHERE TO DOWNLOAD ---

The SxSI-SCSI HDD Image is updated regularly and currently hosted on my Google Drive. As such, the download link is always changing. For the current version, please visit the official thread on the nfg.forums: https://nfggames.com/forum2/index.php?topic=7231.0

Here are some links to other applications used in this guide:

SCSI2SD Files (For SCSI2SD versions prior to v6): <a href="http://www.codesrc.com/files/scsi2sd/latest/">http://www.codesrc.com/files/scsi2sd/latest/</a>

WnImage: https://www.winimage.com/download.htm

### Win32DiskImager (Alternate SD image writing software):

https://win32diskimager.org

#### XM6 TypeG (BIOS files needed to use):

http://retropc.net/pi/xm6/index.html#download

#### Master Disk V3 (Boot disk and SxSI drivers for SASI machines):

https://nfggames.com/X68000/Misc/Drivers/SxSI%20V5%20with%20DMA%20patch%20Translated%20by%20Eidis/MasterDisk\_V3.zip

# SXSI Enabler v1.00 (Master Disk V3 converted to bootable SASI HDD Image & SRAM clearing tools:

https://drive.google.com/file/d/1XthdjXQiPrpRFIWaNSOY0uswYbQRQLqq/view?usp=sharing

--- INSTALL GUIDE - XM6 TypeG (Windows) ---

- 1. Install XM6 TypeG (NOTE: Other versions of XM6 may not work properly with this image. I experienced data corruption while running the image with XM6 Pro-68k. Your results may vary with other emulators.
- 2. This image works best when configured as a SCSI-based system. I used the BIOS files to setup XM6 TypeG to the equivalent of an X68000 XVI system
- 3. Boot into a Human68k environment either with a floppy boot disk or another hard disk image.
- 4. Load SWITCH.X and use the following settings:

X XM6 [Running] - 100% File Media View Debug Tools Window Help SWITTCH form X68000 Upgroion 2.28 Convertable 1990-93 SHOPP/Hydoor	-		×
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1,2,3,4, M?\$)	,5)	
RS-232Cのパラメータを設定します			]
leady <sup>2</sup>	HD BUSY	TIMER	POWE

- 5. Exit SWITCH.X and save the configuration settings.
- 6. Use the following settings to set up your emulator environment and select the HDD image as your SCSI device (In ID 0 for SCSI-HD Image File, select your HDD Image you wish to use):

Options X	Options ×
Display       SASI       SxSI       SCSI       Windrv       Port       MIDI         Alteration       X68030       TrueKey       Resume       Advanced         MercuryUnit       Nereid       EXRS232C       JoyPortU       Misc         System       Sound       SoundUnit       Keyboard       Mouse       Joystick         Model	Alteration       X68030       TrueKey       Resume       Advanced         MercuryUnit       Nereid       EXRS232C       JoyPortU       Misc         System       Sound       SoundUnit       Keyboard       Mouse       Joystick         Display       SASI       SxSI       SCSI       Windrv       Port       MIDI         SCSI Interface       Internal       C       External         SCSI Disk (via SCSI Interface)       Image       MO Drive at First         Drives       Image       Image       MO Drive at First         ID       Status       SCSI-HD Image       File       0         0       300       C:\Users\incre\Desktop\x       T       (Initiator)
OK Cancel	OK Cancel

- 7. Remove any floppy disks from the virtual drives and reboot your X68000 system in the emulator. You should now be booting to the HDD Image.
- 8. Install complete, enjoy!

--- INSTALL GUIDE - SCSI2SD (Windows) ---

NOTE: The following guide is for a SCSI2SD v5.2. Newer versions than this may not be compatible with X68000.

- 1. Connect your SCSI2SD to a PC using a USB cable.
- 2. Configure your SCSI2SD with scsi2sd-util.exe. The following settings are for SCSI machines with a SCSI ID set to 0. For SASI machines using SxSI, you may need to set the SCSI ID to 3.

💽 scsi2sd-util File Debug Window Help	– 🗆 X	scsi2sd-util File Debug Window	Help	_		×
File Debug Window Help General Settings Device 1 Device 2 Device SCSI Host Speed Startup Delay (seconds) SCSI Selection Delay (ms, 255 = auto)	<ul> <li>Bevice 4 Device 5 Device 6 Device 7</li> <li>Enable SCSI terminator (V5.1/V5.2 only)</li> <li>Normal </li> <li>0</li> <li>255</li> <li>Enable Parity</li> <li>Enable Unit Attention</li> <li>Enable SCSI2 Mode</li> <li>Disable glitch filter</li> <li>Enable disk cache (experimental)</li> <li>Enable SCSI Disconnect</li> <li>Respond to short SCSI selection pulses</li> <li>Map LUNS to SCSI IDs</li> </ul>	File       Debug       Window         General Settings       Device         SCSI ID       Device Type         Quirks Mode       General Settings         SD card start sector       Sector size (bytes)         Sector count       Device size         Vendor       Product ID         Revision       Serial number	Help  I Device 2 Device 3 Device 4 Device 5  F Enable SCSI Target  Hard Drive Hard Drive  Hard Drive  G  Auto 512  6291456  3  GB  Codesrc  SCSI2SD  4.2  1234567812345678	Device	e 6 Devi	ce 7
Load Complete.		Load Complete.				

- 3. Click File  $\rightarrow$  Save To Device to flash your SCSI2SD with the new settings. Close scsi2sd-util and disconnect the USB cable.
- 4. Write HDD image to SD Card. NOTE: The following instructions use WinImage. Other utilities such as Win32DiskImager will also work. Do not rename the extension if using Win32DiskImager.
- 5. To write the image using WinImage, first rename the file extension from .HDS to .IMA (ex. SxSI-SCSI\_v220.ima)
- 6. Connect your SD card to your PC.
- 7. Open WinImage as Administrator
- 8. Select Disk  $\rightarrow$  Restore Virtual Hard Disk image on physical drive...

Use disk C: Use disk G:			
Format disk Edit Master Boot record properties Creating Virtual Hard Disk image from physical drive		Modified	
Restore Virtual Hard Disk image on phys Convert Virtual Hard Disk image	ical drive		
Erase and Reset physical drive as bootab Erase and Reset physical drive as bootab	le le with current image		
Read disk     Compare disk     Write disk     Format and write disk	Ctrl+R Ctrl+W Ctrl+F		

9. Select the SD Card you would like to restore the HDD image to and click OK.



10. Select the renamed .IMA HDD Image from Step 5. You will then get a final warning message that all data on the SD card will be erased. Click Yes to continue to write the image to the SD Card.

Warning		×
?	You will restore image on physical drive 1 Realtek PCIE Card Reader 1.00. This message is the LAST WARNING. Are you sure you want erase disk content?	
	Yes No	

- 11. When the image has finished writing to the card, you can remove from your PC and insert into the SCSI2SD. Install the SCSI2SD device in your X68000 system.
- 12. Configure your X68000 for the HDD. On SASI machines, you may need to use a boot disk to load SxSI drivers.

For SCSI systems this is not needed. You should be able to set boot type in SWTCH.X to either STD or SCSI-0.

Either way, make sure your SRAM battery is working.

- 13. After booting, set your float device in CONFIG.SYS according to what you are running for FPU co-processor (reboot required after changing CONFIG.SYS):
  - 2 None installed, software emulation
  - 3 Hardware FPU for X68000 machines
  - 4 Hardware FPU for X68030 machines
- 14. Install complete, enjoy!

NOTES: A guide for setting up an external SCSI2SD device can be located on the NFG Games + GameSX wiki:

https://gamesx.com/wiki/doku.php?id=x68000:installing\_scsi2sd\_on\_x68000\_externally

Follow this guide to setup a device externally, but note the sector settings in that guide will not work with a 3GB HDD image. Use these settings:

Sector size (bytes)	512
Sector count	6291456
Device size	3
	GB 👻

To setup SxSI drivers on your SASI machine you can follow this guide on NFG + GameSX wiki: <a href="https://gamesx.com/wiki/doku.php?id=x68000:hard\_drive\_on\_sasi\_machine#chapter\_4sasi\_strikes\_back">https://gamesx.com/wiki/doku.php?id=x68000:hard\_drive\_on\_sasi\_machine#chapter\_4sasi\_strikes\_back</a>

Scroll down until you get to the section for installing the bootloader.



Follow the guide from then on to set up your hard disk to boot on your SASI machine using SxSI.

--- INSTALL GUIDE - OTHER DEVICES ----

NOTE: This section needs work. Please reach out to me if you'd like to contribute! As this is all second hand info, let me know if any of the following information is inaccurate.

Devices confirmed to work with the SxSI-SCSI HDD Image:

SCSI2SD (See previous section)

Ardscsino

BlueSCSI VI

BlueSCSI V2

For the above devices, you need to rename the HDD Image to HD00\_512.HDS and drag (copy) to your SD Card. All Human68k settings like SWITCH.X from the other install guides still apply. ZuluSCSI – Rename image to HD0.hda – One user reported drive mapping issues on a SASI machine.

Update by aotta for ZuluSCSI and X68000:

https://github.com/ZuluSCSI/ZuluSCSI-firmware/pull/368

SillyTinySCSI – Centronics 50 modification by hiker tested:

https://nfggames.com/forum2/index.php?topic=7318.0

--- REVISION HISTORY ---

REV.A - 17Mar2024

• Initial build for v2.20 – guide applicable for versions as early as 1.09

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