Building the UI V1.8 Board

OVI40 UI V1.7 Documents

UI V1.7 documents are provided for information only. Please primarily use the V1.8 d
for building the UI V1.8 board.

- OVI40 UI V1.7 schematics
- UI V1.7 component placement - bottom layer
- UI V1.7 component placement - top layer

Please note that the component placement docs are searchable pdf do
can be used to quickly find a component's location by entering the com
in pdf search. No need to be concerned to use the V1.7 component pla
V1.8 UI board - V1.7 and V1.7 are quite similar in this respect.

OVI40 UI V1.8 Documents

- OVI40 UI V1.8 schematics
- OVI40 UI V1.8 BOM
- BOM von Francois F4HTX with IC Device Marks added

OVI40 UI V1.8 Kit Contents

The kit contains UI V1.8 PCB, components in bags and packing list. Th
assembled and tested unit.

Components in bags (Foto: DL8EBD)	UI V1.8 PCB (Foto: DL8EBD)	Display Board (Foto: DL8EBD

Assembly and Soldering

The graphics below - UI V1.7 with 3.2 Display - give an impression or
will look like:

UI Board V1.7 mit 3.2 Display)	UI Board V1.7

Please read Errata carefully

Make sure to read the Errata carefully before starting assembly.

```
=== IC Device Markings ===
```

The smaller ICs can be identified by device mark. The following device

Typ	Device Mark	Schematic	Purpose
LP5907	LQ1VB	IC3	LDO 3.3 V
BAV70	A4	D5, D6	Diode
BC857B	3F	T3	Transistor
BAS85	Ring = Cathode	D7–D9	Diode

MCU STM32 "Pin 1" marking

Please understand the correct orientation of STM32 MCU Pin 1. There
Please not the text printed on MCU to find the correct Pin 1: When rea
left corner.

Orientation of TXCO & MCU (photo DF9EH)

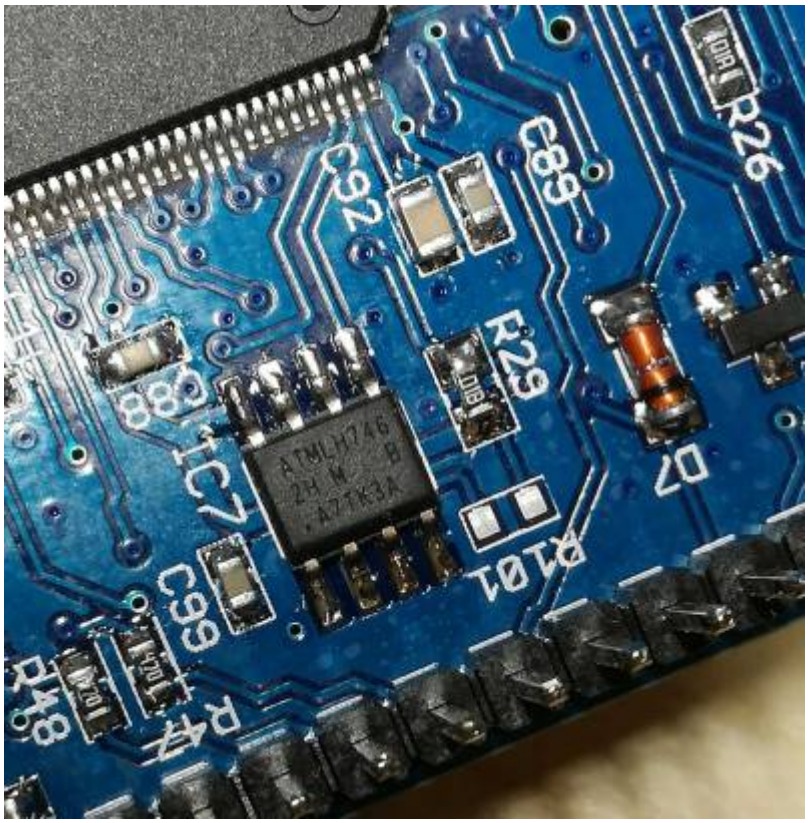
```
=== STM32F76X_ZIT vs. STM32H743ZIT6 ===
```

The kit is shipped with STM32F76X_ZIT (F7). The just released STM3
instead. It is suggested to use the F7 for now. Rwason: it is planned t
but no boot loader oderß rmware is released for the H7 at the moment

Comparison of MCUs:

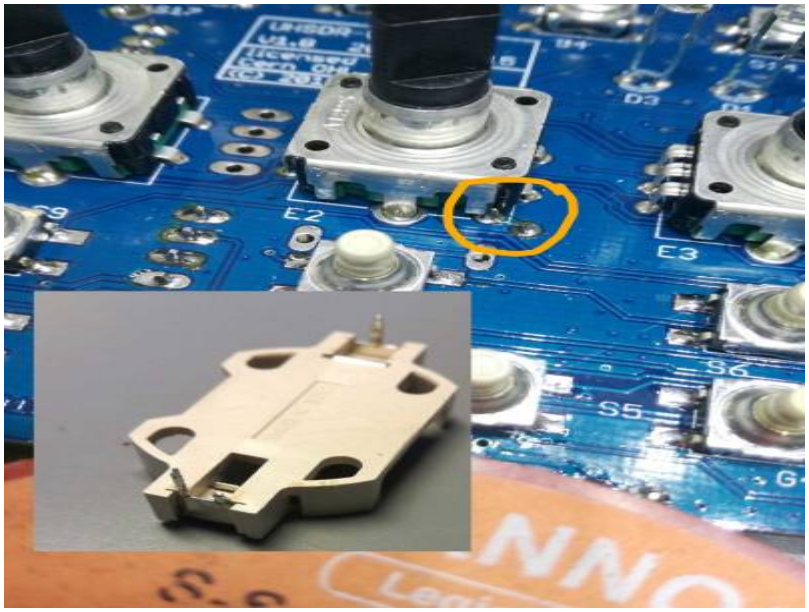
	mcHF:	OVI40:	OVI40 - future:
	STM32F407VET6	STM32F767ZIT6	STM32H743ZIT6
Flash[kB]	512	2048	2048
RAM [kB]	192	512	1024
Clock[MHz]	168	216	400
FPU	single	double	double
Pins	100	144	144
DMIPS	210	462	856

EEPROM IC7 orientation



EEPROM IC7 position (photo DF9EH)

This is where the dot is printed. Also the edge of the case is slanted here



IC7 close-up

Do not solder in the EEPROM delivered with the kit (AT24CM02).

Prevent short cut with back up battery holder

One of the connection pins of the battery holder might touch ground c
Make sure to cut this pin ß ush before soldering the photo:

Potential Shortcut (photo DF9EH)

Polarised capacitors

Please observe mounting orientation of tantal and electrolytic capacit
are explained: http://elektroniktutor.de/bauteilkunde/c_smdcod.html|here

Mounting locations of switches S7 and S8

Two diß erent mounting locations are provided on the UI PCB for S7 an

- mcHF style : S7 and S8 not line with switches under LCD - they a
- OVI40 style : S7 and S8 are mounted in line with the function key

In line is the preferred mounting location for S7 and S8.

IC9 und IC11: leave empty for now

IC9 (SPI FRAM) and IC11 (SPI FLASH) are for future use. Please leav
required nor supported by UHSDR at this time.

Modiß cations

Temporary Modiß cation: Resistor in parallel to C94

Symptom: In stand-by the current drawn from back-up battery is exces
resistor in parallel to C94. Start with a value of 56k - this seems to w
not start increase value slightly. The same approach is used BTW in t
F746 prototype board.

Change brightness of LEDs

Helle LEDS: Mit den Bausatz-Vorwiderständen leuchten die LEDs sehr
reduziert:

- R36 auf 22,6k (D1 grün)
- R37 auf 6,8k (D2 rot)
- R116 auf 6,8k (D3 blau)

From:
https://www.amateurfunk-sulingen.de/wiki/ - Afu - Wiki des DARC OV Sulingen I40

Permanent link:
https://www.amateurfunk-sulingen.de/wiki/doku.php?id=en:ovi40build:uibo v=1518

Last update: 11.02.2018 16:06