EMS_Block

File: EMS_Block.kicad_sch

InputBlock

File: InputBlock.kicad_sch

CentralComputer
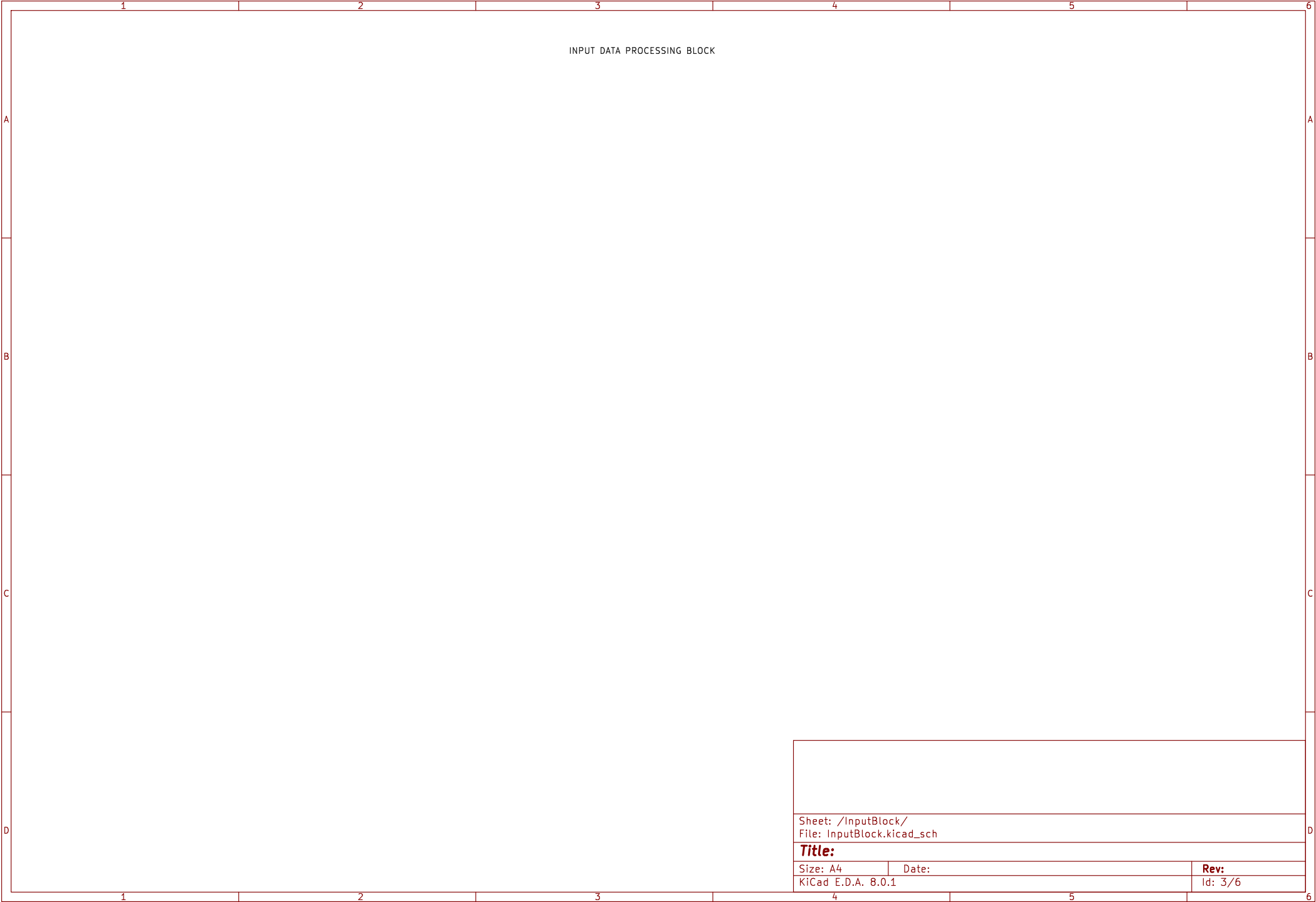
File: CentralComputer.kicad_sch

OutputBlock

File: OutputBlock.kicad_sch

I2C_BLOCK

File: untitled.kicad_sch

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File: BenRover#24.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 8.0.1

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OUTPUT COMPONENTS MANAGEMENT BLOCK

U1 L293D
U2 L293D
U3 L293D
U4 A4988_STEPPER_MOTOR_DRIVER_CARRIER
A2 ArduinoMega2560

+5V +12V
GND

Motor2_Left_Middle J6
Motor1_Left_Front J12
Motor4_Right_Front J14
Motor3_Left_Back J15
Motor6_Right_Back J16
Motor5_Right_Middle J17

pin5, pin4, pin3, pin2
pin9, pin8, pin7, pin6
pin13, pin12, pin11, pin10

R3 220ohm — Q1 TIP122 — Servo1_Left_Front J13
R4 220ohm — Q2 TIP122 — Servo3_Right_Front J2
R8 220ohm — Q6 TIP122 — Servo2_Left_Back J1
R5 220ohm — Q3 TIP122 — Servo4_Right_Back J3
R6 220ohm — Q4 TIP122 — Servo5_Cam_Tilt J5

pin22, pin23, pin24, pin25, pin26

J18 Stepper_Motor
pin28 STEP, pin27 DIR
VDD +5V, VMOT +12V
ENABLE, RESET, SLEEP, STEP, DIR, MS1, MS2, MS3, GND
1A, 1B, 2A, 2B
GND

J19 L293D_A4988_Alimentation — +5V GND
J9 Servo_Alimentation — +12V GND
J10 Motor_Alimentation — +12V GND
J11 Arduino_Alimentation — +5V GND
J4 I2C_SDA_SCL_ARDUINO_COM — pin_SDA pin_SCL +5V GND
J7 I2C_SDA_SCL_ARDUINO_SCREEN — pin_SDA pin_SCL +5V GND
J8 LED_TEMOIN
R1 220ohm — +5V GND
R2 10Kohm — +5V RESET
S1 RESET_BUTTON — GND

H1 MountingHole
H2 MountingHole
H3 MountingHole
H4 MountingHole

INPUT DATA PROCESSING BLOCK

CENTRAL COMPUTER BLOCK

J19
Raspberry_Alimentation

1 2

+12V GND

J20
I2C_SDA_SCL_RASPBERRY_COM

1 2 3 4

pin_SDA
pin_SCL
+5V GND

U5
RASPBERRY_PI_4B_4GB

	5V	2	
	3V3	1 17	
pin_SDA	3	GPIO2/SDA1	
pin_SCL	5	GPIO3/SCL1	
	7	GPIO4/GPIO_GCKL	GPIO14/TXD0	8
			GPIO15/RXD0	10
	11	GPIO17/GPIO_GEN0	
	13	GPIO27/GPIO_GEN2	GPIO5	29
	12	GPIO18/GPIO_GEN1	GPIO6	31
	15	GPIO22/GPIO_GEN3	GPIO12	32
	16	GPIO23/GPIO_GEN4	GPIO13	33
	18	GPIO24/GPIO_GEN5	GPIO16	36
	22	GPIO25/GPIO_GEN6	GPIO19	35
			GPIO20	38
	24	GPIO8/SPI_CE0	GPIO21	40
	26	GPIO7/SPI_CE1	GPIO26	37
	23	GPIO11/SPI_SCLK	
	19	GPIO10/SPI_MOSI	TR00	42
	21	GPIO9/SPI_MISO	TR01	41
			TR02	44
	27	ID_SD	TR03	43
	28	ID_SC	
		SHIELD	
		GND	

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ENERGY MANAGEMENT SYSTEME (EMS)

J21
DRV8871_Motor_Alimentation
+24V GND

J23
Arduino_Alimentation
+5V GND

J24
Raspberry_Alimentation
+12V GND

J25
I2C_SDA_SCL_EMS_SCREEN
pin_SDA
pin_SCL
+5V GND

J22
Servo_Alimentation
+6V GND

J30
L293D_A4988_Alimentation
+5V GND

U6
TRI1-2413

| 1 | +Vin | +Vout | 7 |
| 2 | -Vin | -Vout | 6 |

U7
Ag9905LP

5	VIN+	+VDC	1
		ADJ	4
7	VIN-	-VDC	3

I2C BLOCK

J26
I2C_SDA_SCL_ARDUINO_COM

pin_SDA
pin_SCL
+5V GND

J27
I2C_SDA_SCL_NVIDIA_COM

pin_SDA
pin_SCL
+5V GND

J28
I2C_SDA_SCL_EMS_SCREEN

pin_SDA
pin_SCL
+5V GND

J29
I2C_SDA_SCL_RASPBERRY_COM

pin_SDA
pin_SCL
+5V GND