

SIO2SD

QUICK GUIDE

SIO2SD is a device that allows you to load games/applications into 8-bit Atari computers via SIO interface from SD/MMC cards.

Device abilities:

- Works with SD/MMC (FAT12,FAT16 and FAT32 formats - Warning !!! Software up to version 2.0 had a bug in FAT12 code - FAT12 is typically used by Windows XP for 16MB cards)
- Handles ATR (rw), XFD (ro) and COM/XEX (ro) file types
- 16x2 LCD display allows to "walk" catalog tree and choose files to load
- Handles SIO with turbo (allows to set speed index from 1 to 16, default is 6 (69kb/s), in versions 1.x speed index was always 10 (51kb/s))
- All densities with 128B and 256B sectors, including 16MB disks
- Handles drives d1 to d8 (up to version 1.2 only d1 to d4 drives were available)
- Can be configured using ATARI (it's possible to load configuration tool directly from MCU flash memory, so no SD card is needed)

USAGE

You have to format (FAT) SD card using computer, in root directory create ATARI folder. In this folder you can place folders and files. This is the start folder for SIO2SD. It's a good idea to use folders with up to about 100 files than one big folder with many, many files. On the first use of a new formatted card SIO2SD will create SIO2SD.CFG file in root directory, where configuration will be stored (files to disks mapping). To perform firmware upgrade, just put SIO2SD.BIN (28k version) into the root directory, then insert card with this file and press proper key combination. Note: the directory named ATARI must be present on the card or else SIO2SD won't recognize the card and won't perform the upgrade.

On PCB there are five keys placed like this:

K1 K3
K2 K4 SHIFT

- **K1**: next Atari drive (D1,D2,..)
- **K2**: next file/folder
- **K3**: parent directory (cd ..)
- **K4**: go to folder/map file to current Atari drive
- **SHIFT+K2**: firmware upgrade
- **SHIFT+K4**: turn off current Atari drive ("eject disk")

From the version 2.0 device started with **K4** pressed goes to setup mode. In this mode keys have meaning as follows:

- **K1**: next option
- **SHIFT+K1**: previous option
- **K2**: next option setting
- **SHIFT+K2**: previous option setting
- **SHIFT+K3**: firmware upgrade

Options:

- **Sio high speed**
 - off
 - hsindex from 1 to 16 (6 is the default setting)
- **Cfg tool load (when to override D1 to load configuration program)**
 - never
 - startup+shift - only when SHIFT was pressed during startup (power on)
 - every startup
 - no card - only if SD card is not inserted (default setting)
 - shift pressed - SHIFT always cause D1 override (tested on every SIO 'S' command on D1 - available from version 2.2)
- **LED mode (Led lights are optional and in most unit are not assembled.)**
 - SD read/write - first LED shows SD reads, second LED shows SD writes
 - SIO read/write - first LED shows SIO reads, second SIO writes
 - SD act/SIO act - first LED shows any SD activity, second any SIO activity
- **Device id (number of device for SIO2SD.XEX - available from version 2.2)**
 - values from 0 to 3
- **Write protect (write protection in ATR files - available from version 2.2)**
 - never - ATR's are always R/W (write protect flag ignored)
 - obey ATR flag - obey ATR write protect flag - default
 - always - ATR's are always R/O

Connecting SIO2SD to Atari SIO

SIO2SD connector	ATARI SIO port	Signal description
1	10	+5 V
2	4	GND
3	7	COMMAND
4	3	DATA IN
5	5	DATA OUT