## What else do I need?

## **Tools and Test Equipment**

- Soldering station with exchangable soldering tips and possibility to set the soldering temperature
- One fine soldering tip (0.8mm) and one large chisel type soldering tip (5mm) Lötspitze. Short tips are preferable, they conduct heat much better.
- Desoldering wick
- fine solder (0.5mm)
- Paaste-like solder flux, e.g. RMA-223 in syringe
- fine Tweezers, non-magnetic
- Magnifying glass / Magnifier Lamp / Stereomicroscope with 5x .. 10x magnification. With good eye sight a pair of strong reading glasses (+4 Dioptrien) cn serve well as magnifier glasses.
- Workplace needs to be well lit. Strong lighting results in the eye pupils getting smaller this increases visual resolution additionally
- Digital multimeter
- Power supply with adjustable voltage and adjustable maximum current
- RF dummy load 50 Ohm 50 W or more
- usual tools (screw drivers, Schraubendreher, small pliers, small side cutter, ..)
- Shortwave transceiver to check RX and TX function of OVI40

Usefull but not strictly necessary:

- Oscilloscope
- Frequency counter upto 200 MHz or so
- RF voltmeter upto 200 MHz or so
- ST Micro test adapter "ST-Link V2". Original adapter or low price clones
- Hot air soldering station. Low-cost gear such as "ZD-939L", "ZJchao" oder similar are already very helpful for de-soldering. Known brands such as Weller WHA300 are occasionally apearing in on line auctions for low budget prices.

A hot air pistol may also be quite useful for de-soldering - if used with caution. Measure the true temperature with a thermometer or a PT100 / PT1000 resistor and an ohm-meter. Cover areas that shouldn't be de-soldered with heat resistant material such as aluminium or capton foil.

Last update: 06.02.2018 10:08



Hot air pistol used for de-soldering - see text

## Helpful personal qualities

- A steady calm hand
- Ability to fight one's weaker self
- Patience (this is not a project finished in a few days)
- Perseverance

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