http://www.kinetic.co.uk/TrilbyAbout.php

There is https site, but it has broken css

KINETIC AVIONICS

TRILBY Rev.2.23 2015

t=0x9a04290 t=0x9a04290 [0,0]

Contents: [Dobrica PavlinuÅ¡iÄ 's random unstructured stuff]

components

from schematic Trilby2V23PUBLIC.pdf

ADG918

https://www.analog.com/en/products/adg918.html

Wideband, 43 dB Isolation at 1 GHz, CMOS 1.65 V to 2.75 V, 2:1 Mux/SPDT Switches

TDA18219HN

https://www.nxp.com/part/TDA18219HN#/

Silicon tuner for terrestrial and cable digital TV reception

LTC2226CUH

https://eu.mouser.com/ProductDetail/Analog-Devices/LTC2226CUH

Analog to Digital Converters - ADC LTC2226 - 12-Bit, 25Msps Low Power 3V ADC

LFE5U-85F-BG381

- 45F on my board

jumpers

J456, 1-2 IS PI 5V AND 2-3 IS USB 5V

J451 - JTAG SELECT - REMOVE LINK FOR USB
J450 - JTAG SELECT - REMOVE LINK WHEN USING LATTICE CABLE

J30 - CFG_0 - by default pull up, jumper pulls them down
J31 - CFG_1
J32 - CFG_2

J33 - PROGRAMN - reprogram FPGA

J29

1 3V3
2 TDI
3 TMS
4 TCK
5 TDO
6 GND

J26 - INSTALL TO ENABLE EEPROM WRITING

TP18 GND
TP19 GND

J458 - GPIO

from /nuc/rpi/trilby/Trilby_v_1_03_project/impl1/trilby_test_impl1.pad

t=0x9c0aa60

2	5V	1	5V
4	H18	3	E12
6	H17	5	A12
8	J17	7	A13
10	J16	9	B13
12	E19	11	C13
14	E20	13	D13
16	F19	15	E13
18	F20	17	A14
20	GND	19	C14
22	RESET	21	D14
24	GND	23	GND

rpi setup

enable spi, i2c in raspi-config

```
pi@trilby:~/linux-gpio-pinout $ i2cdetect -y 1
     0  1  2  3  4  5  6  7  8  9  a  b  c  d  e  f
00:                         -- -- -- -- -- -- -- --
10: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
20: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
30: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
40: -- -- -- -- 44 -- -- -- -- -- -- -- -- -- -- --
50: -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
60: -- -- -- -- -- -- -- -- 68 -- -- -- -- -- -- --
70: -- -- -- -- -- -- -- --
```

44 - example i2c device in fpga
68 - rtc

rtc

```
root@trilby:/home/pi# echo ds1307 0x68 > /sys/class/i2c-adapter/i2c-1/new_device
root@trilby:/home/pi#
[Fri Dec 24 15:02:31 2021] i2c i2c-1: new_device: Instantiated device ds1307 at 0x68
[Fri Dec 24 15:02:31 2021] rtc-ds1307 1-0068: registered as rtc0
[Fri Dec 24 15:02:31 2021] rtc-ds1307 1-0068: setting system clock to 2000-01-01T02:29:49 UTC (94

root@trilby:/home/pi# hwclock -r
2021-12-24 15:02:37.028752+00:00
```

openocd

```
pi@trilby:~/openocd-rpi2-stm32 $ grep -v '^#' trilby.cfg

adapter driver bcm2835gpio

bcm2835gpio_peripheral_base 0x3F000000

bcm2835gpio_speed_coeffs 146203 36

bcm2835gpio_jtag_nums 23 27 22 24

adapter speed 50
transport select jtag

pi@trilby:~/openocd-rpi2-stm32 $ openocd -f trilby.cfg
Open On-Chip Debugger 0.11.0-rc2
Licensed under GNU GPL v2
For bug reports, read
        http://openocd.org/doc/doxygen/bugs.html
jtag
Info : Listening on port 6666 for tcl connections
Info : Listening on port 4444 for telnet connections
Info : BCM2835 GPIO JTAG/SWD bitbang driver
```

```
Info : clock speed 50 kHz
Warn : There are no enabled taps.  AUTO PROBING MIGHT NOT WORK!!
Info : JTAG tap: auto0.tap tap/device found: 0x41112043 (mfg: 0x021 (Lattice Semi.), part: 0x1112
Warn : AUTO auto0.tap - use "jtag newtap auto0 tap -irlen 2 -expected-id 0x41112043"
Error: IR capture error at bit 2, saw 0x3fffffffffffff05 not 0x...3
Warn : Bypassing JTAG setup events due to errors
Warn : gdb services need one or more targets defined
```