This is a KiCad electronic schematic diagram titled "Breadboard Buddy."

Do Not Install:

C8, C11, C14, C21, C25
D1, D4, D8, D9

Common
Anode/Cathode

AC/DC In
approx. 7V – 20V

Output Voltage Rails

SEPIC Converter

+5V

J1

J3   LED_Array1

J2

J12
VDC

VSW = 1.25 (1 + ((R9+R70) / R13))
VSW = approx. 10.5 V to 23 V

+VSW

+VSW   VSW = approx. 10.5 to 23 V

J10
+VSW

VADJ = 1.25 (1 + ((R14||R15) / R7))
VADJ = approx. 1.25 V to 19.5 V

+VADJ   VADJ = approx. 1.25 V to 19.5 V

J13
+VADJ

R1 2K
R2 2K
R3 2K
R4 2K
R5 2K
R6 2K
R7 2K
R8 2K
R10 2K
R11 2K
R12 2K

D2 1N5400
D5 1N5400
D6 1N5400
D7 1N5400

C2
680uF

C3
22uF
50V

L1
33uH

C1
22uF
50V

L2
33uH

D3
SK35 50V 3A

R9
10K

C5
1uF
50V

C4
22uF
50V

U1
LM317

D1 1N4002
R7 120r

D4
1N4002

C7
1uF

C6
1uF

R14
2K7

R15
5K

C8
10uF

VIN GND SW FB EN
U2
XL6009

R70
7K5

R13
1K

Common
Anode/Cathode

+5V

J4

J5   LED_Array2

R16 2K
R17 2K
R18 2K
R20 2K
R22 2K
R24 2K
R27 2K
R28 2K

+5V

C32 100nF

VCC
AREF/PB0
PB1
PB2
XTAL1/PB3
XTAL2/PB4
RESET/PB5
GND
U5
ATtiny85-20PU

+5V +5V +5V

R68
10K
R69
10K

J6
SDA
SCK

128x64
OLED Display
I2C 5V

D8 1N4002

U3
LM317

C10
1uF

R19
120r

D9
1N4002

R25
2K7

R26
1K

C14
10uF

C12
100nF

C11
100pF

U4
ICL7660

V+
VCC
OSC
LV
GND
VOUT
CAP+
CAP-

-VCC

C9
1uF

C13
10uF

+VCC

J15
+/-VCC   VCC- = approx. -1.5 V to -8.85 V
VCC+ = approx. 1.5 V to 8.85 V

LED Array
Approx. 1mA per LED

+VSW
R32
56K

C17
100nF

R35
10K

+VCC
R33
20K

C19
100nF

R36
10K

+VADJ
R34
56K

C20
100nF

R37
10K

U6
LM1117-ADJ

C15
1uF

R31
120r

C16
1uF

C17
10uF

F1
Polyfuse_Small

+5V

J16
+5V

R38
360r

C21
10uF

J7

R30

J8

R39

Potentiometers

0V – 30V Input
0V – 4.545V Scaled

0V – 15V Input
0V – 5V Scaled

0V – 30V Input
0V – 4.545V Scaled

Voltage Rail Monitor

+5V

R29
1K

D12

Power LED

U7
LM1117-ADJ

C22
1uF

R40
120r

C23
1uF

C24
10uF

F2
Polyfuse_Small

+3.3V

J17
+3v3

R41
200r

C25
10uF

R42
10K

+VCC
C33 100nF

R43
10K

R46
10K

J9

R50
10K

R51
10K

C26 10uF R44 10K
C27 10uF R47 10K

C29 10uF R48 10K
C30 10uF R49 10K

U8
TL071

C35 10uF

-VCC

+VCC
C34 100nF

R45

U9
LM386

C28
100uF

J11
Conn_01x04

Audio Mixer & Amp

VLow VHigh

R52
10K
R53
10K

VL1
Q1
BSS138
VH1

VLow VHigh

R54
10K
R55
10K

VL5
Q2
BSS138
VH5

VL1 1   2 VH1
VL2 3   4 VH2
VL3 5   6 VH3
VL4 7   8 VH4
VL5 9   10 VH5
VL6 11 12 VH6
VL7 13 14 VH7
VL8 15 16 VH8
VLow 17 18 VHigh
VGND 19 20 VGND
J14

VLow VHigh

R56
10K
R57
10K

VL2
Q3
BSS138
VH2

VLow VHigh

R58
10K
R59
10K

VL6
Q4
BSS138
VH6

Level Shifter
Vin–Vout Header

VLow VHigh

R60
10K
R61
10K

VL3
Q5
BSS138
VH3

VLow VHigh

R62
10K
R63
10K

VL7
Q6
BSS138
VH7

+5V +3.3V

VHigh 1 2
VLow   3 4
VGND   5 6
J22

VLow VHigh

R64
10K
R65
10K

VL4
Q7
BSS138
VH4

VLow VHigh

R66
10K
R67
10K

VL8
Q8
BSS138
VH8

Level Shifter
Voltage Source

Level Shifters