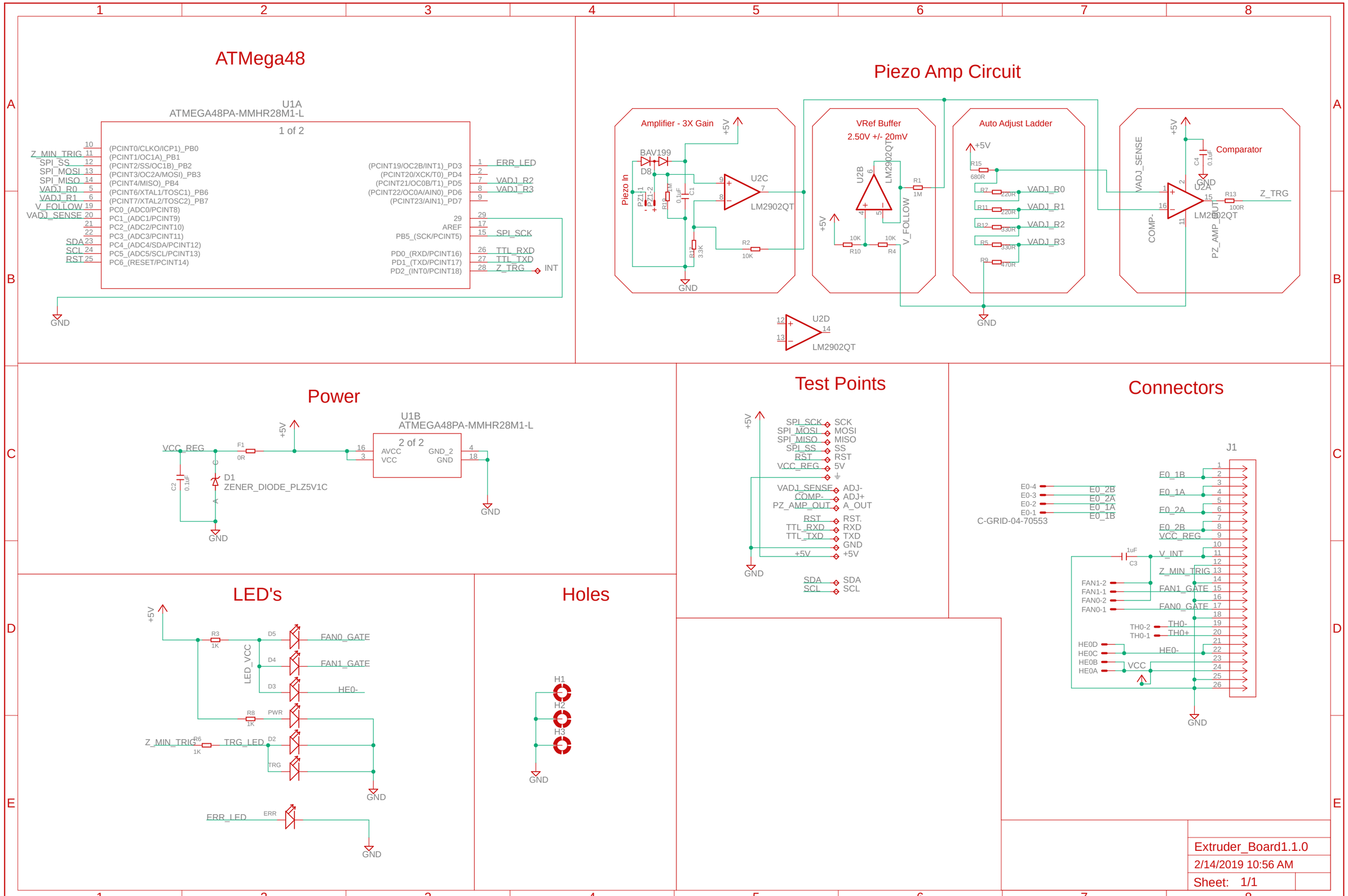
ATMega48
U1A
ATMEGA48PA-MMHR28M1-L
1 of 2
Z_MIN_TRIG
SPI_SS
SPI_MOSI
SPI_MISO
VADJ_R0
VADJ_R1
V_FOLLOW
VADJ_SENSE
SDA
SCL
RST
(PCINT0/CLKO/ICP1)_PB0
(PCINT1/OC1A)_PB1
(PCINT2/SS/OC1B)_PB2
(PCINT3/OC2A/MOSI)_PB3
(PCINT4/MISO)_PB4
(PCINT6/XTAL1/TOSC1)_PB6
(PCINT7/XTAL2/TOSC2)_PB7
PC0_(ADC0/PCINT8)
PC1_(ADC1/PCINT9)
PC2_(ADC2/PCINT10)
PC3_(ADC3/PCINT11)
PC4_(ADC4/SDA/PCINT12)
PC5_(ADC5/SCL/PCINT13)
PC6_(RESET/PCINT14)
(PCINT19/OC2B/INT1)_PD3
(PCINT20/XCK/T0)_PD4
(PCINT21/OC0B/T1)_PD5
(PCINT22/OC0A/AIN0)_PD6
(PCINT23/AIN1)_PD7
AREF
PB5_(SCK/PCINT5)
PD0_(RXD/PCINT16)
PD1_(TXD/PCINT17)
PD2_(INT0/PCINT18)
ERR_LED
VADJ_R2
VADJ_R3
SPI_SCK
TTL_RXD
TTL_TXD
Z_TRG
INT
GND
Piezo Amp Circuit
Amplifier - 3X Gain
Piezo In
BAV199
D8
PZ1-1
PZ1-2
R19
1M
0.1uF
C1
R17
3.3K
U2C
LM2902QT
R2
10K
+5V
VRef Buffer
2.50V +/- 20mV
U2B
LM2902QT
R1
1M
V_FOLLOW
R10
10K
R4
10K
Auto Adjust Ladder
R15
680R
R7
220R
R11
220R
R12
330R
R5
330R
R9
470R
VADJ_R0
VADJ_R1
VADJ_R2
VADJ_R3
VADJ_SENSE
COMP-
PZ_AMP_OUT
Comparator
C4
0.1uF
U2A
LM2902QT
R13
100R
Z_TRG
U2D
LM2902QT
Power
U1B
ATMEGA48PA-MMHR28M1-L
2 of 2
AVCC
VCC
GND_2
GND
VCC_REG
F1
0R
C2
0.10uF
D1
ZENER_DIODE_PLZ5V1C
Test Points
SPI_SCK
SPI_MOSI
SPI_MISO
SPI_SS
RST
VCC_REG
VADJ_SENSE
COMP-
PZ_AMP_OUT
RST
TTL_RXD
TTL_TXD
+5V
SDA
SCL
SCK
MOSI
MISO
SS
RST
5V
ADJ-
ADJ+
A_OUT
RST.
RXD
TXD
GND
+5V
SDA
SCL
Connectors
J1
C-GRID-04-70553
E0-4
E0-3
E0-2
E0-1
E0_2B
E0_2A
E0_1A
E0_1B
E0_1B
E0_1A
E0_2A
E0_2B
VCC_REG
V_INT
C3
1uF
Z_MIN_TRIG
FAN1_GATE
FAN0_GATE
FAN1-2
FAN1-1
FAN0-2
FAN0-1
TH0-2
TH0-1
TH0-
TH0+
HE0-
HE0D
HE0C
HE0B
HE0A
VCC
LED's
R3
1K
D5
D4
D3
LED_VCC
FAN0_GATE
FAN1_GATE
HE0-
R8
1K
PWR
Z_MIN_TRIG
R6
1K
TRG_LED
D2
TRG
ERR_LED
ERR
Holes
H1
H2
H3
Extruder_Board1.1.0
2/14/2019 10:56 AM
Sheet: 1/1