

# BOM Part-list Mainboard PCB NAVIPANEL V3-R5-v578 / September 15, 2025

| Part           | Value                            | Detailed Description                                |
|----------------|----------------------------------|-----------------------------------------------------|
| C1             | 100nF                            | CAPACITOR                                           |
| C10            | 100uF/16V                        | POLARIZED CAPACITOR, European symbol                |
| C11            | 10nF                             | CAPACITOR                                           |
| C12            | 10nF                             | CAPACITOR                                           |
| C13            | 10nF                             | CAPACITOR                                           |
| C14            | 10uF/16V Tantal                  | POLARIZED CAPACITOR, European symbol                |
| C15            | 100nF                            | CAPACITOR                                           |
| C16            | 100uF/16V                        | POLARIZED CAPACITOR, European symbol                |
| C17            | 10nF                             | CAPACITOR                                           |
| C18            | 100nF                            | CAPACITOR                                           |
| C19            | 100uF/16V                        | POLARIZED CAPACITOR, European symbol                |
| C2             | 100nF                            | CAPACITOR                                           |
| C3             | 100uF/16V                        | POLARIZED CAPACITOR, European symbol                |
| C4             | 100uF/16V                        | POLARIZED CAPACITOR, European symbol                |
| C5             | 100uF/16V                        | POLARIZED CAPACITOR, European symbol                |
| C6             | 100nF                            | CAPACITOR                                           |
| C7             | 100nF                            | CAPACITOR                                           |
| C8             | 0,1uF MKS/MKT                    | CAPACITOR                                           |
| C9             | 10nF                             | CAPACITOR                                           |
| CLOCK_IN       | WQP-PJ366-STEREO                 | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST) |
| CV-IN-A1       | WQP-PJ366-STEREO                 | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST) |
| D2             | 1N4148DO35-7                     | DIODE                                               |
| D6             | 1N5817-B                         | 1.0A SCHOTTKY BARRIER RECTIFIER                     |
| D7             | 1N5817-B                         | 1.0A SCHOTTKY BARRIER RECTIFIER                     |
| D8             | ZENER 5V1                        | Z-Diode 5V1 1W                                      |
| EURORACK_CABLE | Flatcable_16pol_20cm             | Flatcable_16pol_20cm                                |
| EURORACK_IN    | PIN HEADER 16POL                 | HARTING                                             |
| H1             | STANDOFF_M3X11mm_I/I_V2A         | STANDOFF_M3X11mm_I/I_V2A                            |
| H10-H13        | 4x_STANDOFF_M3x6mm_I/A_PLASTIC   | 4x_STANDOFF_M3x6mm_I/A_PLASTIC                      |
| H100-H112      | 12x_NUTS_6mm_Thonk_Jacks         | 12x_NUTS_6mm thonk.co.uk                            |
| H2             | STANDOFF_M3X11mm_I/I_V2A         | STANDOFF_M3X11mm_I/I_V2A                            |
| H20-H23        | 4x_WASHER_3.2mm_DIN125A_PLASTIC  | 4x_WASHER_3.2mm_DIN125A_PLASTIC                     |
| H3             | STANDOFF_M3X11mm_I/I_V2A         | STANDOFF_M3X11mm_I/I_V2A                            |
| H30-H33        | 4x_COUNTERSUNK_SCREWS_M3x4mm     | 4x_COUNTERSUNK_SCREWS_M3x4mm                        |
| H4             | STANDOFF_M3X11mm_I/I_V2A         | STANDOFF_M3X11mm_I/I_V2A                            |
| H40-H45        | 6x_SCREWS_M3x5mm_ISO7380-1_BLACK | 6x_SCREWS_M3x5mm_ISO7380-1_BLACK                    |
| H46-H49        | 4x_SCREWS_M3x8mm_ISO7380-1_BLACK | 4x_SCREWS_M3x8mm_ISO7380-1_BLACK<br>Panel Eurorack  |
| H5             | STANDOFF_M3X11mm_I/I_V2A         | STANDOFF_M3X11mm_I/I_V2A                            |
| H50-H58        | 9x_SCREWS_M3x5mm_ISO7380-1_V2A   | 9x_SCREWS_M3x5mm_ISO7380-1_V2A                      |
| H6             | STANDOFF_M3X11mm_I/I_V2A         | STANDOFF_M3X11mm_I/I_V2A                            |
| H60-H96        | 36x_WASHER_6mm_Thonk_Jacks       | 36x_WASHER_6mm thonk.co.uk                          |
| H7             | STANDOFF_M3X11mm_I/I_V2A         | STANDOFF_M3X11mm_I/I_V2A                            |
| H8             | STANDOFF_M3X11mm_I/I_V2A         | STANDOFF_M3X11mm_I/I_V2A                            |

| Part                 | Value                     | Detailed Description                                  |
|----------------------|---------------------------|-------------------------------------------------------|
| H9                   | STANDOFF_M3X11mm_I/I_V2A  | STANDOFF_M3X11mm_I/I_V2A                              |
| HEADPHONE            | WQP-PJ366-STEREO          | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST)   |
| IC-SOCKET_14         | 1x_IC-socket_14-pin       | 1x_IC-socket_14-pin                                   |
| IC-SOCKET_28         | 1x_IC-socket_28-pin       | 1x_IC-socket_28-pin                                   |
| IC-SOCKET_6          | 2x_IC-socket_6-pin        | 2x_IC-socket_6-pin                                    |
| IC-SOCKET_8          | 1x_IC-socket_8-pin        | 1x_IC-socket_8-pin                                    |
| J1                   | DC-PWR-5.5x2.1            | CONN PWR JACK 2.1X5.5MM SOLDER                        |
| J12-2                | U14-TFT-Touch-3-2 "       | LOW PROFILE FEMALE HEADER 1x14pol                     |
| J2P_POWER-IN         | Molex_ 2pol_90Grd         | Molex_ 2pol_90Grd                                     |
| JP1                  | CV-IN                     | PIN HEADER 1x3pol                                     |
| JP10                 | ADDR                      | LONG PIN HEADER 2x2pol 14mm                           |
| JP2                  | CV-IN                     | PIN HEADER 1x3pol                                     |
| JP3                  | PEDAL                     | PIN HEADER 1x3pol                                     |
| JP4                  | PEDAL                     | PIN HEADER 1x3pol                                     |
| JP5                  | NO_DC/DC                  | PIN HEADER 1x4pol                                     |
| JP6                  | AMP_INPUT U5              | LOW PROFILE FEMALE HEADER 3pol                        |
| JP7                  | GNC/VCC U5                | LOW PROFILE FEMALE HEADER 2pol                        |
| JP8                  | AMP_OUTPUT U5             | LOW PROFILE FEMALE HEADER 3pol                        |
| JP9                  | CLK                       | LONG PIN HEADER 1x3pol 14mm                           |
| JUMPER               | 7x JUMPER 2pol.           | 7x JUMPER 2pol.                                       |
| KNOB_RGB_ENC_L       | 22mm KNOB-ENC-L           | 22mm KNOB-ENC-L                                       |
| KNOB_RGB_ENC_R       | 22mm KNOB-ENC-R           | 22mm KNOB-ENC-R                                       |
| L1                   | 100uH                     | Noise /EMI Suppression Filters Inductor Type          |
| LED1-7_STANDOFF      | 7x_LED3mm-STANDOFF_d5x9mm | 7x_LED3mm-STANDOFF_d5x9mm (000183421)                 |
| LED1/3V3             | 3mm_red_low_current       | 3mm_red_low_current                                   |
| LED2/PWR 5V          | 3mm_red_low_current       | 3mm_red_low_current                                   |
| LED3/MIDI-IN1        | 3mm_red_low_current       | 3mm_red_low_current                                   |
| LED4/MIDI-OUT1       | 3mm_red_low_current       | 3mm_red_low_current                                   |
| LED5/CLOCK_OUT       | 3mm_red_low_current       | 3mm_red_low_current                                   |
| LED6/SUSTAIN IN      | 3mm_red_low_current       | 3mm_red_low_current                                   |
| LED7/CLOCK-IN        | 3mm_red_low_current       | 3mm_red_low_current                                   |
| LINE-OUT_L           | WQP518MA-MONO             | Black Thonkiconn Mono 3.5mm Audio Jacks               |
| LINE-OUT_R           | WQP518MA-MONO             | Black Thonkiconn Mono 3.5mm Audio Jacks               |
| LINE-OUT_ST          | WQP-PJ366-STEREO          | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST)   |
| LOGO1                | NO_PB_LOGO                | Lead-Free (No Pb) Logo                                |
| LOGO2                | ROHS_LOGO                 | Restriction of Hazardous Substances (RoHS) Logo       |
| LOGO3                | NO_PB_LOGO                | Lead-Free (No Pb) Logo                                |
| LOGO4                | ROHS_LOGO                 | Restriction of Hazardous Substances (RoHS) Logo       |
| MICRO-SD-CARD-32GB   | MicroSD-Card-32GB         | MicroSD-Card-32GB SANDISK                             |
| MICRO-SD-CARD-HOLDER | PJS008U-3000-8_HOLDER     | SD Card and MMC Reader (Manual Insertion) thonk.co.uk |
| MIDI-IN_TYP_A        | WQP-PJ366-STEREO          | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST)   |

| Part            | Value                  | Detailed Description                                |
|-----------------|------------------------|-----------------------------------------------------|
| MIDI-IN_TYP_B   | WQP-PJ366-STEREO       | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST) |
| MIDI-OUT_TYP_A  | WQP-PJ366-STEREO       | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST) |
| MIDI-OUT_TYP_B  | WQP-PJ366-STEREO       | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST) |
| PCB_FRONT_PANEL | V3-v49-21-05-2025      | PCB_FRONT_PANEL V3-v49-21-05-2025                   |
| PCB_MAINBOARD   | V3-R05-v541-02-07-2025 | PCB_MAINBOARD V3-R05-v541-02-07-2025                |
| R1              | 680R                   | RESISTOR, European symbol                           |
| R10             | 680R                   | RESISTOR, European symbol                           |
| R11             | 330R                   | RESISTOR, European symbol                           |
| R12             | 10K                    | RESISTOR, European symbol                           |
| R13             | 10K                    | RESISTOR, European symbol                           |
| R14             | 10K                    | RESISTOR, European symbol                           |
| R15             | 10K                    | RESISTOR, European symbol                           |
| R16             | 10K                    | RESISTOR, European symbol                           |
| R17             | 107R                   | RESISTOR, European symbol                           |
| R18             | 42R2                   | RESISTOR, European symbol                           |
| R19             | 42R2                   | RESISTOR, European symbol                           |
| R2              | 680R                   | RESISTOR, European symbol                           |
| R20             | 10K                    | RESISTOR, European symbol                           |
| R21             | 680R                   | RESISTOR, European symbol                           |
| R22             | 10K                    | RESISTOR, European symbol                           |
| R23             | 47R                    | RESISTOR, European symbol                           |
| R24             | 4K7                    | RESISTOR, European symbol                           |
| R25             | 10K                    | RESISTOR, European symbol                           |
| R26             | 620R                   | RESISTOR, European symbol                           |
| R27             | 10K                    | RESISTOR, European symbol                           |
| R28             | 10K                    | RESISTOR, European symbol                           |
| R29             | 10K                    | RESISTOR, European symbol                           |
| R3              | 680R                   | RESISTOR, European symbol                           |
| R30             | 107R                   | RESISTOR, European symbol                           |
| R31             | 42R2                   | RESISTOR, European symbol                           |
| R32             | 42R2                   | RESISTOR, European symbol                           |
| R33             | 27K                    | RESISTOR, European symbol                           |
| R34             | 27K                    | RESISTOR, European symbol                           |
| R36             | 180R                   | RESISTOR, European symbol                           |
| R37             | 4K7                    | RESISTOR, European symbol                           |
| R38             | 4K7                    | RESISTOR, European symbol                           |
| R4              | 1K                     | RESISTOR, European symbol                           |
| R40             | 910R                   | RESISTOR, European symbol                           |
| R41             | 680R                   | RESISTOR, European symbol                           |
| R42             | 680R                   | RESISTOR, European symbol                           |
| R43             | 680R                   | RESISTOR, European symbol                           |
| R44             | 680R                   | RESISTOR, European symbol                           |
| R45             | 680R                   | RESISTOR, European symbol                           |
| R46             | 680R                   | RESISTOR, European symbol                           |
| R47             | 680R                   | RESISTOR, European symbol                           |

| Part            | Value                           | Detailed Description                                    |
|-----------------|---------------------------------|---------------------------------------------------------|
| R48             | 680R                            | RESISTOR, European symbol                               |
| R49             | 1K8                             | RESISTOR, European symbol                               |
| R5              | 47R                             | RESISTOR, European symbol                               |
| R50             | 680R                            | RESISTOR, European symbol                               |
| R51             | 1K                              | RESISTOR, European symbol                               |
| R6              | 47R                             | RESISTOR, European symbol                               |
| R7              | 220R                            | RESISTOR, European symbol                               |
| R8              | 470R                            | RESISTOR, European symbol                               |
| R9              | 10K                             | RESISTOR, European symbol                               |
| RGB_ENC_L       | PEL12T-4225T-S1024              | Illuminated Rotary Encoder w/ RGB LED and select switch |
| RGB_ENC_R       | PEL12T-4225T-S1024              | Illuminated Rotary Encoder w/ RGB LED and select switch |
| RN1             | 10K                             | SIL RESISTOR 5-pin                                      |
| RN2             | 10K                             | SIL RESISTOR 5-pin                                      |
| RSIL8           | 10K                             | SIL RESISTOR 9-pin                                      |
| S1              | DPDT Latching Push Button WHITE | DPDT Latching Push Button WHITE<br>thonk.co.uk          |
| S10_BUTTON_A    | LED_RED                         | LED_RED thonk.co.uk                                     |
| S11_BUTTON_B    | LED_GREEN                       | LED_GREEN thonk.co.uk                                   |
| S2              | DPDT Momentary Push Button RED  | DPDT Momentary Push Button RED<br>thonk.co.uk           |
| S3              | DPDT Latching Push Button BLACK | DPDT Latching Push Button BLACK<br>thonk.co.uk          |
| S4_BUTTON_UP    | LED_WHITE                       | LED_WHITE thonk.co.uk                                   |
| S5_BUTTON_DOWN  | LED_WHITE                       | LED_WHITE thonk.co.uk                                   |
| S6_BUTTON_LEFT  | LED_WHITE                       | LED_WHITE thonk.co.uk                                   |
| S7_BUTTON_RIGHT | LED_WHITE                       | LED_WHITE thonk.co.uk                                   |
| S8_BUTTON_SEL   | LED_YELLOW                      | LED_YELLOW thonk.co.uk                                  |
| S9_BUTTON_START | LED_BLUE                        | LED_BLUE thonk.co.uk                                    |
| SPDIF_OUT_TRS   | WQP-PJ366-STEREO                | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST)     |
| SUSTAIN_INPUT   | WQP-PJ366-STEREO                | Green Thonkiconn Stereo 3.5mm Audio Jacks (PJ366ST)     |
| U1              | TEENSY41 with PSRAM 2x 8MB      | TEENSY41 with PSRAM 2x 8MB                              |
| U11             | 4N36M                           | General Purpose 6-Pin Phototransistor Optocouplers      |
| U12             | 4N36M                           | General Purpose 6-Pin Phototransistor Optocouplers      |
| U13             | TRACO TBA1-0511                 | DC/DC CONVERTER 5V 1W                                   |
| U14_TFT_TOUCH   | TFT_TOUCH_CAP_3,2 inch          | TFT_TOUCH_CAPACITIVE_3,2 inch                           |
| U2              | 6N138                           | MOTOROLA OPTO COUPLER                                   |
| U3-X1           | 5pol                            | LOW PROFILE FEMALE HEADER 5pol                          |
| U3-X2           | 9pol                            | LOW PROFILE FEMALE HEADER 9pol                          |
| U4-X1           | 128MBit                         | LOW PROFILE FEMALE HEADER 6pol                          |
| U7              | MCP23017SP                      | MCP23017SP 16port I/O - I2C                             |
| U8              | CD74HCT14E                      | Hex schmitt trigger INVERTER                            |
| X1              | USB1                            | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR     |
| X11             | I2C-R                           | PIN HEADER 1x5pol or JST 5pin RM2,54                    |

| Part | Value        | Detailed Description                                |
|------|--------------|-----------------------------------------------------|
| X12  | I2C-L        | FEMALE HEADER 5pol                                  |
| X14  | SUST-PEDAL   | FEMALE HEADER 3pol                                  |
| X15  | VOL-PEDAL    | FEMALE HEADER 3pol                                  |
| X1A  | USB1         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X1B  | USB1-A1      | Vertical,Top Entry USB Connector KUSBVX Series      |
| X2   | USB2         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X2A  | USB2         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X2B  | USB2-A2      | Vertical,Top Entry USB Connector KUSBVX Series      |
| X3   | USB3         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X3A  | USB3         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X3B  | USB3-A3      | Vertical,Top Entry USB Connector KUSBVX Series      |
| X4   | USB4         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X4A  | USB4         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X4B  | USB4-A4      | PIN HEADER 1x4pol                                   |
| X5   | USB-HOST     | PIN HEADER 1x4pol                                   |
| X5A  | USB5         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X5B  | USB5         | 2 Pin - 2mm Dual Row Single Wafer, Vertical T/H HDR |
| X6   | USB-CLIENT1  | PIN HEADER 1x4pol                                   |
| X7   | USB-B-CLIENT | USB B-type Receptacle Vertical, 4 Position, THT     |
| X8   | VCC Breakout | FEMALE HEADER 2x5pol                                |