*Blue*Tiger™

BlueTiger™ Connected Optical Drive Family

SUOS-IFB

User Manual Version 1.0
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Introduction

The SUOS Interface board is part of the CD-84 and CD-88 development kit and interfaces between control units (SUOS PC-tool or UFB-8X) and the CD board.

It can be used to operate the CD-board or to re-flash the CD or the UFB-8X board.

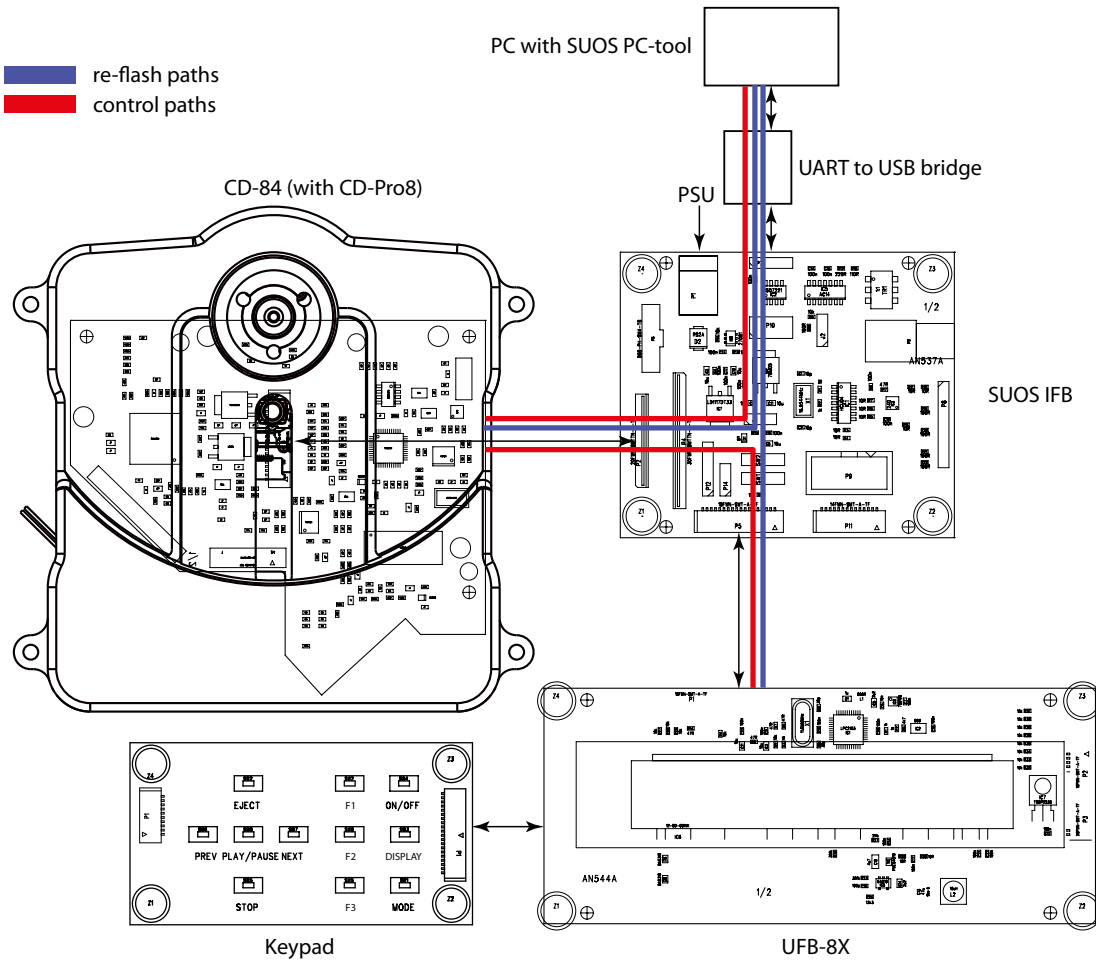IFB has on board opto-isolators th de-couple the dev-kit from the PC's supply

Fig.1 CD-84 Dev-kit

Since there are two paths to control the CD-board, it is important to have only one connected at the same time; If the SUOS PC-tool is used to control CD-84/88, the UFB-8X must be disconnected and vice versa.

For re-flashing from the PC both CD-84/88 and UFB-8X, can be connected. Which board will be re-flashed, is decided by the jumper settings on the IFB.
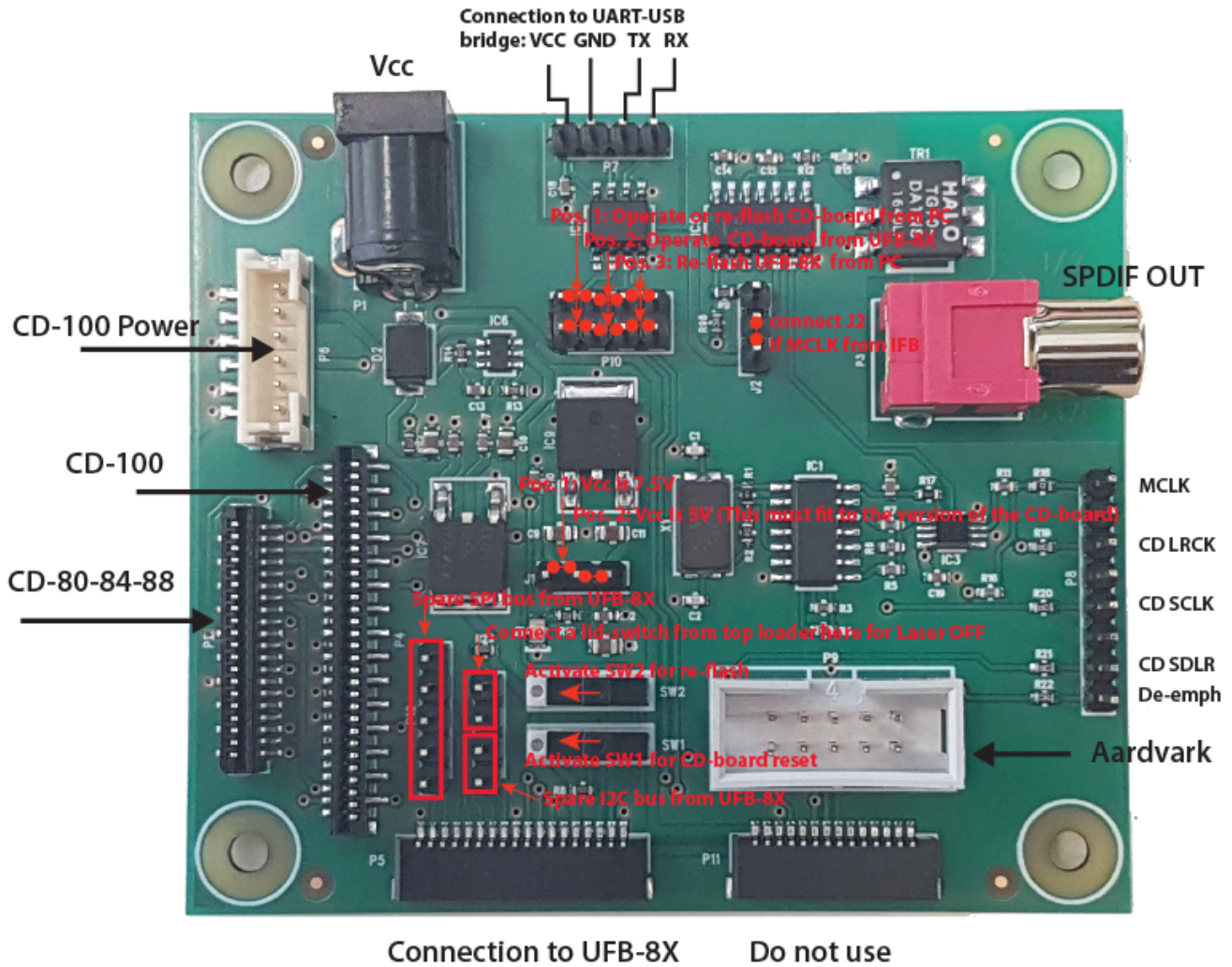
Connection to UART-USB bridge: VCC GND TX RX

Vcc

Pos. 1: Operate or re-flash CD-board from PC
Pos. 2: Operate CD-board from UFB-8X
Pos. 3: Re-flash UFB-8X from PC

connect J2
if MCLK from IFB

SPDIF OUT

CD-100 Power

CD-100

CD-80-84-88

Pos. 1 Vcc is 7.5V
Pos. 2 Vcc is 5V (This must fit to the version of the CD-board)

MCLK

CD LRCK

CD SCLK

Spare SPI bus from UFB-8X
Connect a lid-switch from top loader here for Laser OFF
Activate SW2 for re-flash

CD SDLR
De-emph

Activate SW1 for CD-board reset
Spare I2C bus from UFB-8X

Aardvark

Connection to UFB-8X   Do not use

Fig.2 SUOS IFB

Figure 2 shows the fully stuffed IFB. Please note that connectors for other use than CD-84/88, PC-tool and UFB-8X might not be stuffed. All FFC cables are of the 1-n type, that means the connectors on both ends are on the same side.

Re-flashing

Make sure to activate switch for reflashing. This will set the µC in re-flash mode after power up.

For operating the µC the switch must be in the pos. as in Figure 2.

Description of jumper settings

P10

This sets which of the UART lines are connected. 2 jumpers always are needed.

Pos.1 is to be used to reflash or control the CD-board from the PC.

Pos. 2 connects UFB-8X with the CD-board.

Pos. 3 is used for re-flashing UFB-8X.

J1

Sets the supply voltage to the CD-board

Pos. 1 connects it to the input voltage of the IFB. This is the legacy setting as used for CD-80

Description of pin-headers

P6

Interface to the UART-USB bridge.

P8

Outputs the I^2S signal from the CD-board and also the de-emphasis flag. Use it if the de-emphasis should be done in DAC in the set. This requires the Audio Byte, in the CD-board's EEPROM that de-emphasis is set to external.

P12

Contains spare GPIO's from the UFB-8X µC which can also be configured as SPI bus. This is for future use, e.g. to control any peripheral IC settings from the UFB-8X

P14

Contains spare GPIO's from the UFB-8X µC which can also be configured as I^2C bus. This is for future use, e.g. to control any peripheral IC settings from the UFB-8X. The bottom 2 pins are prepared in UFB-8X to be connected to a lid switch in the set to switch the laser diode OFF
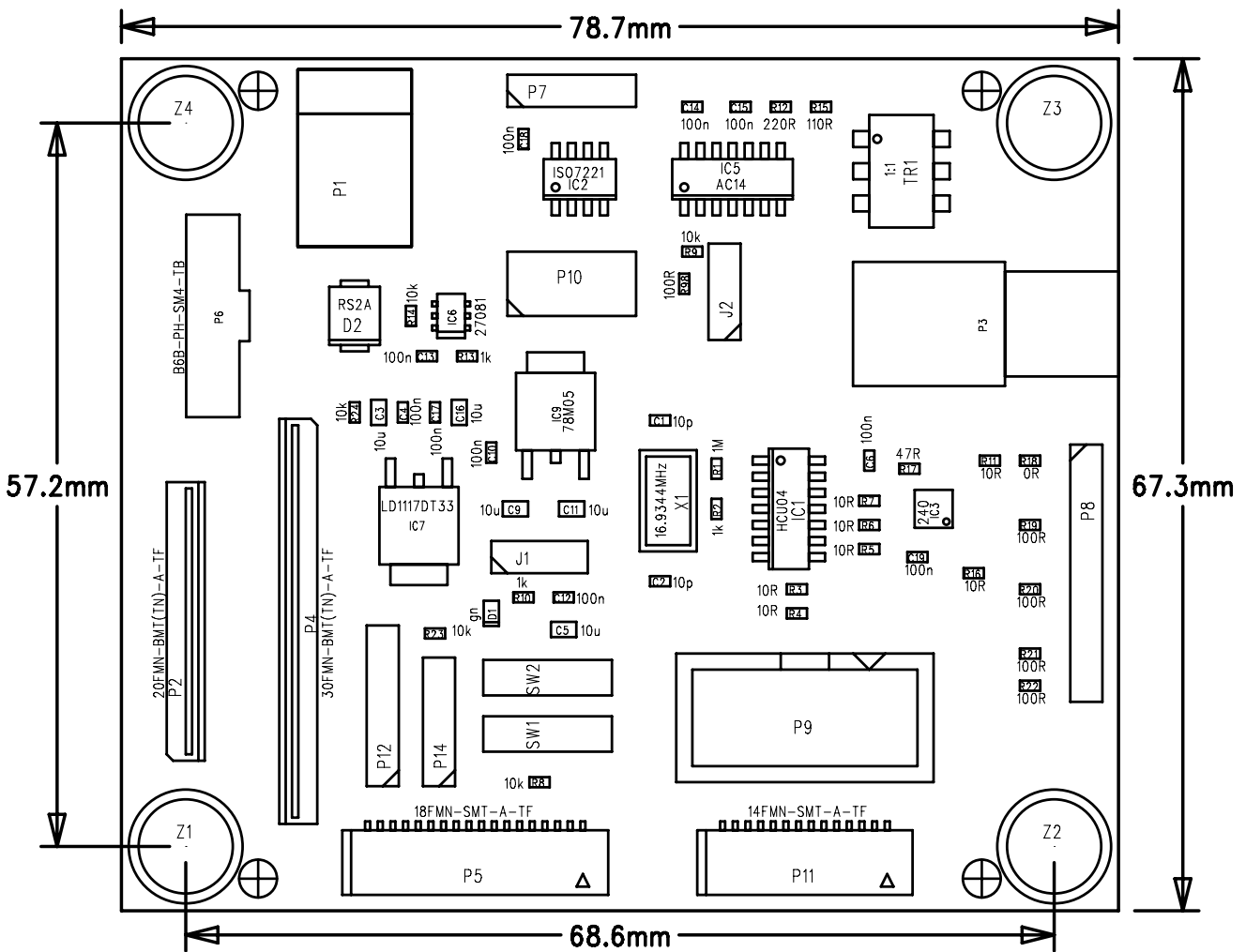

Fig.3 SUOS IFB Top View

Schematics

Fig.4 SUOS IFB Schematics