OpenDeck v2

+5V
PWR_FLAG
C4 10u
C6 100n
GND

J3 TYPE-C-31-M-12
B4/A9 VBUS
A1/B12 GND
SHIELD
S1
FB1
GND
DP1 DP2
DN1 DN2
CC1 A5
CC2 B5
SBU1 A8
SBU2 B8
A6
B6
A7
B7

R1 5.1k
R2 5.1k
GND

USB_DP
USB_DM

D17

GND
+5V
+5V

U9 SPX3819M5
IN OUT
GND
EN ADJ
GND
+3.3V

GND
C16 1u

H1 ○ ▷ GND
H2 ○ ▷ GND
H3 ○ ▷ GND
H4 ○ ▷ GND

Buttons
DEC_DI_A0 — DEC_DI_A0
DEC_DI_A1 — DEC_DI_A1
DEC_DI_A2 — DEC_DI_A2
SR_IN_CLOCK — SR_IN_CLOCK
SR_IN_LATCH — SR_IN_LATCH
SR_IN_DATA — SR_IN_DATA

DIN MIDI
MIDI_TX — MIDI_TX
MIDI_RX — MIDI_RX

LEDs
MAX7219_DIN — MAX7219_DIN
MAX7219_LOAD — MAX7219_LOAD
MAX7219_CLK — MAX7219_CLK

Analog
MUX_COMMON_1 — MUX_COMMON_1
MUX_COMMON_2 — MUX_COMMON_2
MUX_S0 — MUX_S0
MUX_S1 — MUX_S1
MUX_S2 — MUX_S2
MUX_S3 — MUX_S3

Indicators
TRAFFIC_IN — TRAFFIC_IN
TRAFFIC_OUT — TRAFFIC_OUT

J8
BTLDR 1
2
GND

J6
SDA 1
SCL 2
GND 3
+3.3V 4

J7
TSCREEN_RX 1
TSCREEN_TX 2
3
4
GND

+1V1
C10 100n
C22 1u
C24 100n
GND

U10 RP2040
23 DVDD
45 VREG_VOUT
44 VREG_VIN
1 IOVDD
48 USB_VDD
43 ADC_AVDD
57 GND
QSPI_CS 56 QSPI_SS
QSPI_CLK 52 QSPI_SCLK
QSPI_IO0 53 QSPI_SD0
QSPI_IO1 55 QSPI_SD1
QSPI_IO2 54 QSPI_SD2
QSPI_IO3 51 QSPI_SD3

GPIO0 2
GPIO1 3 DEC_DI_A0
GPIO2 4 DEC_DI_A2
GPIO3 DEC_DI_A2
GPIO4 6 BTLDR
GPIO5 7 SR_IN_LATCH
GPIO6 8 SR_IN_CLOCK
GPIO7 9 SR_IN_DATA
GPIO8 11 TSCREEN_TX
GPIO9 12 TSCREEN_RX
GPIO10 13 SDA
GPIO11 14 SCL
GPIO12 15 MUX_S2
GPIO13 16 MUX_S3
GPIO14 17 MUX_S0
GPIO15 18 MUX_S1
GPIO16 27 MIDI_TX
GPIO17 28 MIDI_RX
GPIO18 29 MAX7219_CLK
GPIO19 30 MAX7219_LOAD
GPIO20 31 MAX7219_DIN
GPIO21 32
GPIO22 34
GPIO23 35
GPIO24 36
GPIO25 37
GPIO26_ADC0 38 MUX_COMMON_2
GPIO27_ADC1 39 MUX_COMMON_1
GPIO28_ADC2 40 TRAFFIC_IN
GPIO29_ADC3 41 TRAFFIC_OUT

PWR_FLAG

C2 100n C3 100n C5 100n C7 100n C8 100n C9 100n C11 1u C23 100n C25 100n
+3.3V

GND
U1 W25Q128JVS
+3.3V
C1 100n
8 VCC
4 GND
GND
1 CS
6 CLK
5 IO0
2 IO1
3 IO2
7 IO3
QSPI_CS
QSPI_CLK
QSPI_IO0
QSPI_IO1
QSPI_IO2
QSPI_IO3

R3 10k
+3.3V
R20 1k
USB_BOOT

J4
1 USB_BOOT
2 GND

J5
1 SWD
2
3 SWCLK
GND

GND
C17 16p
Y1 12MHz
4
2
GND
C21 16p
GND

R21 1k
R22 10k
+3.3V

20 XIN
21 XOUT
26 RUN
24 SWCLK
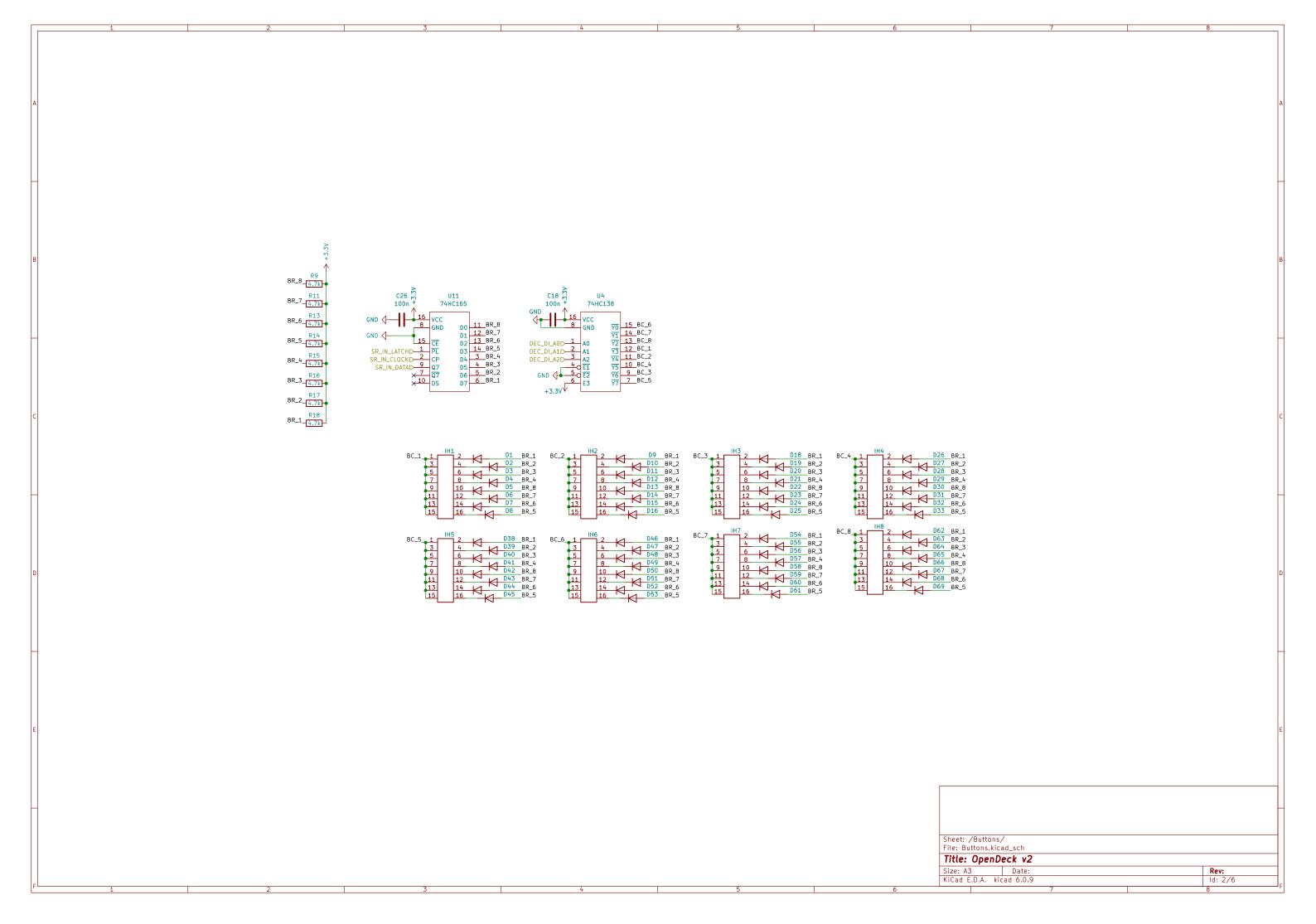25 SWD
47 USB_DP
46 USB_DM
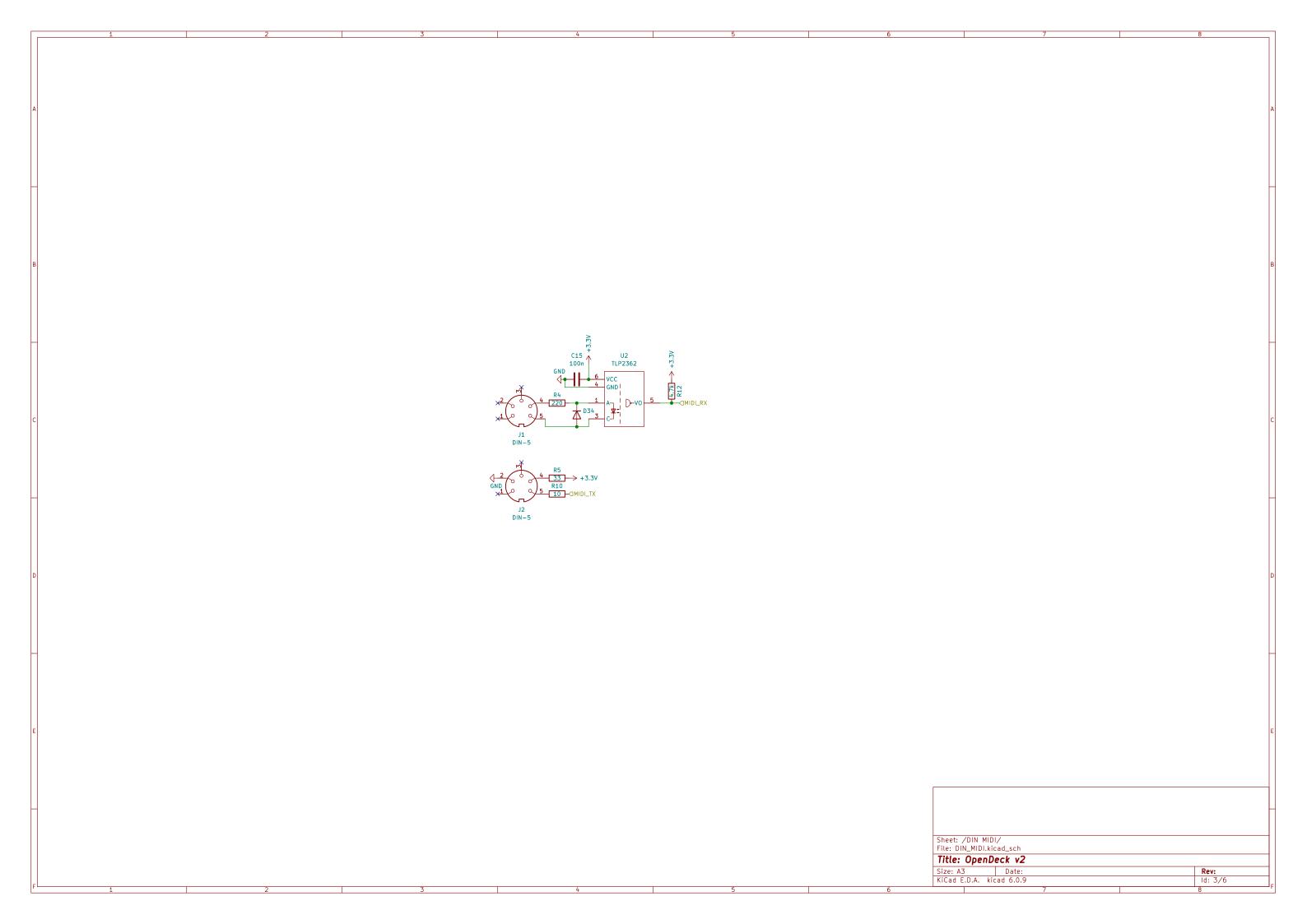19 TESTEN

SWCLK
SWD
USB_DP R23 27
USB_DM R24 27
GND
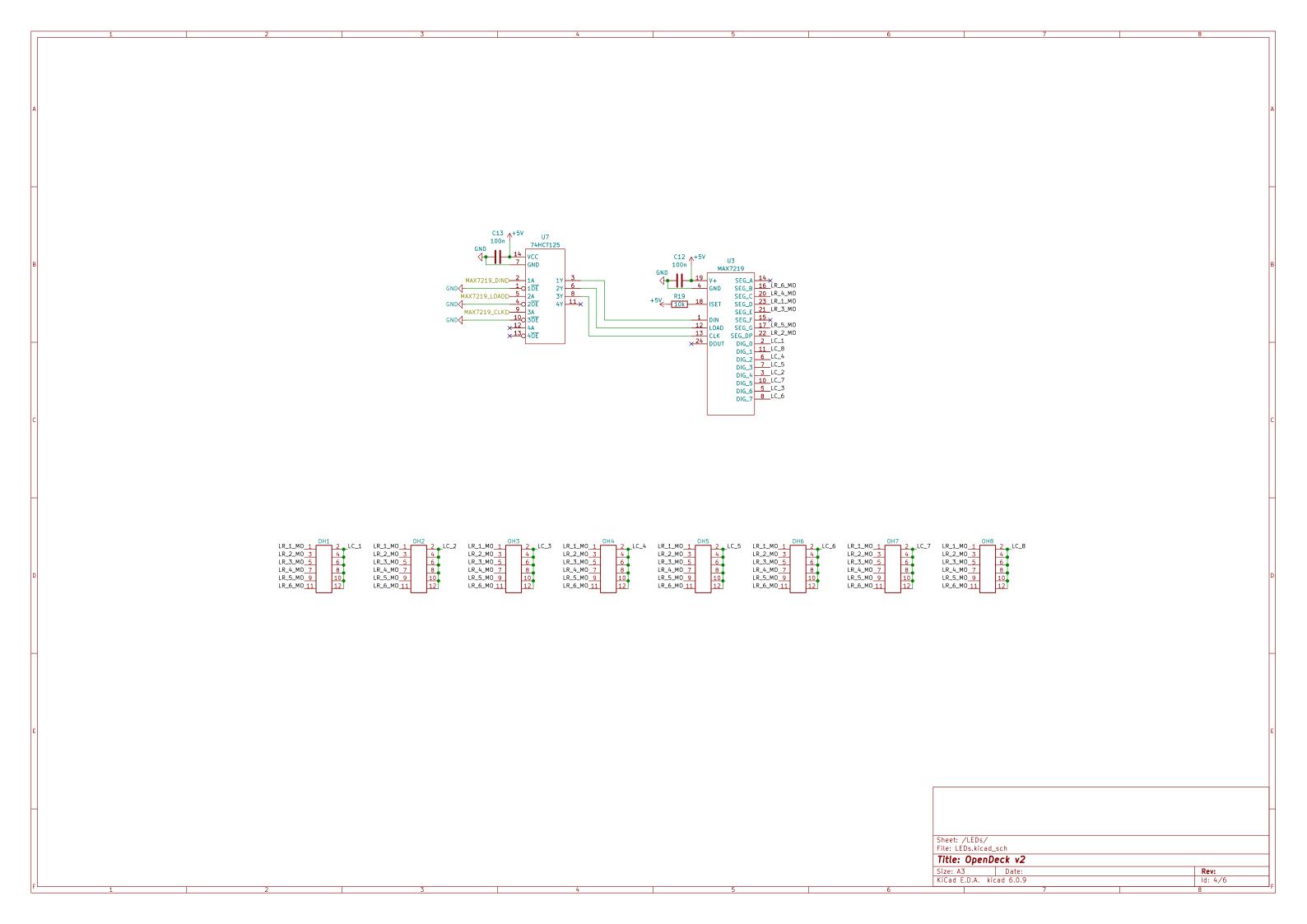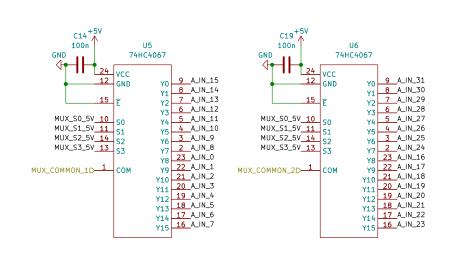
Sheet: /
File: OpenDeck-r2.2.0.kicad_sch
Title: OpenDeck v2
Size: A3   Date:
KiCad E.D.A. kicad 6.0.9
Rev:
Id: 1/6

+3.3V

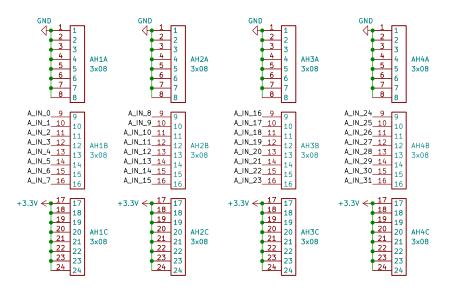| Ref	Value	Net
R9	4.7k	BR_8
R11	4.7k	BR_7
R13	4.7k	BR_6
R14	4.7k	BR_5
R15	4.7k	BR_4
R16	4.7k	BR_3
R17	4.7k	BR_2
R18	4.7k	BR_1

C26 100n +3.3V

U11 74HC165

- 16 VCC
- 8 GND
- 15 CE
- 1 PL
- 2 CP
- 9 Q7
- 7 Q7
- 10 DS
- D0 — 11 — BR_8
- D1 — 12 — BR_7
- D2 — 13 — BR_6
- D3 — 14 — BR_5
- D4 — 3 — BR_4
- D5 — 4 — BR_3
- D6 — 5 — BR_2
- D7 — 6 — BR_1

SR_IN_LATCHD
SR_IN_CLOCKD
SR_IN_DATAD

GND

C18 100n +3.3V

U4 74HC138

- 16 VCC
- 8 GND
- 1 A0
- 2 A1
- 3 A2
- 4 E1
- 5 E2
- 6 E3
- Y0 — 15 — BC_6
- Y1 — 14 — BC_7
- Y2 — 13 — BC_8
- Y3 — 12 — BC_1
- Y4 — 11 — BC_2
- Y5 — 10 — BC_4
- Y6 — 9 — BC_3
- Y7 — 7 — BC_5

DEC_DI_A0D
DEC_DI_A1D
DEC_DI_A2D
GND
+3.3V

IH1 — BC_1: D1 BR_1, D2 BR_2, D3 BR_3, D4 BR_4, D5 BR_8, D6 BR_7, D7 BR_6, D8 BR_5

IH2 — BC_2: D9 BR_1, D10 BR_2, D11 BR_3, D12 BR_4, D13 BR_8, D14 BR_7, D15 BR_6, D16 BR_5

IH3 — BC_3: D18 BR_1, D19 BR_2, D20 BR_3, D21 BR_4, D22 BR_8, D23 BR_7, D24 BR_6, D25 BR_5

IH4 — BC_4: D26 BR_1, D27 BR_2, D28 BR_3, D29 BR_4, D30 BR_8, D31 BR_7, D32 BR_6, D33 BR_5

IH5 — BC_5: D38 BR_1, D39 BR_2, D40 BR_3, D41 BR_4, D42 BR_8, D43 BR_7, D44 BR_6, D45 BR_5

IH6 — BC_6: D46 BR_1, D47 BR_2, D48 BR_3, D49 BR_4, D50 BR_8, D51 BR_7, D52 BR_6, D53 BR_5

IH7 — BC_7: D54 BR_1, D55 BR_2, D56 BR_3, D57 BR_4, D58 BR_8, D59 BR_7, D60 BR_6, D61 BR_5

IH8 — BC_8: D62 BR_1, D63 BR_2, D64 BR_3, D65 BR_4, D66 BR_8, D67 BR_7, D68 BR_6, D69 BR_5

C15
100n

U2
TLP2362

GND

+3.3V

+3.3V

R12
4.7k

6 VCC
4 GND

R4
220

1 A

VO 5

MIDI_RX

D34

3 C

J1
DIN-5

2

3

4

1

5

J2
DIN-5

R5
33

+3.3V

2

3

4

1

R10
10

MIDI_TX

5

GND

+5V

TRAFFIC_IN

TRAFFIC_OUT

1k
R6

680
R7

1k
R8

D35

D36

D37

GND

GND

GND