

## HOW TO KNIT WITH VVVV AND AYAB-SHIELD

### Needed Hardware:

- Knitting machine, tested types: Brother KH 940 (compatible: KH930) and Brother KH 950 ( compatible: KH910)
- Arduino Uno (not tested: setup with Arduino Mega)
- AYAB Shield - select the fitting modell for your machine!!  
available: <https://www.tinkersoup.de/arduino/arduino-shields/ayab-shield/a-1286/>

### Very first steps (only to do once):

- Download AYAB pack - version tested v1.2 (but new version should also work)  
<https://bitbucket.org/chris007de/ayab-apparat/downloads>
- Install AYAB and Arduino - <https://vimeo.com/99870358>
- Flash Ayab.ino to your Arduino (long version: <https://bitbucket.org/chris007de/ayab-apparat/wiki/english/Home> )

### **SETUP EVERY TIME YOU SWITCH ON MACHINE:**

1. Knit your first basic rows ( -> see PDF 'Brother\_userguide\_excerpts' or: <https://bitbucket.org/chris007de/ayab-apparat/wiki/english/StepByStep> )
2. Take carriage all the way to the left (must be left of sensor / return mark)
3. Switch on machine, plug in Arduino. In your v4-patch select the right comport, enable RS232.  
→ how to find out comport: <https://www.youtube.com/watch?v=h0u4okcCX7E>
4. On carriage switch selection knob to **KC(II)**.  
Move carriage a bit to the right -> center of carriage must pass return mark.
5. Send first command to machine (= Handshake) .  
Wait for response - **BEEP - BEEP** (shield comes with a sound-feedback - very usefull!)
6. Send second command to machine ( = Start - Stop - Needles) – **BEEP**.
7. Send third command: first line of pattern. Move carriage to the right, pass all selected needles ( = knit one row).  
Whenever new line of pattern has been uploaded, there is a BEEP (= signal that you can knit next row)
8. Put the contrast yarn into the **yarn feeder B**
9. Press the **MC-Button**
10. Hold the contrast yarn with one hand and move the carriage slowly to the left again until the next **BEEP**
11. Check if everything is fine with this row. Sometimes the first or last needle in D-Position don't get the contrast-yarn.
12. Knit as many rows as you want.
13. To finish: Remove the contrast yarn, press the **Plain-Knob**, select **N.L.** on the selection knob
14. Continue knitting for some rows
15. Check attached PDF 'Brother\_userguide\_excerpts' on how to finish.

### Usefull links:

First adresse in Berlin for all things concerning knit: <https://etiberlin.wordpress.com/>

Complete manual for Brother KH930 and KH940 machines: <http://machineknittingetc.com/brother-kh930-and-kh940-user-guide.html>