

AZPRRC-T13 & AZPRRC-R13

Spec V1.0

1. Summarize

AZPRRC-T13&AZPRRC-R13 is a 2.4G wireless robot controller. AZPRRC-T13 are transmitters and AZPRRC-R13 are the receivers. However, AZPRRC-R13 also the transmitters. The button and rocker action from AZPRRC-T13 will be send to the AZPRRC-R13 by wireless means. When AZPRRC-R13 get the communication, it will send the commands to RRC host controller to control the robot moves.

2. Electrical feature

Device end:

MCU working voltage: 3.3V~6V

Current consume in natural status: 10 ~ 20mA (battery working voltage 6V)

Current consume when sleeping: <30uA (battery working voltage 6V)

Dongle end:

MCU working voltage: 5V

Current consume in natural status: 15 ~ 25mA

3. RF feature :

Working frequency: 2403~2479MHz (bandwidth: 1MHz)

Transmission power: 0dBm(1mW)

Transmission velocity: 1Mbps

Transmission distance: 0~15m

RF statoscope: -85dBm(1Mbps)

Can skip frequency automatically, be of resisting interference power

4. Functional Description

A. Checking code manner :

Press the transmitter button to the code (CONNECT), the transmitter will enter to the code mode, the LED on the transmitter will flicker on the rate of 16Hz, if fail to check code or press the button again within 15s, the transmitter will exit to the code model. Otherwise, the transmitter will enter into the working mode, and the LED on the transmitter will stop flashing. Code mode of receiver is the same as transmitter.

B. Sleep mode

Transmitters at the following two circumstances will enter into Sleep mode.

- a. In the case of disconnected circumstances, it will enter the sleep mode after 2 minutes.
- b. In the case of connected circumstances without any operation, it will enter the sleep mode after 5 minutes.

Wake-up transmitter operation are pressing any of a button from UP、RIGHT、DOWN、LEFT、SELECT、START、1、2、3、4r on the transmitter.

C. Low-voltage mode

If transmitter voltage is lower than 3.8V, it will enter low-voltage mode 1. In this case, LED on the transmitter will be flashing by the rate of 2Hz, if in connection mode, the transmitter can be operated normally. If transmitter voltage is lower than 3.3V, it will enter low-voltage mode2. LED on the transmitter will be extinguished, the transmitter will stop working, it need to replace batteries before working.

D. LED instructions

LED on the tansmitter instructs the following functions:

- a. line disconnection directions: blinking by 0.5Hz frequency.
- b. code checking instructions: blinking by 16Hz frequency.
- c. low-voltage mode 1 instructions: blinking by 0.5Hz frequency.
- d. mode switching instructions in connection status: light express MODE button information is 0; Crush out express MODE button information is 1.

LED on the receiver instructions:

LED2 instruct the power function.

LED1 instruct the following function:

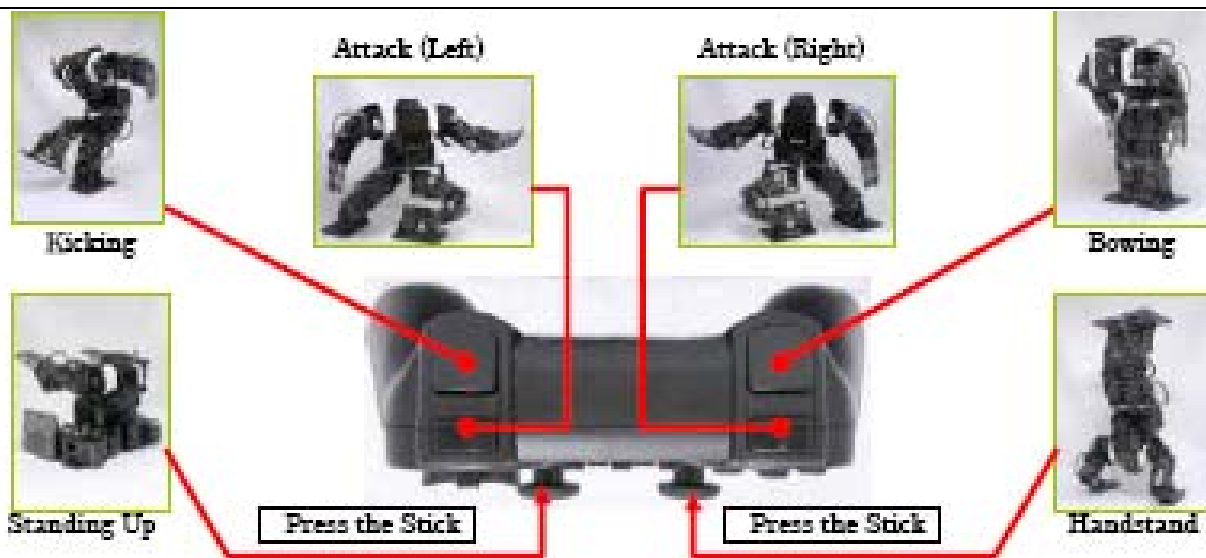


- a. line disconnection directions: blinking by 0.5Hz frequency.
- b. code checking instructions: blinking by 16Hz frequency.
- c. connection status, LED is light.

5. Working mode

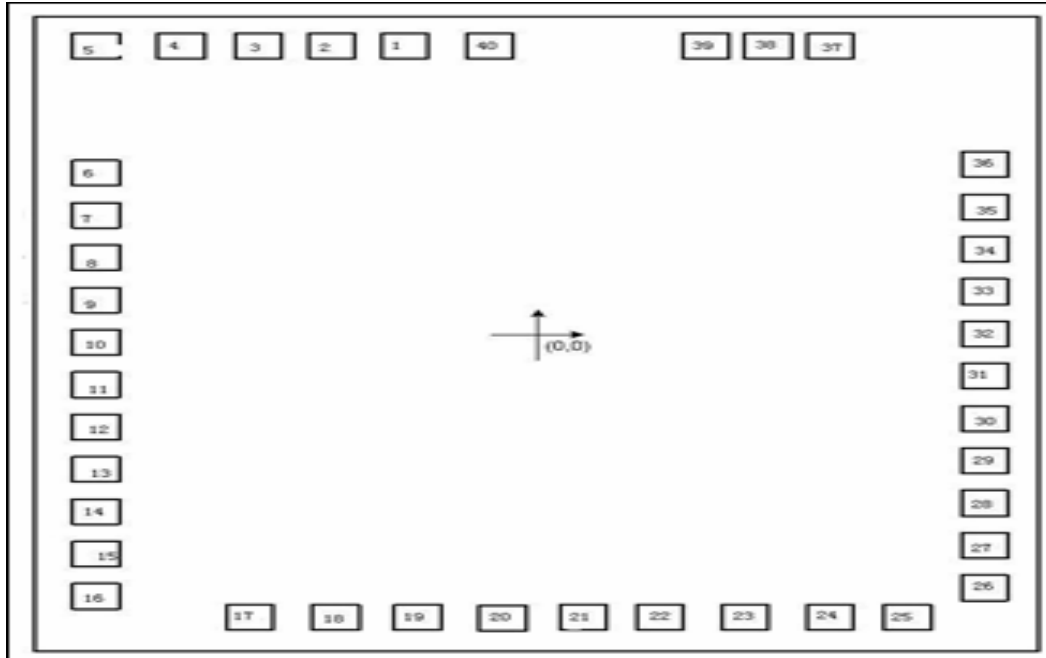
Transmitter contain 16p digital function buttons, they are UP, RIGHT, DOWN, LEFT, L1,L2, L3, R1, R2, R3, SELECT, START, 1,2,3,4 as well as two 3D Rockers, detail operation is as follows.

There are another two special function buttons MODE and CONNECT. In connection status, LED will always light instructions by pressing the MODE button on the transmitter, communication information will contain the information MODE button will be set to 0. Communication information will contain the information that MODE button will be set to 1 when press the MODE button again, and the same time, the LED on transmitter will be turned off. CONNECT function buttons has already stated at the front.



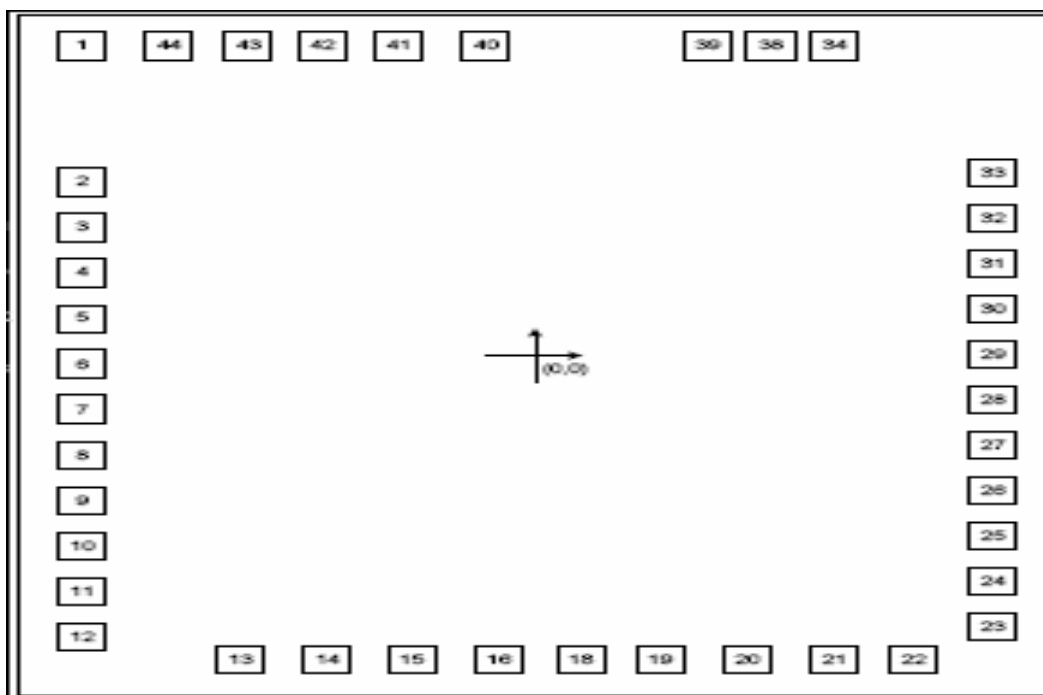
6. PAD diagram

A. AZPRRC-T13 DISE PAD diagram



Pad NO.	Sym	X	Y	Pad NO.	Sym	X	Y
1	GND	-257.8	1015	21	SPIEN	-1.9	-1015
2	INT	-362.8	1015	22	RSDAT	103.2	-1015
3	DATA	-471.1	1015	23	TRSCCLK	208.2	-1015
4	CLK	-582.7	1015	24	TRRDY	313.2	-1015
5	AU	-691	1015	25	TRINT	418.1	-1015
6	AL	-715	89.5	26	PCB	715	-960.5
7	L1	-715	-15.5	27	BU	715	-855.5
8	L2	-715	-120.5	28	BR	715	-750.5
9	CONNECT	-715	-225.5	29	BD	715	-645.5
10	MODE	-715	-330.5	30	BL	715	-540.5
11	LY	-715	-435.5	31	START	715	-435.5
12	LX	-715	-540.5	32	SELECT	715	-330.5
13	RY	-715	-645.5	33	AR	715	-225.5
14	RX	-715	-750.5	34	AD	715	-120.5
15	R3	-715	-855.5	35	SCL	715	-15.5
16	ADN	-715	-960.5	36	LVD2	715	89.5
17	R2	-421.8	-1015	37	Q1	407.6	1015
18	R1	-316.8	-1015	38	VDD	302.5	1015
19	LVD1	-211.8	-1015	39	OSCO	197.6	1015
20	L1	-106.8	-1015	40	OSC1	-152.8	1015

B. AZPRRC-R13 diagram



Red marks burning feet. pleas separated it from the external circuit when burning

Pad NO.	Sym	X	Y	Pad NO.	Sym	X	Y
1	NC	-691	1015	22	NC	418.1	-1015
2	NC	-715	89.5	23	CS	715	-960.5
3	DO	-715	-15.5	24	SDA	715	-855.5
4	DI	-715	-120.5	25	SCL	715	-750.5
5	CLK	-715	-225.5	26	NC	715	-645.5
6	P95	-715	-330.5	27	NC	715	-540.5
7	P50	-715	-435.5	28	NC	715	-435.5
8	LED1	-715	-540.5	29	NC	715	-330.5
9	NC	-715	-645.5	30	NC	715	-225.5
10	NC	-715	-750.5	31	CONNECT	715	-120.5
11	NC	-715	-855.5	32	NC	715	-15.5
12	NC	-715	-960.5	33	NC	715	89.5
13	NC	-421.8	-1015	34	REST	407.6	1015
14	NC	-316.8	-1015	38	VDD	302.5	1015
15	NC	-211.8	-1015	39	OSCI	197.6	1015
16	R5	-106.8	-1015	40	OSCO	-152.8	1015
18	R6	-1.9	-1015	41	GND	-257.8	1015
19	R7	103.2	-1015	42	INT	-362.8	1015
20	R8	208.2	-1015	43	DATA	-471.1	1015
21	R9	313.2	-1015	44	CLK	-582.7	1015

The above pin-pin in line with PACKAGE



Caution

1. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
3. NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.

Note

For updates or more information, we will not make another notification, so , please confirm the information is the latest version in your hands before using.

For the consequences because of wrong or inappropriate operation, we will not assume responsibility.