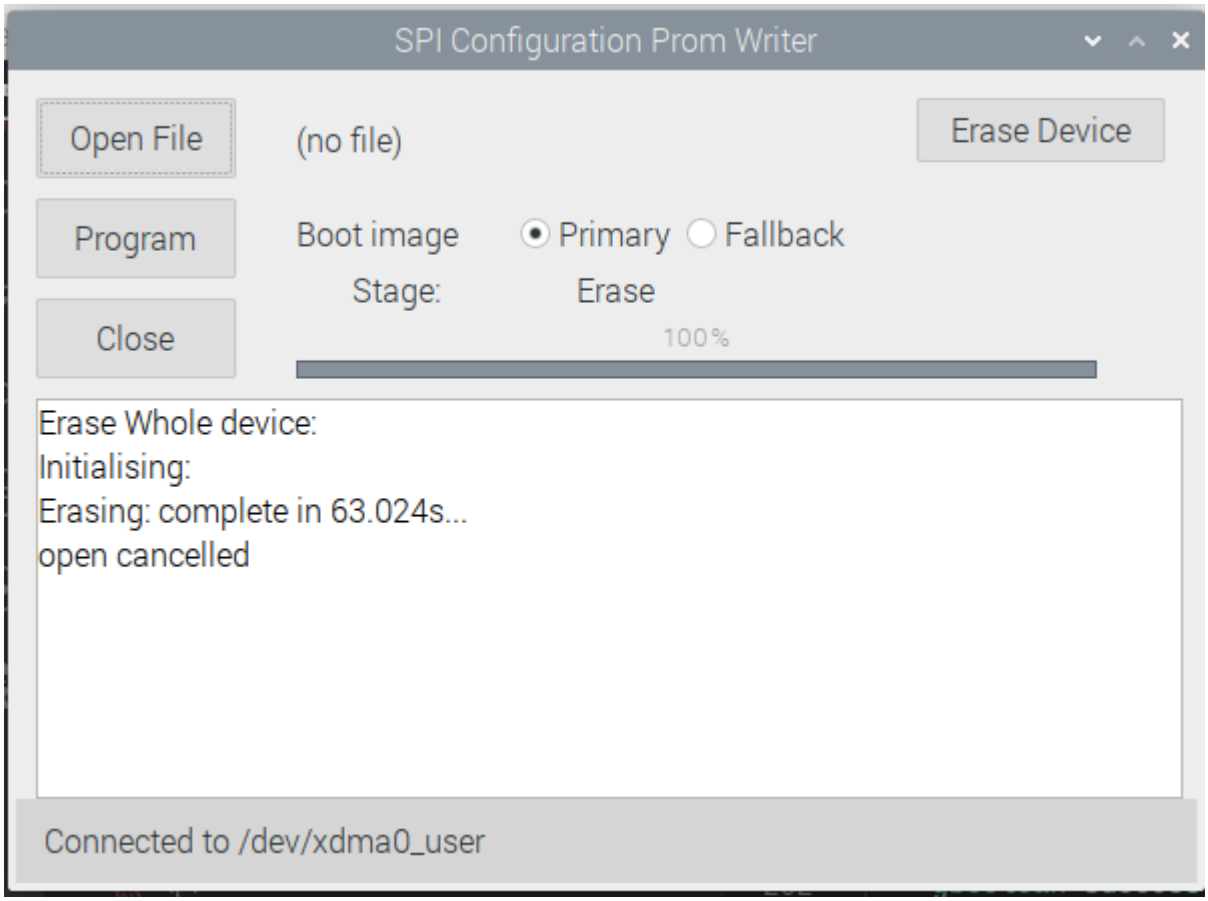
1 Saturn's Mini Desktop Apps

I have created simple apps for various utility purposes.

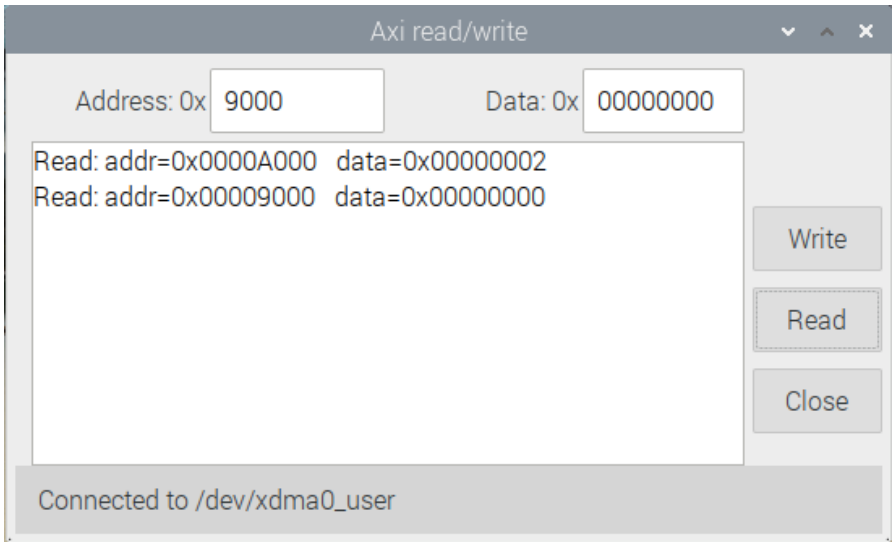
1.1 Flashwriter



This is an application to program the FPGA configuration memory from a BIT file. Usage:

Open File	Opens a dialog to select the file to be programmed into the memory, The only format accepted is a .BIN file (a Xilinx binary format)
Boot Image	Selects which image to reporogram Primary (this is the normal image to program) Fallback (CAUTION: only reprogram if absolutely necessary)
Program	When pressed initiated programming; this may take 2 minutes or so. The steps are displayed and progress for each step is shown in the bar display.
Close	Close the application.
Erase Device	Erases the complete FPGA. **Don't use this** unless you know why you are doing it – this is not a normal programming stage!

1.2 AXI ReaderWriter

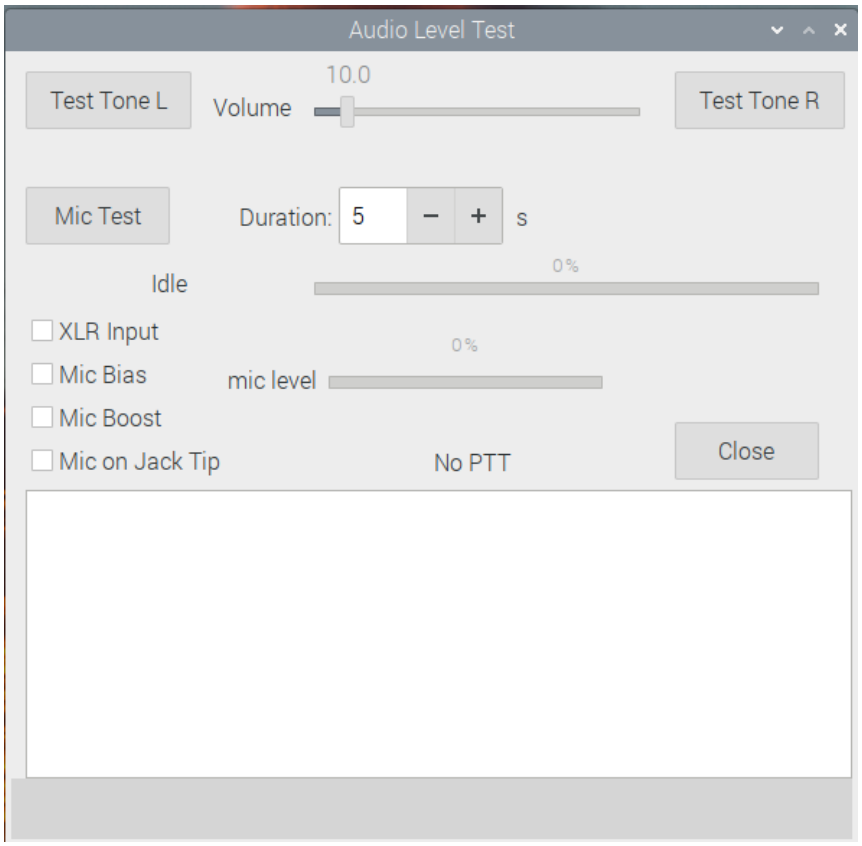


This is a simple application for register reading and writing. It is intended for development, not for normal use and it is very possible to crash the raspberry pi by incorrect usage!

Address	Hexadecimal address to be accessed. Should be in the range 0 to 0x1FFC, in steps of 4
Data	Hexadecimal data to be written, or read from a register.
Write	Causes the data value entered to be written into the register with specified address
Read	Reads data from the register at the specified address.
Close	Causes the data value entered to be written into the register with specified address

Note that if the address does not correspond to a valid register, this may hang the computer!

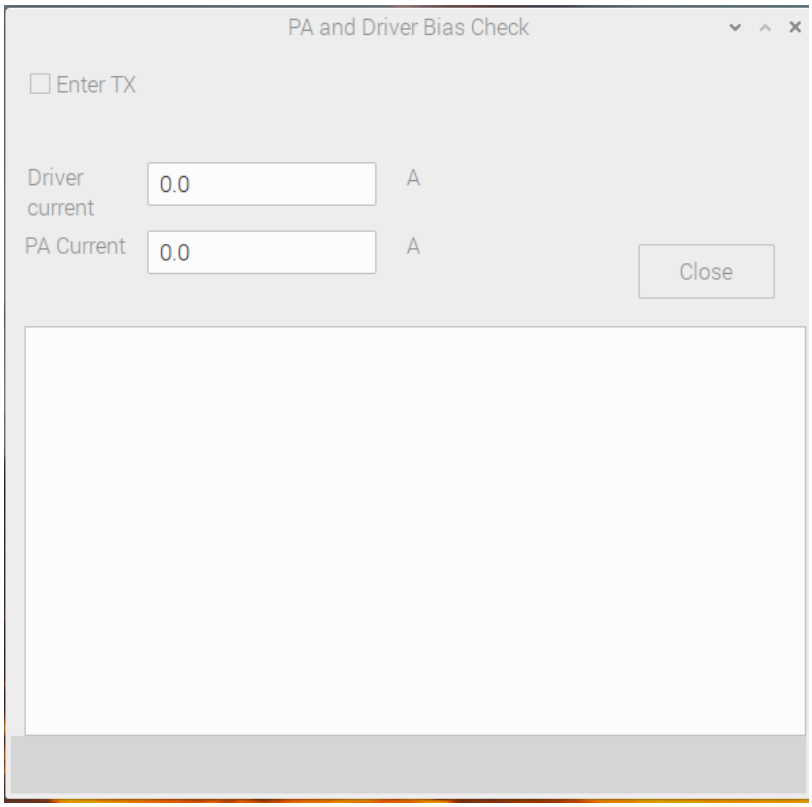
1.3 Audiotest



This is a simple application for checking audio in and out; for example to test if a new headset or microphone is working.

Test tone L, R	Plays a test tone with selectable volume while the button is pressed into the Left or Right audio channels.
Mic Test	Enables recording for the (adjustable) duration followed by playback of the recording. A progress bar shows how much time has elapsed, and the current operation (record/replay/idle) is indicated. The mic level bar shows a linear representation of signal level, with max signal at the right.
XLR Input	If checked, selects the XLR input instead of the 3.5mm jack.
Mic Bias	If selected, applies bias to the 3.5mm mic input.
Mic Boost	If checked, increases the audio gain of the Codec by 20dB. Typically needed for dynamic microphones and not for electret ones.
Mic on Jack Tip	Selects the microphone signal to be on the tip of the 3.5mm jack.
Close	Close the application.

1.4 Biascheck



This is a simple application for setting up driver and PA bias currents. It puts the radio into transmit with no signal present, so the potentiometers to adjust bias can be set. **This is not intended for user operation.**

Enter TX	When checked, the radio enters TX with no signal present. Any current in the driver stage or PA is purely the bias current/
Driver Current	Shows the current into the driver stage on the Saturn board. Each potentiometer should be fully anticlockwise initially; advance the 1st to obtain 0.1A reading then advance the second until 0.2A is displayed.
PA Current	Shows the current into the PA stage on the RF board. Each potentiometer should be fully anticlockwise initially; advance the 1st to obtain 1.0A reading then advance the second until 2.0A is displayed.
Close	Close the application.