

MODEL: WMH-158M

NAME: UFO CATCHER

MANUAL

MAIN BOARD VERSION: W220918 VER.4

SOFTWARE VERSION: Z158-06

MANUAL VERSION: VER.0



PAOKAI ELECTRONIC ENTERPRISE CO., LTD.

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CHAPTER 1 OPERATION

SECTION 1 HOW TO PLAY

1. Insert coins/tokens into coin slot, the display shows credits and the crane plays game music.
2. Use joystick to move the claw above your selected object. When you move the joystick, the display shows the game time countdown and [DROP] button light is on.
3. At pressing [DROP] button or time's up (time value is adjustable), the claw lowers and catch the object.
4. If "CATCH IN AIR" function is available, [DROP] button light keeps flashing before the claw reaches the bottom; press [DROP] again to catch in the air.
5. After the catch, the claw rises up till it touches Stop-Up SW, then moves to home position and releases.

SECTION 2 GAME RULES

Demo Music

Play DEMO music every 5 min. when no one is playing. If there is multi-machine connection, the music will play and stop simultaneously.

Coin In

1. If COIN pulse speed is lower than 20 msec, the machine does not recognize the signal.
2. If COIN pulse speed is over 300 msec, the machine shows error code.
3. COIN display:
 - 1 coin 1 credit: the credit increases by 1 after coining in.
 - 2 coins 1 credit: the credit increases by 1 after inserting 2 coins. The machine plays sound effect and the coin meter increases by 1 after inserting the first coin, but the credit shown on the display does not increase until the second coin is inserted.

Shocking Machine

1. If a tilt is mounted in the machine, the machine will play "don't shock the machine" when players shock it.
2. If someone shocks the machine when the claw is closed, the claw will open then back to the home position.

Prize Out

1. The prize sensor at prize-out door detects whether there is prize falling. Choose ON/OFF in P.Sensor of item 12 General Set.
2. If the sensor is ON, win meter will increase by 1 after the sensor detects falling prize. If the prize stays within the detecting area more than 4 sec, error code will show up. After the error code is

cleared, the machine resumes to DEMO mode.

Claw Power

Fixed Drop: set the coordinate in item 16 (the time when claw voltage become C3), if the grabbing spot coordinate is smaller than drop spot coordinate, claw voltage will become C3 right after hitting up-stop SW.

Random Drop: apply 3 drop ways randomly.

1. Become C3 at the 85% of time before touching stop-up SW.
2. Become C3 when touching stop-up SW.
3. Become C3 at the 90% of time before reaching prize out area.

Normal Drop: become C3 when touching stop-up SW.

* Before C3, claw voltage becomes C2 for a period of time.

FCC Warning Statement

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.

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.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

CHAPTER 2 MAINTENANCE

SECTION 1 INNER VALUE SET, TEST MODE

How to enter:

1. Press TEST SW and power on.
2. In Demo mode, move the joystick forward and press TEST SW.

After entering test menu, move joystick to choose the item and press DROP to enter. Test items shown as follows:

MENU

NO.	ITEM	DESCRIPTION
00	Settlements	[1~5] Settle Rec. PD_in: 00000000 (number of games) PD_out: 00000000 (number of games) Drop*2sec>Settle Move the joystick forward/backward to check the settlement records. (total 5 records)
01	Bookkeeping	Total in: 00000000 (play times) Total out: 00000000 (pay out times) 01 pay out 000 Play ↓ 02 pay out 000 Play ↓ ;; ;; 20 pay out 000 Play ↓ Press [DROP] for 2 seconds to clear data. Move joystick left to go back to main menu.
02	CoinMech	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Coin1: now 1 coin 1 play (Default= 1 coin 1 play; range: 1-99) Move the joystick up/down to adjust the value and move left to choose coin-play adjustment; press [DROP] to save and exit. >> Data share: ON (Default) (Choose ON/OFF at item 14 – Data Share.) When data share is ON, press [DROP] for 2 seconds to share data with other machines.
03	Plays Per Win	Move the joystick up/down to choose item and press [DROP] to enter setting.

		>> Plays Set: now= 0010 Play (Default; range: 1-9999) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Unpaid ADJ: now= 30 (Default; range: 10-60) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Data Share: ON (Default) As item 2 (CoinMech) description.
04	Game Mode	Move the joystick up/down to choose item and press [DROP] to enter setting. >> GameMode: Normal Mode (Default) (Range: Normal Mode, H Power w/o Coin, H Power w Coin, Winner Everytime) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> RND S.P. (random super power plays): 000 (Default; range: 0-999) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Data Share: ON (Default) As item 2 (CoinMech) description.
05	Game Time	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Game Time Adj: 20 sec. (Default; range: 10-90 sec.) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Data Share: ON (Default) As item 2 (CoinMech) description.
06	Claw Power	Move the joystick up/down to choose item and press [DROP] to enter setting. >> C1: C1= 25 (Default; range: 0-25) Move the joystick up/down to adjust the value and press [DROP] to save and exit. >> C2: C2= 07 (Default; range: 0-25) Move the joystick up/down to adjust the value and press [DROP] to

		save and exit. >> C3: C3= 10 (Default; range: 0-25) Move the joystick up/down to adjust the value and press [DROP] to save and exit. >> C4: C4= 25 (Default; range: 0-25) Move the joystick up/down to adjust the value and press [DROP] to save and exit. >> C2T= 150 msec. (Default; range: 0-500; unit: 10 msec.) Move the joystick up/down to adjust the value and press [DROP] to save and exit. >> Claw Test: move the joystick to start testing. Move to home position, move the joystick back for 2 SEC and press [DROP] to leave. Or press TEST to leave. *Home position: the prize out area >> Data Share: ON (Default) As item 2 (CoinMech) description.
07	Motor Speed	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Forward Speed: 10 (Default; range: 0-10) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Backward Speed: 10 (Default; range: 0-10) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Left Speed: 10 (Default; range: 0-10) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Right Speed: 10 (Default; range: 0-10) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Up Speed: 10 (Default; range: 0-10) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Down Speed: 10 (Default; range: 0-10) Move the joystick up/down to adjust the value and move the joystick left to save and exit. *Reset Claw Length when Down Speed is changed. >> Claw Test: move the joystick to start testing. Move to home position, move the joystick back for 2 SEC and press [DROP] to leave. Or press TEST to leave.

		*Home position: the prize out area >> Data Share: ON (Default) As item 2 (CoinMech) description. PS: 0= slowest, 10= fastest
08	Claw Length	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Rope Length Adj: 014 (Default; range: 1-249) Move the joystick up/down to adjust and press [DROP] to test, press [DROP] again to ascend the claw, move the joystick left to save and exit. >> Claw Test: move the joystick to start testing. Move to home position, move the joystick back for 2 SEC and press [DROP] to leave. Or press TEST to leave. *Home position: the prize out area >> Data Share: ON (Default) As item 2 (CoinMech) description.
09	Delay Set	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Delayed Down: OFF (Default; range: OFF, 1-19; unit: 100 msec) >> Delayed Pick: OFF (Default; range: OFF, 1-19; unit: 100 msec) >> Delayed Up: 5 (Default; range: OFF, 1-19; unit: 100 msec) >> Delayed Back: 3 (Default; range: OFF, 1-19; unit: 100 msec) >> Delayed D. Stop: 50 (Default; range: OFF, 1-99; unit: 10 msec) Move the joystick up/down to adjust the value and move the joystick left to save and exit. >> Claw Test: move the joystick to test Move to home position, move the joystick back for 2 SEC and press [DROP] to leave. Or press TEST to leave. *Home position: the prize out area >> Data Share: ON (Default) As item 2 (CoinMech) description.
10	Instant Pick	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Inst. Pick Set: Now= OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit.

		>> Data Share: ON (Default) As item 2 (CoinMech) description.
11	Machine Test	>> Gantry Test Please make proper operation because the SW stops working during this test. Beware of claw ascend and descend in case that the rope goes off the winding wheel or the motor gets stuck. After entering, follow the LCM instruction and use the joystick to move the gantry. Joystick forward, gantry forward Joystick backward, gantry backward Joystick leftward, gantry leftward Joystick rightward, gantry rightward Press DROP and joystick forward, gantry ascend Press DROP and joystick backward, gantry descend When the gantry moves, the 4th line of LCM will display the induction of front/back/left/right/up/down-stop SW. (All operation will be stopped when up/down motion more than 30 seconds or left/right motion more than 60 seconds. You can resume the operation after 60 seconds. The LCM will show stop operation and the time counts down.) Move to home position, move the joystick back for 2 seconds and press [DROP] to leave. Or press TEST to leave. ===== >> LCM Test LCM test; move the joystick left to exit after testing. ===== >> Music Test Test item 01-12; move the joystick left to exit after testing. ===== >> COIN Test Test whether COIN signal is normal, press [DROP] to reset. Move the joystick left to exit after testing. ===== >> Auto Demo Gantry auto test; move the joystick left to exit.
12	General Set	Move the joystick up/down to choose item and press [DROP] to enter setting. >> DemoMusic: ON (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit.

		>> UnpaidWin: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> Pick&Up: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> PlayKept: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> REC.Kept: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> FreeMode: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> P.Sensor: OFF (Default) OFF: detect during game; ON: always detect Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> ShockMach.: ON (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> Ttl DSP: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> ALW DSP: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> AutoPlay: ON (Default) Machine auto-play if joystick is not moved in 3 minutes. Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> DropToRel: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> MoveTo CTR: ON (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> DoorSpot: L.Out (Default) Move the joystick up/down to choose L.Out/R.Out and move the joystick left to save and exit. >> Gantry test: ON (Default)
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		Gantry moves forward/rightward/backward/leftward when power on or in claw test mode. If this setting is OFF, Random Drop will be set to B mode; item 18 Surprise and item 16 Drop Spot settings will be hidden. Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. >> Audio Check: OFF (Default) Move the joystick up/down to choose ON/OFF and move the joystick left to save and exit. OFF: no error message and keep operation when music IC is abnormal ON: show error message and stop operation when music IC is abnormal. >> Data Share: ON (Default) As item 2 (CoinMech) description.
13	RGB Set	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Motion Mode: 1 (Default; range: 0-4) Move the joystick up/down to choose, press [DROP] to save and move the joystick left to leave. 0: one fixed color 1: seven colors fade in/fade out 2: fixed red: green & blue flashing 3: fixed green: red & blue flashing 4: fixed blue: red & green flashing >> Brightness Set: 051 (Default; range: 10-51) Brightest=51, Darkest=10 Move the joystick up/down to adjust the value, press [DROP] to save and move the joystick left to leave. *This adjustment will affect the brightness of single color RGB light. >> Vary time: 2 sec. (Default; range: 0.5-10 sec.; unit: 0.1 sec.) The time between fade in and fade out. Move the joystick up/down to choose, press [DROP] to save and move the joystick left to leave. >> Stay time: 1 sec. (Default; range: 0.5-5 sec.; unit: 0.1 sec.) The stay time after fade in and fade out. Move the joystick up/down to choose, press [DROP] to save and move the joystick left to leave. >> Win Time: 5 sec. (Default; range: 1-20 sec.; unit: 0.1 sec.) The RGB time when player wins the prize. Move the joystick up/down to adjust the value, press [DROP] to save

		and move the joystick left to leave. >> Select Color: 3 (Default; range: 0-6) Move the joystick up/down to choose, press [DROP] to save and move the joystick left to leave. 0: Red 1: Pink (Blue + Red) 2: Blue 3: Yellow (Green + Red) 4: Indigo (Green + Blue) 5: Green 6: White (Red + Green + Blue) >> Meteor light mode: 25 (Default; range: 0-25) Move the joystick up/down to choose, press [DROP] to save and move the joystick left to leave. >> Meteor light speed: 0 (Default; range: 0-4) Fastest=4, Slowest=0 Move the joystick up/down to choose, press [DROP] to save and move the joystick left to leave. >> Data Share: ON (Default) As item 2 (CoinMech) description.
14	Data Share	Move the joystick up/down to choose item: >> Win Play= ON (Default) Press [DROP] to choose ON/OFF. >> Claw Voltage= ON (Default) Press [DROP] to choose ON/OFF. >> Motor Speed= ON (Default) Press [DROP] to choose ON/OFF. >> Rope Length= ON (Default) Press [DROP] to choose ON/OFF. >> Delay= ON (Default) Press [DROP] to choose ON/OFF. >> Game Mode= ON (Default) Press [DROP] to choose ON/OFF. >> Game Time= ON (Default) Press [DROP] to choose ON/OFF. >> Coin Set= ON (Default) Press [DROP] to choose ON/OFF. >> Instant Pick= ON (Default) Press [DROP] to choose ON/OFF. >> General Setting= ON (Default) Press [DROP] to choose ON/OFF.

		>> RGB Adjust= ON (Default) Press [DROP] to choose ON/OFF. >> Drop Set= ON (Default) Press [DROP] to choose ON/OFF. >> Surprize= ON (Default) Press [DROP] to choose ON/OFF. You can choose whether to share data with other machines in each item's adjustment if its Data Share is ON. >> Data Share press [DROP] to enter and move the joystick up/down to choose: <Common Share>: share the data of items which are ON, those machines whose Data Share are OFF will not receive the data. <Mandatory Share>: share the data of items which are ON, those machines whose Data Share are OFF will also receive the data.
15	Smart Claw	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Auto Set After entering, the LCM displays: NC1 C2 C3 Move the gantry to proper position by using the joystick, then press [DROP] to lower the claw. After hitting the down-stop SW, the claw will stop and close with superpower, then move to home position after ascending. Next, it will decrease claw voltage 0.5V every 0.2 sec. When the prize fall through prize sensor, each claw voltage and the rope length will be converted according to the falling voltage and displayed on the LCM. Press [DROP] to retest or move the joystick left to save and leave setting. >> Claw Test: move the joystick to test Move to home position, move the joystick back for 2 SEC and press [DROP] to leave. Or press TEST to leave. *Home position: the prize out area
16	Drop Spot	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Fixed RND select: Normal Drop (Default) Move the joystick up/down to choose Fixed Drop or Random Drop. Press [DROP] to enter setting Normal Drop: hit up-stop SW then become C2 (weak claw voltage

		time), then become C3. Fixed Drop: after entering, the LCM shows the drop spot (X, Y), the origin of coordinates is 0 (unit: 1msec). Move the gantry to the target drop spot and press [DROP], the gantry will automatically move to home position then move to drop spot and DROP the claw. Check whether the drop spot is the one you want, press [DROP] to reset or move the joystick left to save and leave. RND Drop= 00 (Default; range: 0-3) Move the joystick up/down to adjust and move the joystick left to save and leave. 0: occurrence rate A(10%) B(40%) C(50%) 1: occurrence rate A(20%) B(30%) C(50%) 2: occurrence rate A(30%) B(30%) C(40%) 3: occurrence rate A(40%) B(30%) C(30%) A: become C3 before hitting up-stop SW B: become C3 when hitting up-stop SW C: become C3 when reaching prize out area >> Claw Test: move the joystick to test Move to home position, move the joystick back for 2 SEC and press [DROP], or press TEST to leave. *Home position: the prize out area >> Data Share: ON (Default) As item 2 (CoinMech) description.
17	Surprise	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Surprise: Now= OFF (Default) Move the joystick up/down to choose ON/OFF, press [DROP] to save and leave. Choose ON, press [DROP] to set the prize out coordinate, move the joystick left to leave without save. After entering, the LCM will display: >> Prize Out Coord X: 0 Y: 0 Move joystick: start to move (1) Move the joystick down, LCM shows “2SEC→DSND→Exit”, press [DROP] to leave without save. (2) Move the gantry to the edge of prize out area (the max coordinate (X, Y)) and press [DROP]. The gantry will move to prize out area then move back to the designated place; check whether it is the

		place you want. Press [DROP] to reset or move the joystick left to save and leave. >> Ratio: 80% (Default; range: OFF, 10-80%) When the number of games played/Plays Per Win reaches the percentage, SURPRIZE will occur every time or every 3 times. Move the joystick up/down to choose, move the joystick left to save and leave. >> Mode: Fixed (Default; range: Fixed, Random) Move the joystick up/down to choose, move the joystick left to save and leave. Fixed: SURPRIZE occurs every time after meeting the condition. Random: SURPRIZE occurs every 3 times after meeting the condition. >> Data Share: ON (Default) As item 2 (CoinMech) description.
18	Csltn Set	Move the joystick up/down to choose item and press [DROP] to enter setting. >> Consolation: Now= OFF (Default) Move the joystick up/down to choose ON/OFF, and move left to save and leave. Choose ON, LCM displays: Now= ON ->Enter Move the joystick right to enter and choose ticket or ball function. Ticket (Default) or Ball -> Enter Move the joystick up/down to choose Ticket/Ball function. Move the joystick right to enter and adjust the numbers of tickets/balls (Default value= 1; range: 1-10). Move the joystick up/down to adjust the value and move left to save and leave. >> No more Csltn Move the joystick up/down to choose Keep Operate (Default) or Stop Operate; move left to save and leave. >> Csltn owned Move the joystick up/down to choose POW Off:Clear(Default) or POW Off:NoClear; move left to save and leave. >> Data Share: ON (Default) As item 2 (CoinMech) description.
19	Back to Default	Press [DROP], the LCM displays “DSND 2SEC:Reset” or “Left: Exit”. Press [DROP] for 2 seconds, the machine will reboot and clear all data, all settings resume to default value. Move the joystick left to leave without initializing.
20	Exit	Press [DROP] to leave test mode.

SECTION 2 FAILURE DESCRIPTION

Item	Description	Checking Point	Trouble Shooting
Er02 Claw descend fail	Up/down motor or up/down stop SW failure	1. Power on 2. During play 3. Demo mode	1. Check if the up/down motor works well 2. Check if up-stop SW is hit when claw descends 3. Check if up-stop SW works well 4. Check if down-stop SW works well 5. Check if the air-plug of the gantry set connects well 6. Check if the J10 PIN on the PCB is loose 7. PCB failure
Er03 Claw ascend fail	Up/down motor or up-stop SW failure	1. Power on 2. During play 3. Demo mode	1. Check if the up/down motor works well 2. Check if up-stop SW works well 3. Check if the air-plug of the gantry set connects well 4. Check if the J10 PIN on the PCB is loose 5. PCB failure
Er22 Gantry forward fail	Front/back motor or front-stop SW failure	1. Power on 2. During play	1. Check if the front/back motor works well 2. Check if front-stop SW works well 3. Check if the air-plug of the gantry set connects well 4. Check if the J10 PIN on the PCB is loose 5. PCB failure
Er05 Gantry backward fail	Front/back motor or back-stop SW failure	1. Power on 2. During play	1. Check if the front/back motor works well 2. Check if back-stop SW works well 3. Check if the air-plug of the gantry set connects well 4. Check if the J10 PIN on the PCB is loose 5. PCB failure
Er06 Gantry leftward fail	Left/right motor or left-stop SW failure	1. Power on 2. During play	1. Check if the left/right motor works well 2. Check if left-stop SW works well 3. Check if the air-plug of the gantry set connects well 4. Check if the J10 PIN on the PCB is loose 5. PCB failure
Er23 Gantry rightward fail	Left/right motor or right-stop SW failure	1. Power on 2. During play	1. Check if the left/right motor works well 2. Check if right-stop SW works well 3. Check if the air-plug of the gantry set connects well 4. Check if the J10 PIN on the PCB is loose

			5. PCB failure
Er04 Prize sensor error	Prize out sensor failure	Anytime	1. Check if the sensor is mounted at the right place 2. Check if J5 sensor harness is connected well 3. Sensor failure 4. PCB failure
Er07 Coin 1 meter error	Coin 1 meter failure or not connected	Anytime	1. Check if the J5 PIN connects well 2. Check if meter works well or the Pin connects well 3. PCB failure
Er08 Coin 2 meter error	Coin 2 meter failure or not connected		
Er09 Prize meter error	Prize meter failure or not connected		
Er11 CoinMech 1 NC error	CoinMech 1 NC error	1. Anytime 2. Coin in	1. Check if coin mech is set to N.O. 2. Player cheating (COIN signal more than 1.2 seconds) 3. Check if the J5 PIN connects well 4. Coin mech failure 5. PCB failure
Er12 CoinMech 2 NC error	CoinMech 2 NC error		
Er14 Super power more than set times without paying out prize	Super power more than 30 times without paying out prize	Anytime	1. Reboot the machine or wait for 10 minutes to clear the error.
Er16 Shocking machine warning	Tilt failure	Anytime	1. Check if the tilt is mounted well 2. Check if the J5 PIN connects well 3. PCB failure
Er17 FRAM error	FRAM failure	Anytime	1. Mainboard U2 failure
Er19 Gantry motor voltage incorrect, please use 12V	Gantry motor voltage incorrect	Anytime	1. Check if mainboard JP4 is 24V 2. Check F1 fuse
Er20 Claw coil voltage incorrect, please use 24V	Claw voltage incorrect	Anytime	1. Check if mainboard JP5 is 48V 2. Check F2 fuse
Er25 Up-stop SW error	Up-stop SW error	During play	1. Check if up-stop SW works well 2. Check if the air-plug of the gantry set connects well 3. Check if the J10 PIN on the PCB is loose 4. PCB failure

Er26 No tickets	No tickets (press TEST to continue paying out)	Demo mode	1. Check if there are tickets 2. Check if the J5 PIN connects well 3. PCB failure
Er27 No balls	No balls (press TEST to continue paying out)	Demo mode	1. Check if there are balls 2. Check if the J5 PIN connects well 3. PCB failure
Er29 SPI error	Main or sub MCU failure	Anytime	1. Mainboard U1 or U13 failure
Er30 System startup fail	PCB is loaded with incorrect data	Power on	1. Please send the main board back to factory.
Er32 Test button NC error	Test button signal NC more than 10 sec.	Anytime	1. Check if the test button is mounted well 2. Check if the J5 PIN connects well 3. PCB failure
Er33 Sound effect IC U7 U8 error	Sound effect IC error	When playing sound effect	1. Check if sound effect data is burnt into U7 2. Check if U8 sound effect driver IC works well 3. PCB failure
Er34 Music IC U5 U6 error	Music IC error	When playing music	1. Check if music data is burnt into U5 2. Check if U6 music IC works well 3. PCB failure

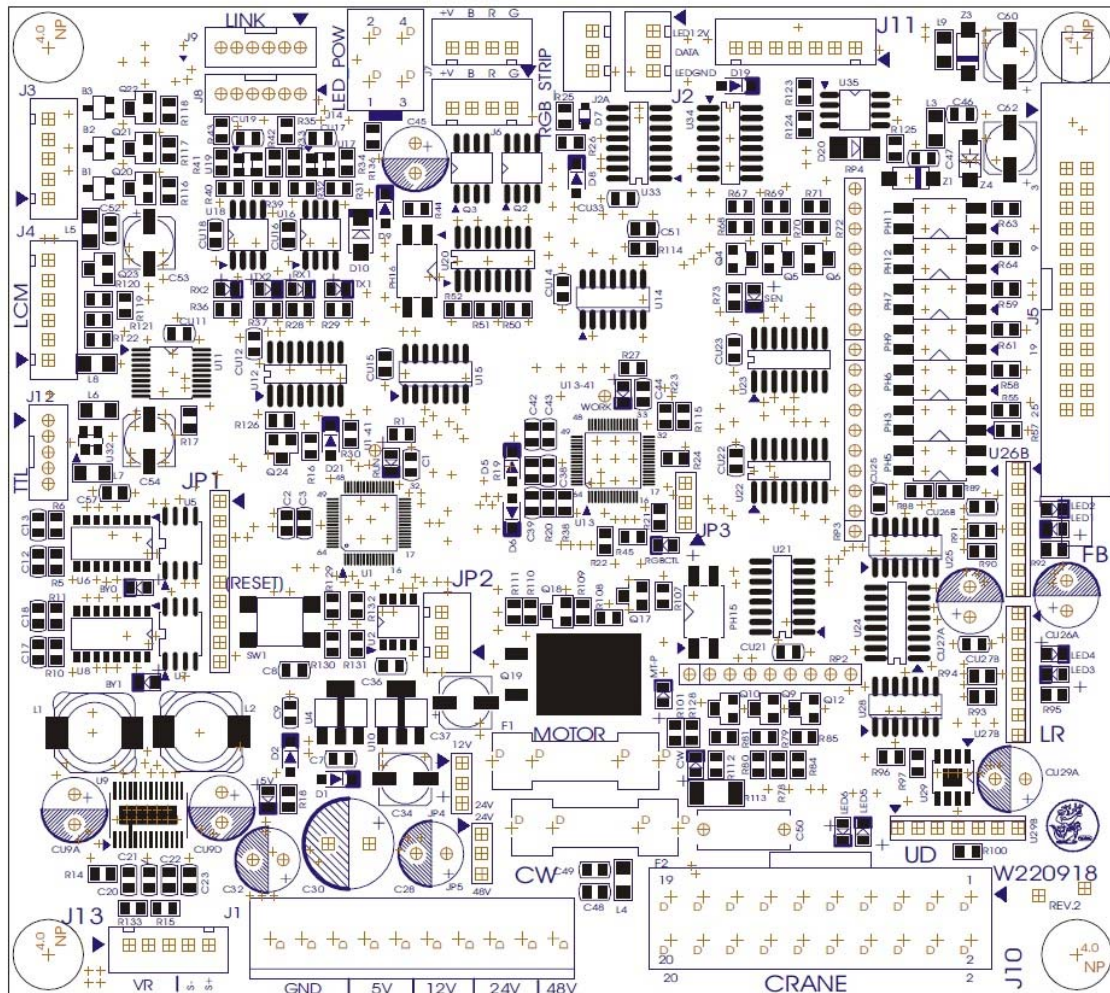
SECTION 3 TROUBLESHOOTING

Item	Description	Check and Maintenance
Coin In	No credit after coin in	1. Check if the Coins vs. Plays value is correct. 2. If Coins vs. Plays value cannot be adjusted, it may be main board problem. Please send the main board back for repair.
	Coins cannot be inserted into coin slot	Comparative Coin Mech: 1. Check the sample coin at the coin mech. 2. Loosen the coin mech sensitivity. 3. Check if DC12V supplied to coin mech. 4. Coin mech failure. Multi Coin Mech: 1. Adjust the coin mech data based on manual. 2. Check if DC12V supplied to coin mech.
Claw Power	Claw open after hitting up-stop switch	1. C3 is too low. Adjust C3 higher according to prize dimension and weight.
	Claw is closed after power on	1. Claw coil burned. Please replace it. 2. Main board is out of service.
	Claw does not close	1. Check if the cable of claw coil falls off from the terminal. 2. Main board is out of service. 3. Check if the claw closing time is too long which make the main board automatically cut off the power to claw for protection. Reboot the machine to solve this problem.
Gantry	Not return to home position	1. Reboot the machine. If the gantry still fails to return to home position, check if back-stop SW or left/right-stop SW are in proper position and the cable not falls off. 2. Check if there is poor contact between the connector of gantry set. 3. Main board is out of service.
	Not move forward/backward by joystick operation	1. Check if joystick front/back SW malfunctions or the cable is not properly connected. 2. Check if J5 connecting pin of P.C.B. is properly connected. 3. Check if front-stop SW or back-stop SW are in proper position. Also check if their connecting wires are properly connected. 4. Check if front/back motor is out of function or its wires are not properly connected. Also check if its shaft pinion is properly positioned. 5. Check if all connecting pins of gantry are properly connected.
	Not move to left/right by joystick operation	1. Check if joystick left/right SW malfunctions or the cable is not properly connected.

		2. Check if J5 connecting pin of P.C.B. is properly connected. 3. Check if left-stop SW or right-stop SW are in proper position. Also check if their connecting wires are properly connected. 4. Check if left/right motor is out of function or its wires are not properly connected. Also check if its shaft pinion is properly positioned. 5. Check if all connecting pins of gantry are properly connected to the machine.
Claw Descent	Not lower down by [DROP] button operation until time is up	1. Check if [DROP] button is functioning properly. 2. Check if [DROP] button wires are properly connected. 3. Check if J5 PIN of PCB is loose.
	Not lower down, but the [DROP] button is in normal condition	1. Check if up/down motor wires are properly connected. 2. Check if up/down motor is out of function. Also check if its shaft pinion is in proper position. 3. Check if wire winding is normal. 4. Check if J10 PIN of PCB is loose. 5. PCB failure.
	Not lower down or only lower a bit, then close in the air and return to home position	1. Check if winding cord is stuck. 2. Check if down-stop SW is functioning properly.
	Not fully lower down	1. Check if winding cord is of proper length. 2. Check if winding cord is stuck. 3. Check if down-stop SW is functioning properly. 4. Check if lowering length is proper.
Claw Grab	Not open when reached home position after grab	1. Check if back-stop or left/right-stop SWs are out of function or if their wires are not properly connected. 2. Check if J10 PIN of PCB is loose.
	Gantry moves to home position without claw ascent	1. Check if up-stop SW is hit by something. 2. Check if up-stop SW is in proper position and normal function. 3. PCB failure.
	Claw and gantry stop moving after grabbing the prize	1. Check if the up/down motor is out of function or if its wires are not properly connected. 2. Check if up-stop SW is in proper position and in normal function. 3. PCB failure.

CHAPTER 3 WIRING DIAGRAM

SECTION 1 MAIN BOARD W220918 V4



*JP4: Gantry motor voltage (12V or 24V)

*JP5: Claw voltage (24V or 48V)

J2, J2A (2.5mm-3P) CONNECT TO METEOR LIGHT

1	+12V	
2	DATA	
3	GND	

J6, J7 (2.5mm-4P) CONNECT TO GENERAL RGB LIGHT

1	G	Connect to light strip B (blue)
2	R	Connect to light strip R (red)
3	B	Connect to light strip G (green)
4	+VIN	Connect to light strip +V

J12 (2.0mm-5P) WIFI COMMUNICATION EQUIPMENT (TTL) (RESERVED)		
1	+5V	
2	GND	
3	RXI3	
4	TX03	
5	+12V	

J3 (2.5mm-5P RED) SERIAL SHIFT OUTPUT CONTROL (SUPER CARD RESERVED)		
1	+12V	
2	SD	
3	SLE	
4	SCK	
5	GND	

J13 (2.5mm-5P) AUDIO OUTPUT		
1	VIN	VR1
2	VOUT	VR2
3	GND	GND
4	SP-	SPEAKER-
5	SP+	SPEAKER+

J4 (2.5mm-6P) LCM (TRADITIONAL CHINESE) SPI CONTROL OUTPUT SIGNAL		
1	+5V	Connect to LCM J-2, J-15
2	LCM-CS	Connect to LCM J-4
3	LCM-SID	Connect to LCM J-5
4	LCM-SCLK	Connect to LCM J-6
5	LED-BACK	Connect to LCM J-16
6	GND	Connect to LCM J-1

J14 (4.2mm-4P) LED POWER SUPPLY						
POWER GROUND INPUT		LED-GND	1	2	LED-GND	POWER GROUND INPUT
RGB LIGHT POWER SUPPLY +12V OR +24V INPUT		LED-POW	3	4	LED-12V	FULL COLOR LIGHT (WS2811) POWER SUPPLY +12V INPUT

J8, J9 (2.0mm-6P) RS485 COMMUNICATION CONNECTOR		
1	B1-	Connect to W150106 J3-2
2	A1+	Connect to W150106 J3-3
3	A2+	Connect to W150106 J3-4
4	GND	Connect to W150106 J3-5
5	H-	Connect to W150106 J3-6
6	B2-	Connect to W150106 J3-7

J11 (2.5mm-7P) PUSHER SET CONTROL SIGNAL (RESERVED)		
1	IN01	PUSHER OPEN-DOOR SW
2	IN02	PUSHER CLOSE-DOOR SW
3	IN03	PUSHER LOCATING SW
4	OUT1-	PUSHER MOTOR-
5	OUT2-	DOOR MOTOR-
6	OUT3+	DOOR MOTOR+
7	GND	

J1 (3.96mm-10P) POWER INPUT		
1	GND	
2	GND	
3	GND	
4	+5V	
5	+5V	
6	+12V	
7	+12V	
8	+24V	
9	+24V	
10	+48V	

J10 (4.2mm-20P) GANTRY CONTROL SIGNAL					
UP/DOWN MOTOR+	UDMT+	1	2	UDMT-	UP/DOWN MOTOR-
LEFT/RIGHT MOTOR+	LRMT+	3	4	LRMT-	LEFT/RIGHT MOTOR-
FRONT/BACK MOTOR+	FBMT+	5	6	FBMT-	FRONT/BACK MOTOR-
+12V	+12V	7	8	GND	GND
RESERVED	ST	9	10	SU	UP-STOP SW
GND	GND	11	12	SD	DOWN-STOP SW
FRONT-STOP SW	SF	13	14	SL	LEFT-STOP SW
BACK-STOP SW	SB	15	16	SR	RIGHT-STOP SW
GND	GND	17	18	GND	GND
CLAW+	CW+	19	20	CW-	CLAW-

J5 MULTIPLE CONNECTOR (13X2P)					
+5V	+5V	1	2	GND	
	GND	3	4	HP-	REFUND MOTOR DRIVE SIGNAL-(RESERVED)
PRIZE METER SIGNAL-	IM3	5	6	HPSW	REFUND MOTOR DETECT SIGNAL (RESERVED)
METER 2 SIGNAL-(RESERVED)	IM2	7	8	COIN-P+	COIN MECH POWER+

COIN METER SIGNAL-	IM1	9	10	GND	
	+12V	11	12	COIN1	COIN MECH 1 COIN SIGNAL
	+12V	13	14	COIN2	COIN MECH 2 COIN SIGNAL
DROP LIGHT+	LPD1+	15	16	GND	
SHOCKING MACHINE SW	MOVE	17	18	SEN	PRIZE OUT DOOR DETECT SIGNAL
TEST SW	TEST	19	20	+12V	
JOYSTICK FORWARD SW	FRONT	21	22	GND	
JOYSTICK LEFTWARD SW	LEFT	23	24	BACK	JOYSTICK BACKWARD SW
DROP BUTTON SW	DOWN	25	26	RIGHT	JOYSTICK RIGHTWARD SW