

Introduction

Thank you for your purchase of the Yamanotoo, the SCC, PSG and Flash cartridge for your MSX. The Yamanotoo has the following specifications:

- A Flash cartridge until 8192kb (depends model) with an integrated FPGA
- SCC and SCC+ implementation in FPGA
- PSG implementation in FPGA, available in on port 10H-12H
- Konami 5 mapper

On selected models you can have stereo sound via the jack output connector. The channel balance is as follows:

- SCC channel 1: center (50% left, 50% right)
- SCC channels 2 and 4: left (66% left, 33% right)
- SCC channels 3 and 5: right (33% left, 66% right)

Disabling the ROM

You can disable the ROM in the Flash memory in the following ways:

- By pressing and holding **DEL** during boot.
- By connecting a jumper to the two pins on the cartridge (only on selected models).

Boot keys

During boot you can press and hold the following keys to control some functionality of your Yamanotoo:

- Press and hold **DEL** to bypass the flashed ROM.
- Press and hold **HOME** to enable ECHO mode. ECHO mode will play back both SCC and PSG through the audio output. It effectively replicates the internal PSG from the MSX and allows music to be played fully on the Yamanotoo. This enables you to bypass the sound balance issues with the PSG on some computers (either too soft or too loud) and use the Yamanotoo to play back both PSG and SCC with the intended balance by the composer.

Flashing ROMs

YAMAFX is the utility used to save games to the flashROM.

To burn a game to the flashROM, you'll need the game in **.ROM** format. If you already have a game saved in the flashROM, you must:

- Turn OFF the computer.
- Keep pressed DEL key.
- Turn ON the computer. When you hear a chime you can release DEL key.
- Wait until the MSX boots to MSX DOS.
- Use YAMAFX to save a new game to the flashROM.

Use a storage method (MegaFlashROM, Carnivore, SD Mapper or floppy disk) where you have the YAMAFX program and the game in **.ROM** format. Loading the .ROM file from a subdirectory is not supported.

In MSX DOS enter the command to flash the game as follows:

YAMAFX.com xxx.rom /S1

Where xxx.rom is the ROM file to save in the flashROM.

Use **/S1** if the cartridge is in slot 1 or **/S2** if the cartridge is in slot 2.

A menu will appear with the options "Delete and Save", "Delete" and "Verify delete". Pressing 1 will automatically erase the flashROM, save the game and verify the saved game.

Once the process is finished, you can shut down and restart the computer and the game will run.

Credits

MFides: FPGA core and board design

Pablibiris / MSX Calamar: board assembly

knm1983: audio tests

FX: software tool.

erpirao: support

Jorito: English manual, testing

Changelog

yimmi7:

- fixed scc selection while using the offset register

yimmi6:

- added support for 8Mbyte flash

yimmy5:

- fixed keyboard capture

yimmi4:

- added offset register at 7ffeh
- this had buggy keyboard capture (skipped)

yimmi3 (rc4?)

added DEL key to disable rom booting

changed SPACE key to HOME for echo-mode enable

yimmi2

corrected SCC volume pipeline which could apply volumes to the wrong channel

yimmi1

added 32-step envelope to PSG (like YM2149)

added chime sound when forcing echo-mode with keyboard on bootup

rc3_bootkey

added support to enable echo-mode using keyboard (space key) on bootup

xp2 (rc3)

fixed SCC+ detection

xp1

corrected SCC wavetable concurrency

removed priority access engine

corrected several PSG and SCC issues with cpu-banging players (older changes removed)