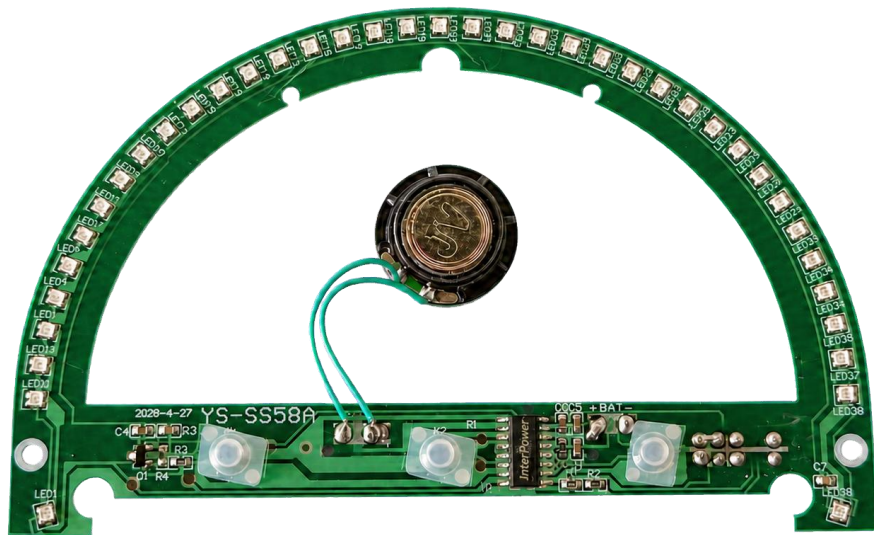




PRODUCT INTRODUCTION MANUAL | ILLUSTRATED EDITION

IPT2101 Match-3 Steering Wheel Toy PCBA

LOCATIONS | CONTROLS | GAMEPLAY | ASSEMBLY



38 multicolor LEDs | red / blue / green buttons | two game modes | sound feedback

V1.1 ILLUSTRATED EDITION

Functions, controls and assembly are presented visually, with concise technical boundaries and production notes.

1. PCBA Front Side at a Glance

Use the diagram to locate the six core functional areas, then follow Sections 3 and 4 for operation.

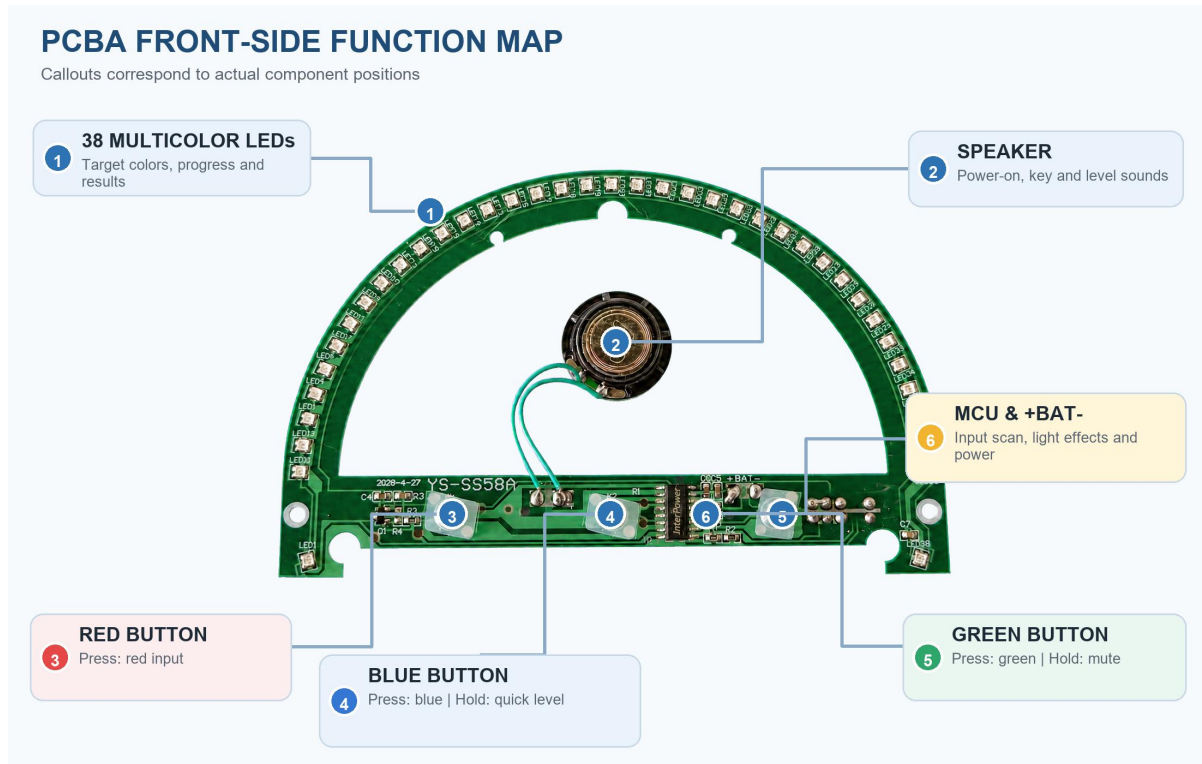


Figure 1. Front-side functions: LEDs, speaker, color buttons, MCU and power input

LIGHTS	INPUTS	SHORTCUTS	MODES
38 multicolor LEDs	Red / blue / green	Quick level, mute	Pair Match, Rainbow Match-3

2. PCBA Rear Side and Switch Positions

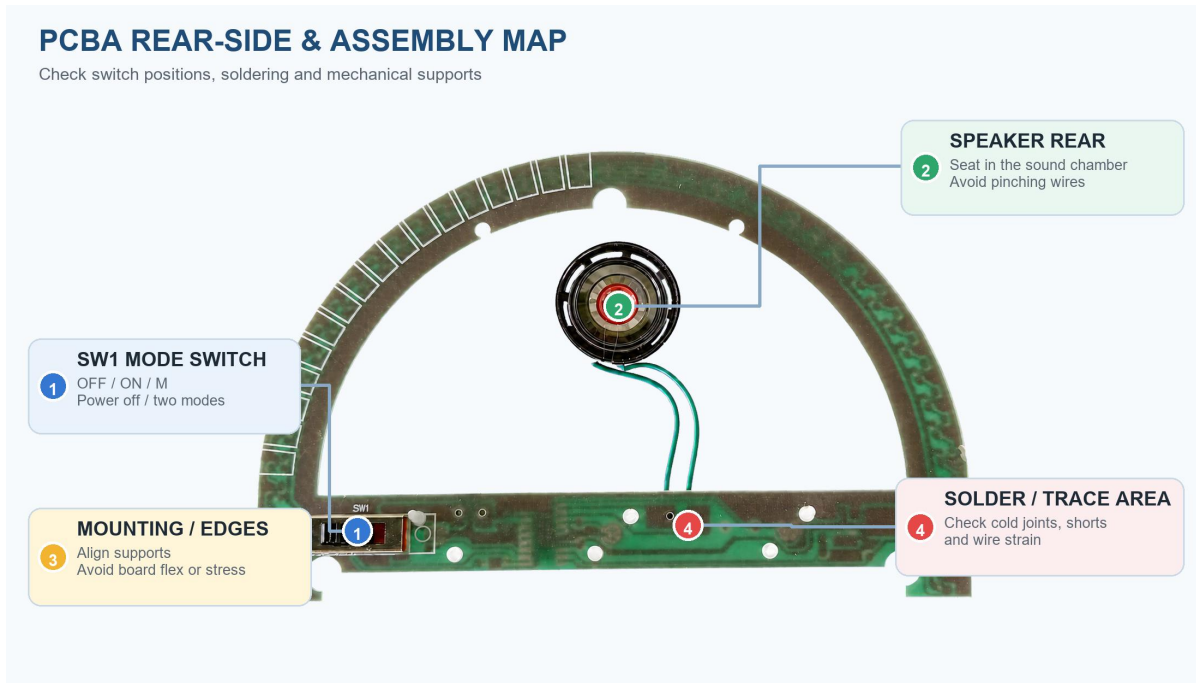


Figure 2. Rear-side locations: SW1, speaker, mounting points and solder area

SWITCH POSITIONS

OFF = power off; ON = Pair Match / Color Match; M = Rainbow Match-3. Follow the final housing labels for the physical slide direction.

3. Buttons and Shortcut Operations

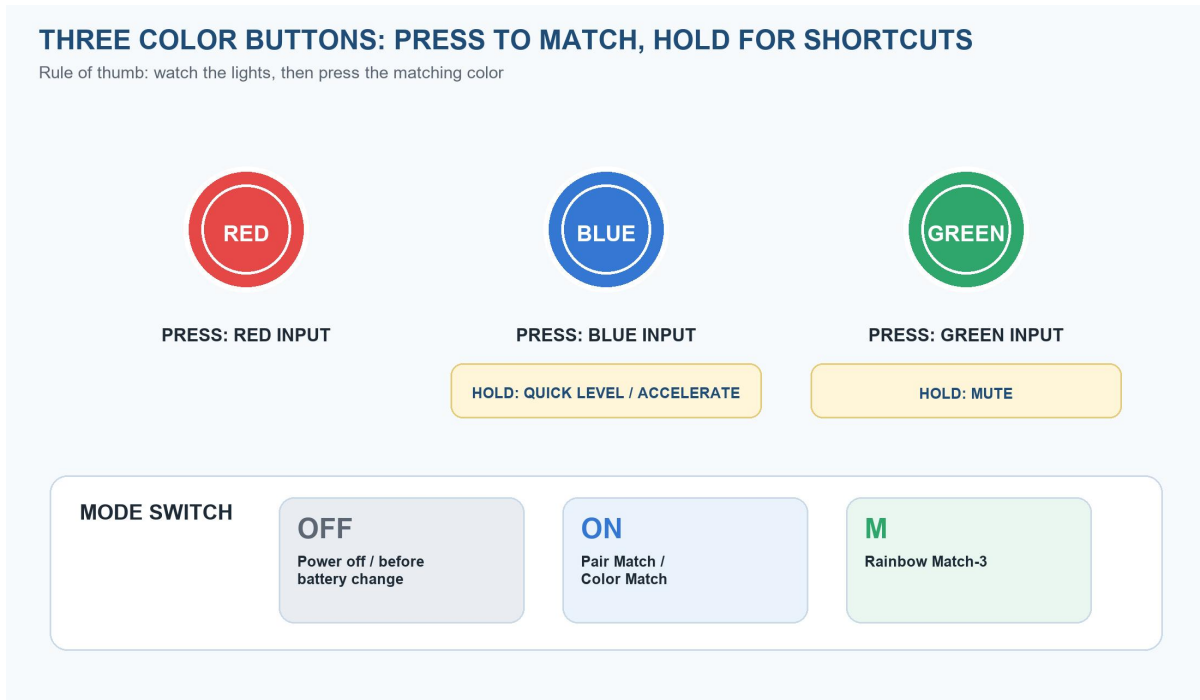


Figure 3. Short-press and long-press functions of the three buttons and mode switch

WHEN TO HOLD

Use long-press shortcuts during standby or before a level starts. In the reference firmware, holding the blue button starts from Level 6 and enters an accelerated sequence; production behavior follows the approved firmware.

4. Gameplay Illustrated

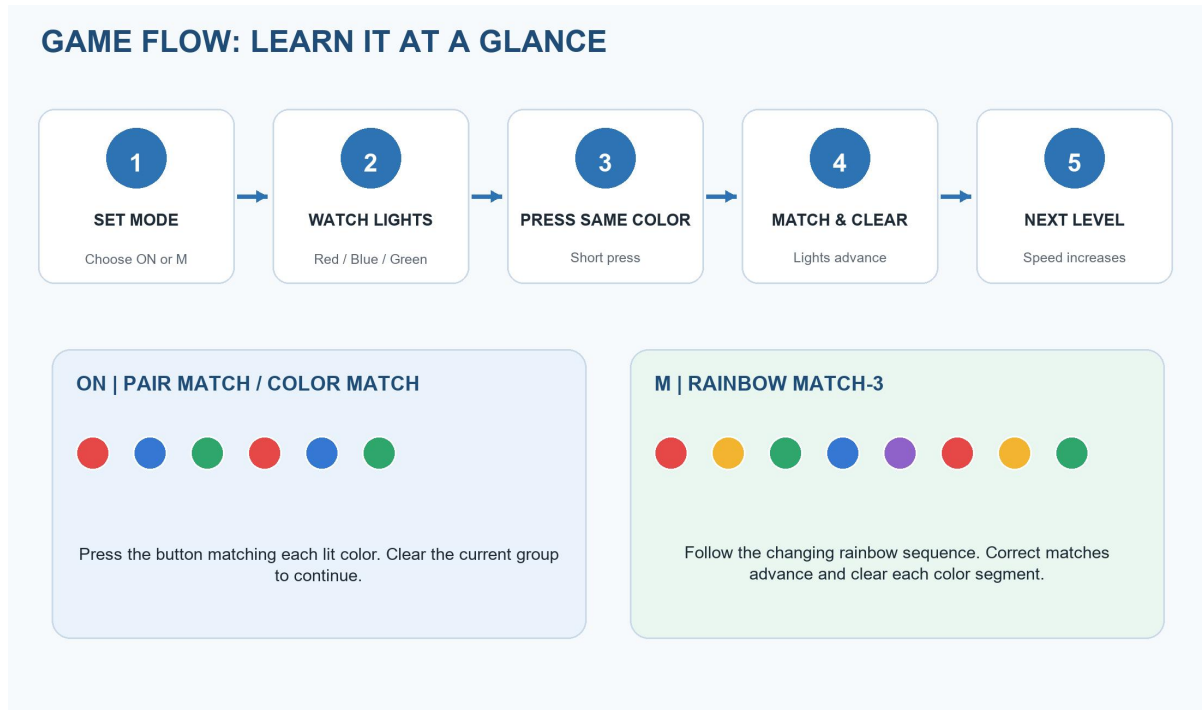


Figure 4. Common game flow and the difference between the two modes

ONE-SENTENCE RULE

Press the button matching the color currently lit. A correct input advances or clears the light sequence until the level is complete.

5. Product Assembly and First-Article Check



Figure 5. Assembly relationships for the light guide, button caps, battery box and speaker

ASSEMBLY RED LINES

Power off before battery replacement, assembly or service. Never reverse +BAT-, pinch the speaker wires, or let a button cap continuously preload a switch.

6. Inspection and Troubleshooting

6.1 Functional Inspection Sequence

1 SWITCH	2 BUTTONS	3 SHORTCUTS	4 LIGHT / SOUND	5 FULL ROUND
OFF / ON / M	Red / blue / green	Hold blue / hold green	38 LEDs and prompts	Mode, level and feedback agree

6.2 Four Common Issues

NO POWER Check battery charge, +BAT- polarity, solder joints and the SW1 position.	ABNORMAL LIGHTS Run the all-LED test; inspect LED soldering, component obstruction and the light guide.
BUTTON ERROR Retest without the housing; check button-cap alignment, travel, return and continuous pressure.	NO SOUND Confirm mute is off; inspect speaker wires, solder joints and the sound opening.

6.3 Production Acceptance Notes

- Retest key functions at incoming PCBA, subassembly and finished-product stages.
- Include low battery, repeated button presses, drop / vibration, temperature / humidity, ESD and wire-pull conditions in final-product validation.
- Record test voltage, duration, cycle count and pass/fail timing windows in the mutually approved inspection specification.

7. Customization, Contact and Disclaimer

7.1 Customization Options

GAME FIRMWARE	LIGHT / SOUND	MECHANICAL / I/O	BRANDING
Levels, speed, timing and hold logic	Colors, brightness, animation, prompts and volume	Board outline, holes, buttons, switch and battery	Logo, artwork, packaging and manual

7.2 Contact

Solution Review / Samples / PCBA Customization

WhatsApp +86 138 2963 2935

WeChat: scan the QR code on the right



WeChat QR Code

7.3 Disclaimer

This manual is provided for product introduction and technical reference. Component configuration, power scheme, light effects, sounds, levels and button logic may change with firmware or customer customization. Production is governed by the mutually approved BOM, drawings, firmware and acceptance specification.

The finished-product manufacturer must complete electrical, mechanical, toy-safety, EMC, ESD, environmental, reliability and target-market compliance validation for the final application. The implementing party assumes risks arising from unapproved installation, use or design changes.