Sheet: Monitor

File: Monitor.sch

Sheet: Controller

File: Controller.sch

J2
TE_3.5mm_Screwless_P2
+12V_M
U2
LM7805_TO220
VI
VO
GND
+5V_M
C8
100nF - 100V
C5
4.7uF 50V
C7
100nF - 100V
GND
S1
MPXV5004DP
VS
GND
Vout
R1
470
PTR2
C1
100nF - 100V
C4
1uF
+12V_M
R24
22k
R25
10k
C20
1uF
D4
1N4007
MEAS_12V
J1
TE_3.5mm_Screwless_P2
D1
1N4007
C6
1uF
C2
1uF
Q1
IRLZ34N
R6
50
SV1
MK1
Microphone
R2
10k
C3
1uF
R3
220k
R4
10k
R5
220k
LM358
U1B
U1A
LM358
U1C
LM358
V+
V-
C21
100nF - 100V
MIC
PTR4
R35
10k
C9
100nF - 100V
nMCLR_M
U3
XPRESS-40
USB
RE3
RA0
RA1
RA2
RA3
RA4
RA5
RE0
RE1
RE2
VDD
GND
RA7
RA6
RC0
RC1
RC2
RC3
RD0
RD1
TGDAT
TGCLK
RB5
RB4
RB3
RB2
RB1
RB0
VDD
GND
RD7
RD6
RD5
RD4
RC7
RC6
RC5
RC4
RD3
RD2
J3
UART_M
RX
TX
C11
100nF - 100V
PROG_CONN
J4
Conn_01x08
ICSPDAT_M
ICSPCLK_M
SCL
SDA
R33
470
R34
470
R8
470
R10
470
LCD_SCL_M
LCD_SDA_M
I2C Interface LCD_M
J6
C13
100nF - 100V
R9
10k
R11
10k
R12
470
ALARM_LED
ALARM_MUTE
ALARM_HISTORY
BUZZER
J14
Button_LED
J15
Button
J5
BUZZER
S2
MPXV5004DP
VS
GND
Vout
C12
100nF - 100V
R7
470
C10
1uF
TP1
TestPoint
TP2
TestPoint
TP3
TestPoint
TP4
TestPoint
TP9
TestPoint_Alt

Sheet: /Monitor/
File: Monitor.sch

Title:

Size: A4 Date: **Rev:**
KiCad E.D.A. kicad (5.1.5-0-10_14) Id: 2/3

Schematic — Sheet: /Controller/, File: Controller.sch

Size: A4 — Id: 3/3 — KiCad E.D.A. kicad (5.1.5-0-10_14)

Components visible:

- J7 TE_3.5mm_Screwless_P2
- U4 LM7805_TO220
- C14 100nF, C15 100uF 50V, C16 100nF - 100V, C26 1uF
- C19 100nF - 100V, C30 100nF - 100V, C29 100nF - 100V
- R27 10k, R28 10k, R36 10k
- U5 XPRESS-40, USB
- PROG_CONN, J24 Conn_01x08
- R15 470, R17 470
- I2C Interface LCD_C, J12 (LCD_SCL, LCD_SDA)
- S3 MPXV5004DP, R13 470, C17 100nF - 100V, C18 1uF
- R18 10k, R19 10k, R20 10k, R21 10k, R22 10k, R23 10k
- R16 470
- J18 BREATH, J10 BPM, J19 EP, J16 IP, J20 +, J17 -
- SV2 J8, D2 1N4007, C24 1uF, C22 1uF, Q2 IRLZ34N, R14 50
- J13 BUZZER_C
- J11 UART, PR3
- S4 MPXV5004DP, R29 470, C27 1uF, C28 100nF - 100V
- R30 10k, R31 10k, R32 10k
- J21 VOL_MIN, J23 VOL_MAX, J22 VOL
- SV3 J9, D3 1N4007, C25 1uF, C23 1uF, Q3 IRLZ34N, R26 50
- TP5 TestPoint, TP6 TestPoint, TP7 TestPoint, TP8 TestPoint

Pin labels on U5: RE3, RA0, RA1, RA2, RA3, RA4, RA5, RE0, RE1, RE2, VDD, GND, RA7, RA6, RC0, RC1, RC2, RC3, RD0, RD1, TGDAT, TGCLK, RB5, RB4, RB3, RB2, RB1, RB0, VDD, GND, RD7, RD6, RD5, RD4, RC7, RC6, RC5, RC4, RD3, RD2

Net labels: +12V_C, +5V_C, GND, nMCLR_C, ICSPDAT_C, ICSPCLK_C, PR2, SV2, PR3, SV3, SCL, SDA