Orix/Twilighte Manual

v2021.1

(rev 03/01/2021)

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INTRODUCTION

General informations

This documentation must be use when you are with the orix version 2021.1. Or if you want to upgrade the 2020.4 version.

On http://orix.oric.org, you will have some link to video which will show how to use some functionnality.

The board has a firmware version. This firmware can be upgarded see « Hardware and firmware upgrade » section.

The board can be upgarded too but you have to send it to upgrade the board see « Hardware and firmware upgrade » section » too.

GETTING STARTED

Content

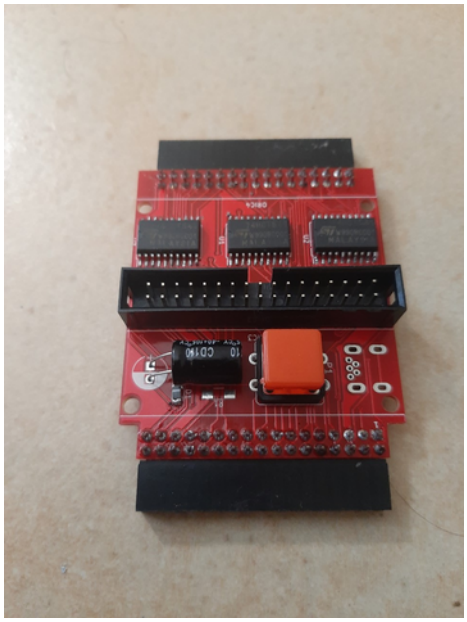


Figure 1: Daughter card

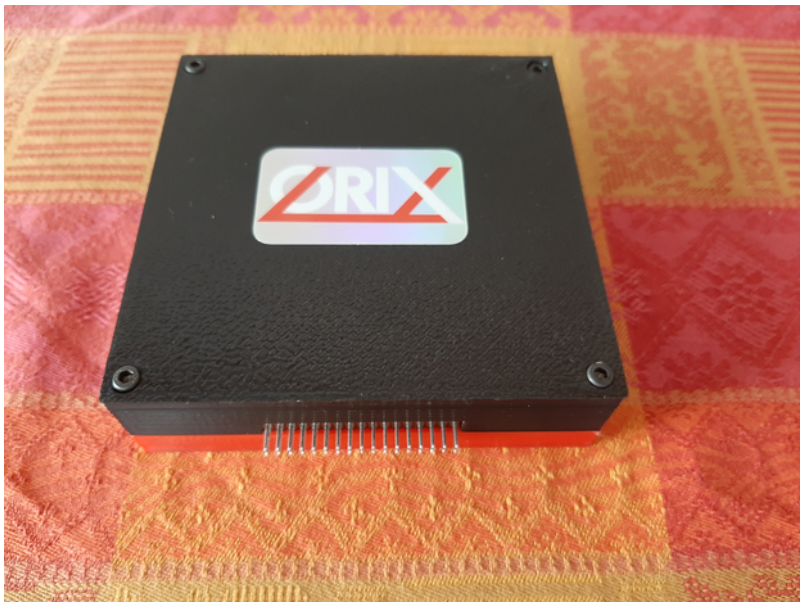
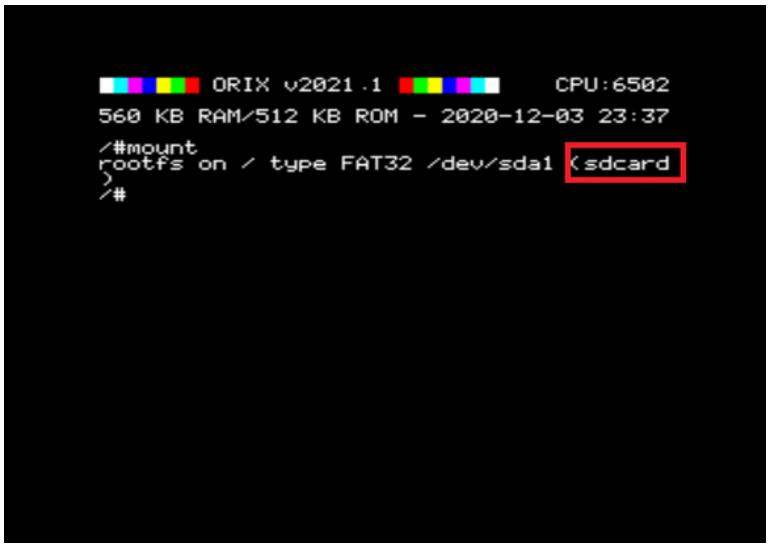


Figure 2: Twilighte board

Initialize the storage



When the card is sent, kernel is built with a default storage. In order to know which device is the default one, you can type « mount ».

If you see « sdcard », then sdcard will be read by default. You can change it, with a command : « twil -u », it will switch to usbdrive. If you want to have usb drive by default, you can program kernel with the tool « orixcfg ». See Orixcfg section.

Now, if you know which device you will use by default, you can install all software on it.

Plug the device on the PC (sdcard or usbkey), if you have a pi zero w, you can do this with drag and drop solution from the PC.

Download sdcard.tgz from this : http://repo.orix.oric.org/dists/official/tgz/6502/

It contains all software for orix there is others which are not available in this tgz.

Now, use 7zip on your PC (or tar/gzip under linux), and unzip all files from this sdcard.tgz. Put all theses new file in the device root folder.

Now, you can insert the device (sdcard or usbkey – or pi zero) in the twilighte board and play

First step : type a command

You can access to available command from many ways :

- From /bin folders, there is binary available on current device, ‘ls’ will show you available commands
- From banks : type « help -b5 » you will see available commands

SHELL

Shell usages

Flush the current command line

Ctrl+c

Available commands

You can see available commands with this command :

```
/#help -b5
```

BASIC11

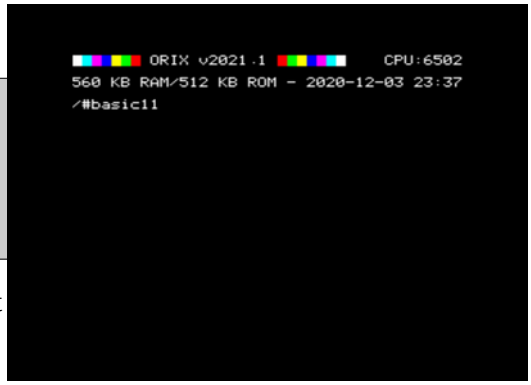
Load a personal .tap file

When you starts basic11 commands, the default path is *« /home/basic11/ ». Each action on the basic11 mode will be done in this folder (cload/csave). If you cload a tape file, it must be in « /home/basic11 » folder.*

You have downloaded a .tap file, and want to use it. Then, you can create a folder /*home*/basic11/

Under Orix

```
/# mkdir home
/# cd home
/home# mkdir basic11
/home# cd basic11
```



Put you file in this folder from your PC, and start basic11 (you don't need to be in the «/home/basic11 » folder to start basic11 with no parameter. By default, basic11 starts in « /home/basic11/ »

Oric.org tape file

When you downloaded sdcard.tgz and unzip it into sdcard or usbkey device, there is many tape file included in this archive. You don't need to move these type file, if you know the key, you can starts it from commands line. In this case, it will load the correct basic1.1 rom to start the tape file (see below), and the correct joystick configuration if it's correct.

Oric.org tape file update

Each week a new software.tgz is generated. You can download it from « repo » and unzip it on the device. It will generate last tape file and last joysticks configuration.

Search a tape file from command line

Basic11 has also many.tap files inserted in sdcard.tgz

Try to find the software with option -l

```
/# basic11 -l
```

If you find your software, you can do perform **ctrl+c.**

You can type space to do a pause.

On that case, you can launch the tape file like :

```
/# basic11 «KEYDISPLAYED
```

When KEYDISPLAYED is the key displayed in key column. Please note that the key must be in **UPPERCASE**

Load a tap file from command line

Note that MYFILE must be in **UPPERCASE**

```
/# basic11 «MYFILE
```

If MYFILE is in the oric.org database, it will launch the software with the filename MYFILE.

If basic11 command does not find MYFILE in the oric.org database, it will try to load it from /home/basic11/ folder.

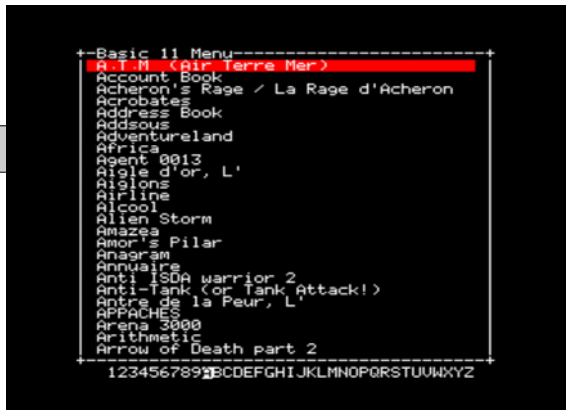
Save your program : CSAVE

If you start « basic11 » with no options, basic rom will starts and each csave (or cload) actions will store files in « */home/basic11 » folder*

Start basic11 menu

If you type « basic11 -g » on command line, you will have a menu with all software which have a download link on oric.org (only atmos version and when a tape file is available).

```
/#basic11 -g
```



You can use left and right letters to change to a new letter. If the letter is empty, it means that there is no available tap file for this letter.

You can use up and down link to navigate into software. If you press enter, the software will starts.

Note that not all games are working yet. Some times, chars are corrupted. If the joysticks does not works, there is two case :

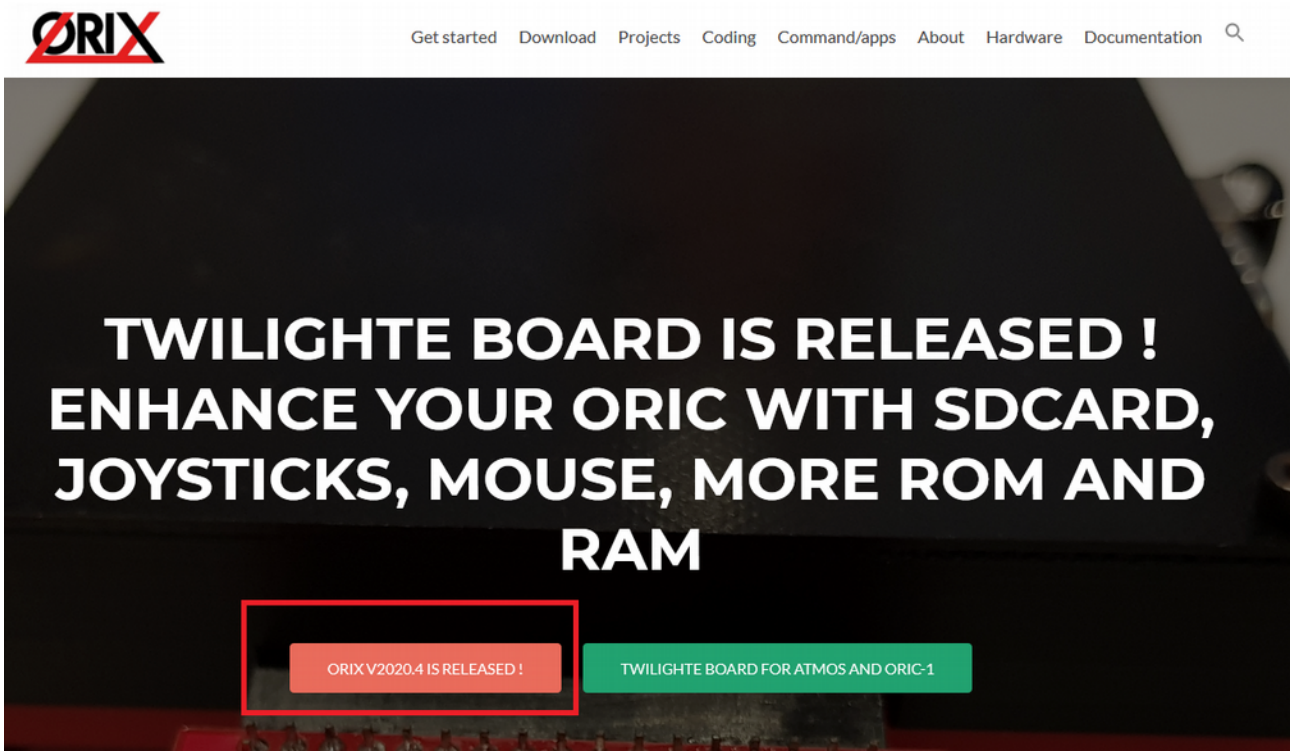
- the game does not call rom routine to manage keyboard
- keyboard mapping is not done yet

ORIXCFG

Update kernel, shell : orixcfg

When a new released is done, you can update the eeprom with the new kernel and new roms.

If you want to know if you need to update the kernel, you can compare your current version, and the last release version. You can go to http://orix.oric.org You need to have a look to this release below :



If on your Oric screen, it's not the same value, you can update it. The sequence of the Orix release is Year.X. There is 4 releases a year, and each one must be done until you reach the final one, in order to avoid some case. If your version is v2020.3 and the last available version is v2021.4. You need to update to v2020.4, then v2021.1, v2021.2, v2021.3, v2021.4.

It's maybe possible to jump to version v2021.4, but it's at your own risk because there is a « chance » that some kernel calls changed.

Load a ROM into a ram slot

Space between values and switches are not optionnal, orixcfg needs theses spaces

```
/# orixcfg -w -s 0 -b 4 myrom.rom
```

This command will load myrom.rom (in the current path), in RAM bank 4 in set 0

Load a set of ROM into ROM slot

```
/# orixcfg -r -s 0 myrom.r64
```

This command will load myrom.r64 (in the current path), in set 0. For instance, you can not load one bank, you need to load 64KB set.

DSK-UTIL

Introduction

This tool is useful to extract files from dsk file. You can extract it, and uses command line tool to use it. For example, if you extract a basic program (.bas in FTDOS .dsk file), you can see it with « list » binary. If it’s a .hrs/.hir file, you can read it with viewhrs file

List files from .dsk (sedoric)

```
/home/sedoric# dsk-util -s ls sed.dsk
```

Extract a file from sedoric .dsk file

```
/home/sedoric# dsk-util -s e sed.dsk myfile.hrs
```

BANK

Usage

Bank command is command line tool to see which bank are loaded into EEPROM bank and RAM bank. Each bank has a « signature ». Bank allows to see theses banks.

Bank can also starts a ROM with his id. In that case, you don’t need to have a rom « orix friendly » and you can start it from command line. In the current bank version, there is restriction to launch a command.

List active bank

```
/# bank
```

List all commands from a bank

```
/# help -b5
```

Start a specific bank

It only works for instance only if NMI is $c000 adress

```
/# bank 1
```

PI ZERO CONNECTION FOR DRAG AND DROP

Drag and drop or file copy to the pi zero

CUMULUS COMPATIBILITY

How to connect a cumulus

On the current firmware (Firmware 1) : and current hardware (board version v0.65), we have to do some hacks to have cumulus working. But, you will only launch two diskfile. Anyway, you can access to drive with no restriction, except bank switching. See « Hardware and firmware upgrade », if you want to avoid theses modifications

In firmware 1, and with board modification, there is only two working disk : Blake’s 7 and VIP2015.

If you want to use cumulus, you have to :

1) cut 4 pins on daughter card

2) remove eeprom from cumulus

3) add a another amplibus befire twilighte daughter board

Twilighte board firmware compatibility

Only firmware 2 is available to use boot sector to start Microdisc disk.

HARDWARE AND FIRMWARE UPGRADE

Firmware upgrade

There is only one firmware available. The version 2 is in development.

First method : For those who have programmers and some hardware tool

But, when it will be released, you could update the firmware with :

1) a plcc extractor

2) altera software (Quartys v13)

3) a Jtag programmer

4) solder the jtag connector

5) get .pof file

Second method : send the card to the author of the card (me)

In that case, fimware upgrade will be done, and you could ask to upgrade to new board version to add (sometimes new functionnality)

TROUBLE SHOOTING

‘ls’ displays garbage on screen

Insert your sdcard or your usb drive into your PC. You should have strange « file » on the sdcard : remove theses files.