ELECTRONIC COMPONENT

*Components color may vary

1x **N32B**
main board

1x **N32B**
top panel

1x **Arduino Pro**
micro 5v

1x **10uF**
capacitor **(106)**

1x **100nF**
capacitor **(104)**

1x **10K** ohm
resistor

4x **220** ohm
resistors

1x **4.7K ohm**
resistor

1x 1N914
diode

2x **TRS**
female jacks

1x **6n138**
Optocoupler IC

1x **MAX7219** IC

2x 1:16 **multiplexers**
breakouts with **headers**

1x 7 **segment**
display

2x **Tactile**
push buttons

32x **Potentiometers**

6x **M3 6mm**
screws

6x **M3 16mm / 20mm**
screws

6x Brass
standoffs

Components

WOODEN CASE

*Not included in with the essential caseless kit

1x Laser cut MDF
case parts

1x Glue

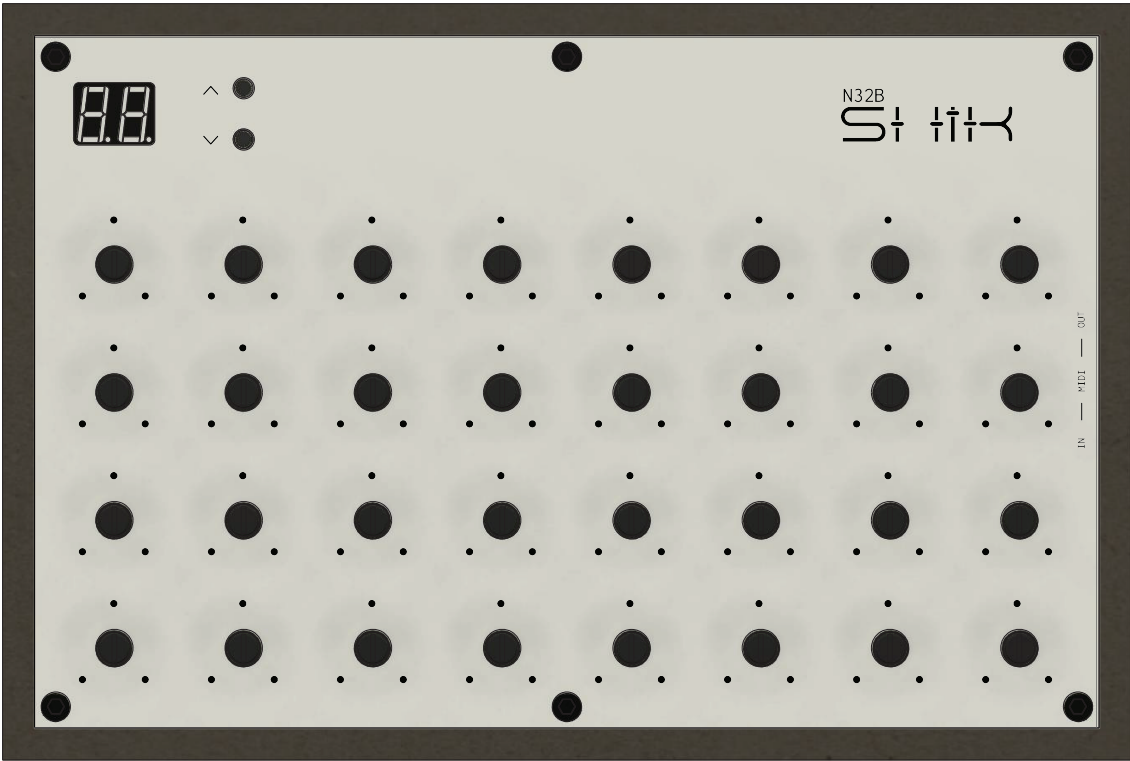1x Sanding paper

SHIK
www.shik.tech

N32B
A DIY Midi Controller

Assembly Instructions

N32B

SHIK

We hope you enjoy building it
as much as we loved designing it.

Have Fun!

CAPACITORS, RESISTORS AND DIODE:
1. Solder the **10uF** capacitor **(106)** to the **C2** mark on the board.
2. Solder the **100nF** capacitor **(104)** to the **C1** mark on the board.
3. Solder the **10K** ohm resistor to the **R10** mark on the board.
4. Solder 4x **220** ohm resistors to the **R1, R2, R3** and **R5** marks on the board.
5. Solder the **4.7K** ohm resistor to the **R4** mark on the board.
6. Solder the **diode** to the **D1** mark on the board.
   ❶ *Align it with the **line mark.***

TRS JACKS, ICS AND MULTIPLEXERS
7. Solder 2x **TRS** female jacks to the **J1** and **J2** marks on the board.
   ❶ *Align them carefully with the board to make sure there are no gaps.*
8. Solder the **6n138** Optocoupler IC to the **U1** mark on the board.
   ❶ *Align it with the **dot mark.***
9. Solder the **MAX7219 IC** to **IC1** mark on the board.
   ❶ *Align it with the notch mark.*
10. Solder the **headers** to the bottom side of the **multiplexers**.
    ❶ *Short side of the header to the bottom side of the multiplexers.*
11. Solder 2x **multiplexers** to **Mux1** and **Mux2** marks on the board.
    ❶ *Align them carefully with the board to make sure there are no gaps.*

DISPLAY
12. Solder the **7 segment display** to **Display1** mark on the board.
    ❶*Align it with the **dot mark.***

POTENTIOMETERS AND BUTTONS
13. Attach (do not solder!) 32x **potentiometers** to the **VR** marks (**VR1** to **VR32**) on the board.
14. Attach (do not solder!) 2x **Tactile push buttons** to **SWT1** and **SWT2** marks on the board.
15. In order to perfectly align the potentiometers and buttons, attach the top panel to the main board:
    A. Screw the 6x **16mm screws** to the top side of the **top panel** and secure it with 6x 6mm standoffs.
    B. Attach the top panel to the main board and secure it with **6x M3 6mm screws.**
16. Flip the board and solder the **Tactile push buttons first.**
17. Solder the potentiometers two supporting legs and then the 3 terminals.

ARDUINO
18. Remove the top panel and solder the **Arduino pro micro** with the usb port facing of the board.

WOODEN CASE (IF PURCHASED)
Now it's time to assemble the wooden enclosure:
19. Glue all the parts together according to the diagram

20. We recommend sanding it and painting it with wood varnish.

21. After everything has dried off, you can insert the N32B into its housing.

YOU ARE NOW READY TO TEST YOUR NEWLY SELF ASSEMBLED N32B MIDI CONTROLLER. **HURRAY!**