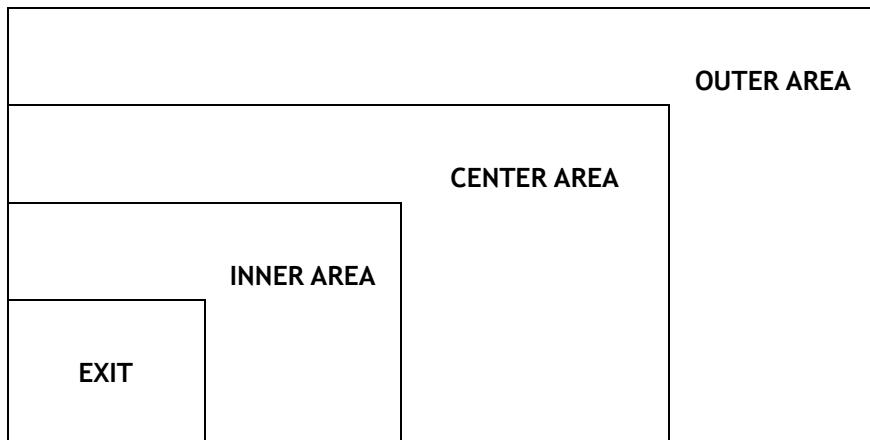


WMH-288B1 INSTRUCTION

- FEATURES :

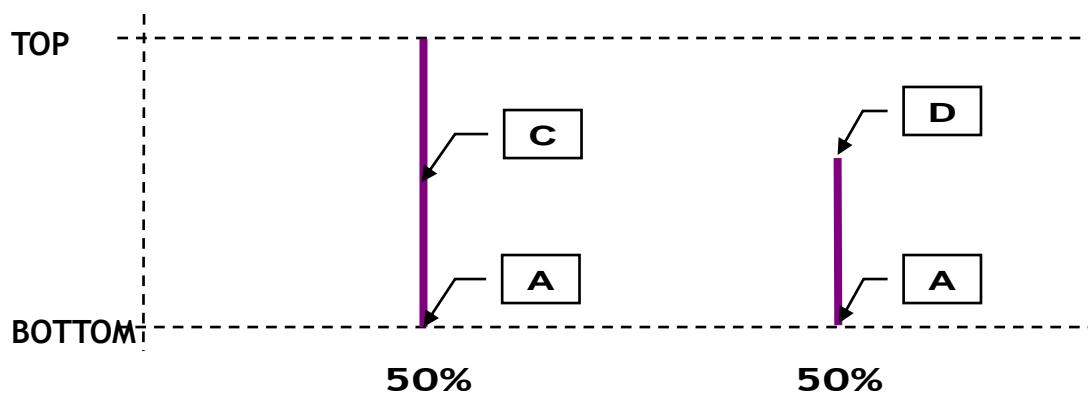
1. This program is able to adjust itself smartly the claw strength in accordance with the claw dropping area. There are 4 claw strength phases: A (VR1 setting or full power), B (fixed at 30V), C (fixed at 25V), D (VR2 setting). The playfield is divided in 3 areas.



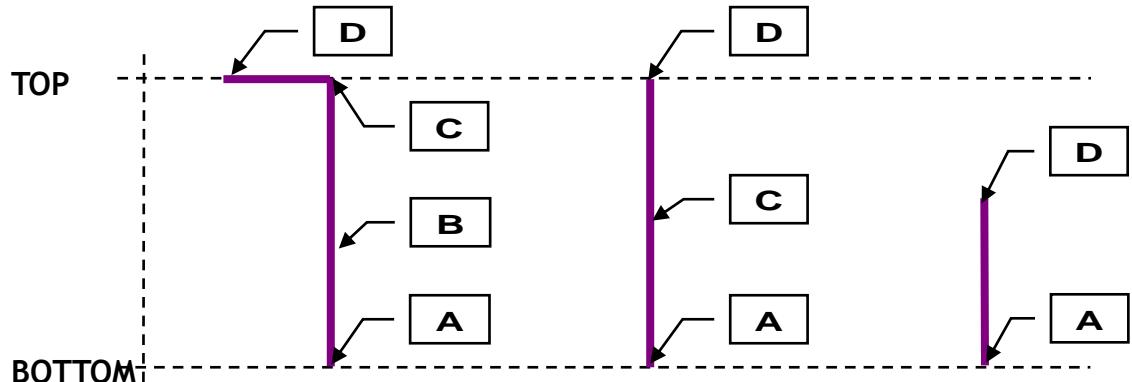
The claw strength auto-adjustment percentage depending on the dropping area :

※ DIP SW2 #PIN3 set to OFF (MIDDLE SIZE claw strength changes sketch)

◆ 【INNER AREA】 claw strength changes sketch :

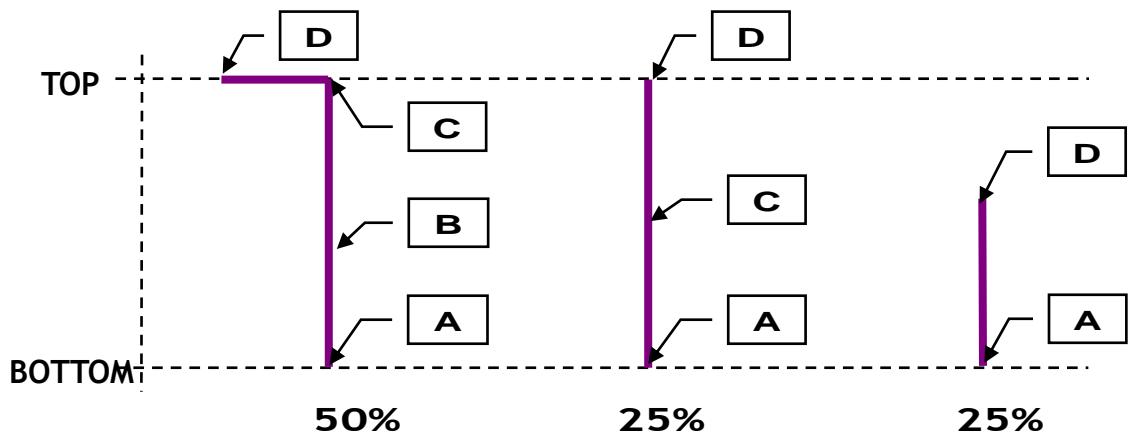


◆ 【CENTER AREA】 claw strength changes sketch :



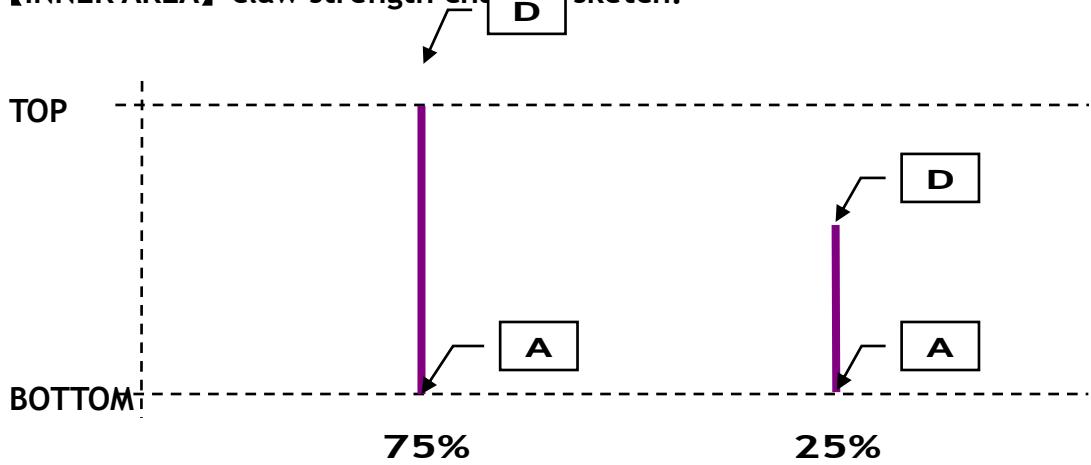
10% 65% 25%

◆ 【OUTER AREA】 claw strength changes sketch :

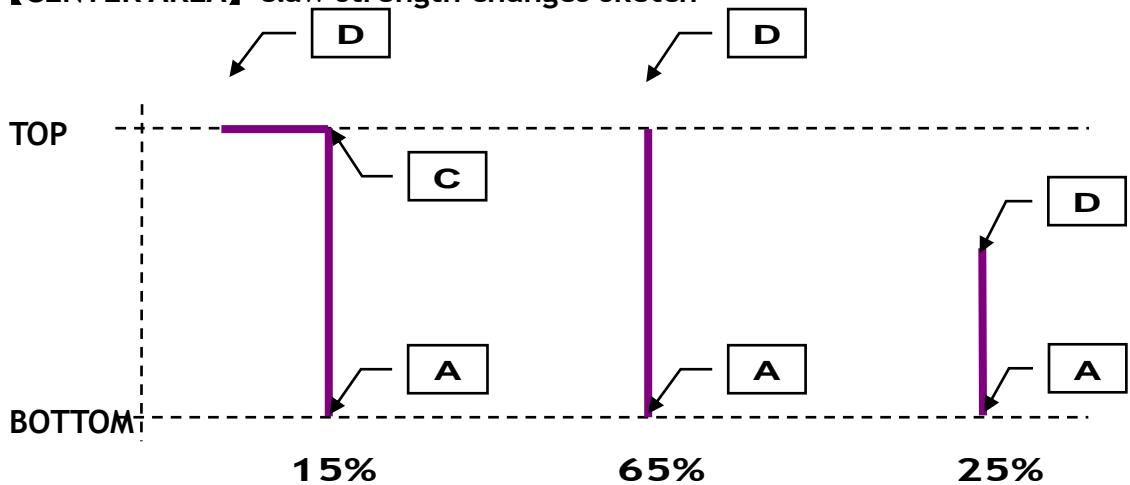


※ DIP SW2 #PIN3 set to ON(LARGE SIZE claw strength changes sketch)

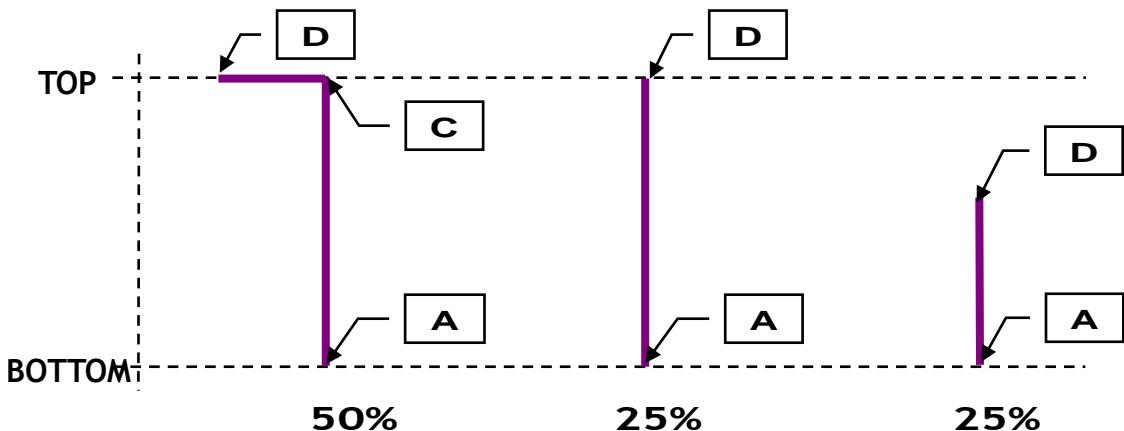
◆ 【INNER AREA】 claw strength changes sketch:



◆ 【CENTER AREA】 claw strength changes sketch :



【OUTER AREA】 claw strength changes sketch :

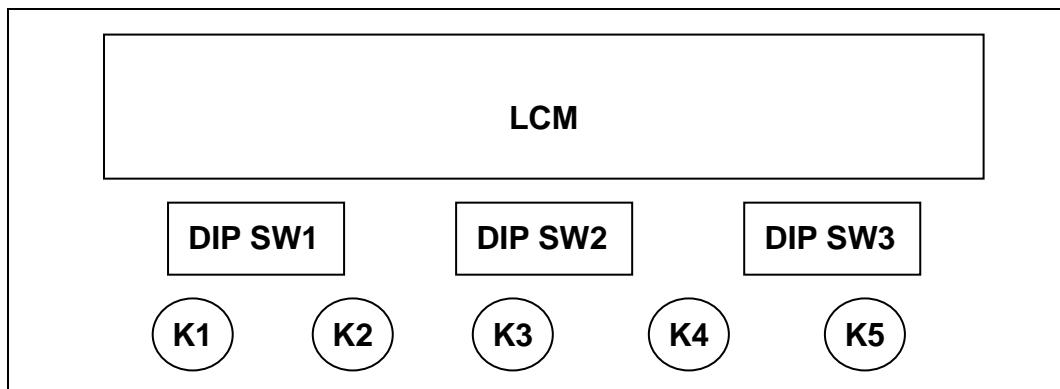


2. In addition to the DIP SW for simple setting, there is a LCM display to make changes to the settings. This system is easy and clear to setup. No more EPROM exchanges because of new programming.
3. Game plays are being registered for clear book keeping.
4. Just input the coin's value, the averaged cost of the merchandise and the profit rate and the program will calculate itself the timing to send full claw strength. And the calculation is on random basis so the games are more dynamic.
5. All recorded data during game plays are safe even after power is off.
6. Super power can be sent just one time or until win, depending on DIP SW setup. If set to "until win", every time the player fails to catch a prize, the game will keep sending out super power. The operator must also set by DIP SW if he wants the "super power until win" feature to be "play till win" (keep playing without having to insert coins) or not (player must insert coins for every play, but before anyone wins, the super power will remain for each play).
7. Using AP8942A IC.
8. Press **[K5] SW** and power on the machine to reset memory, and the LCM appears "CLEAR PCB RAM". All data at RAM is reset, including bookkeeping and percentage

WMH-588 DIP SW

PROGRAM : F588-B102 MAIN BOARD : W060204 DISPLAY BOARD : W991907

DIP SW on the LCM



LCM DIP SW1		1	2	3	4	5	6	7	8
DEMO MUSIC	YES	ON							
	NO	OFF							
Claw dropping position at EXIT	Low		ON						
	Up		OFF						
When to deduct credit	Upon dropping			ON					
	Claw closing			OFF					
Catching in the air	YES				ON				
	NO				OFF				
Claw moving to playfield when game begins	YES					ON			
	NO					OFF			
Keep CREDIT after power off	YES						ON		
	NO						OFF		
DEMO every 5 minutes	YES	Claws will not close					ON		
	NO						OFF		
Super Care Feature	YES							ON	
	NO							OFF	

LCM DIP SW2		1	2	3	4	5	6	7	8
Send full power until win with or without inserting more coins	YES	ON							
	NO	OFF							
PLAY TILL WIN	YES		ON						
	NO		OFF						
CLAW STREIGHT CHANGES FOR	LARGE TOYS			ON					
	MEDIUM TOYS			OFF					
RESERVED	FIXED				OFF	OFF	OFF	OFF	OFF

LCM DIP SW3		1	2	3	4	5	6	7	8
RESERVED	FIXED	OFF							

1. Send full power until win with or without inserting more coins:

With: when full power is sent and no prize is won, the credit will still be deducted. The player must insert more coins or having more credit to play again with full power. All following game plays will keep sending full power until a prize is won. The next following game will send regular claw power.

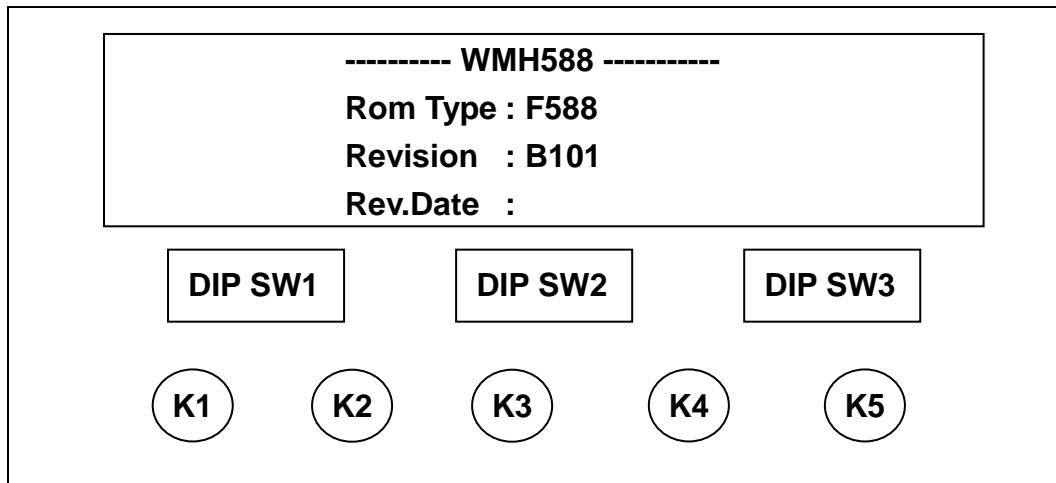
Without: when full power is sent and no prize is won, the credit will not be deducted until a prize is won. The next following game will send regular claw strength.

2. PLAY TILL WIN MODE:

1. In every game play the credit will be deducted until the player wins a prize.
2. Tilt will not be detected.
3. The system will check the prize sensor all the time. If before the claw lowers down, a prize has been detected out, the actual game will be of regular strength.
4. When “play till win” is set to YES, the other settings related to the win frequency will be invalid.
5. When “play till win” is set to NO, the other setting related to the win percentage will be valid.

WMH-288B1 LCM

※ LCM main screen



- **Display explanation : stand by LCM**

Rom Type : program code

Revision : program's revision

Rev. Date : date of the last revision

- **How to operate the buttons:**

K1 : SELECT for main menu

K2 : SELECT for sub menu

K3 : + 1 to the value

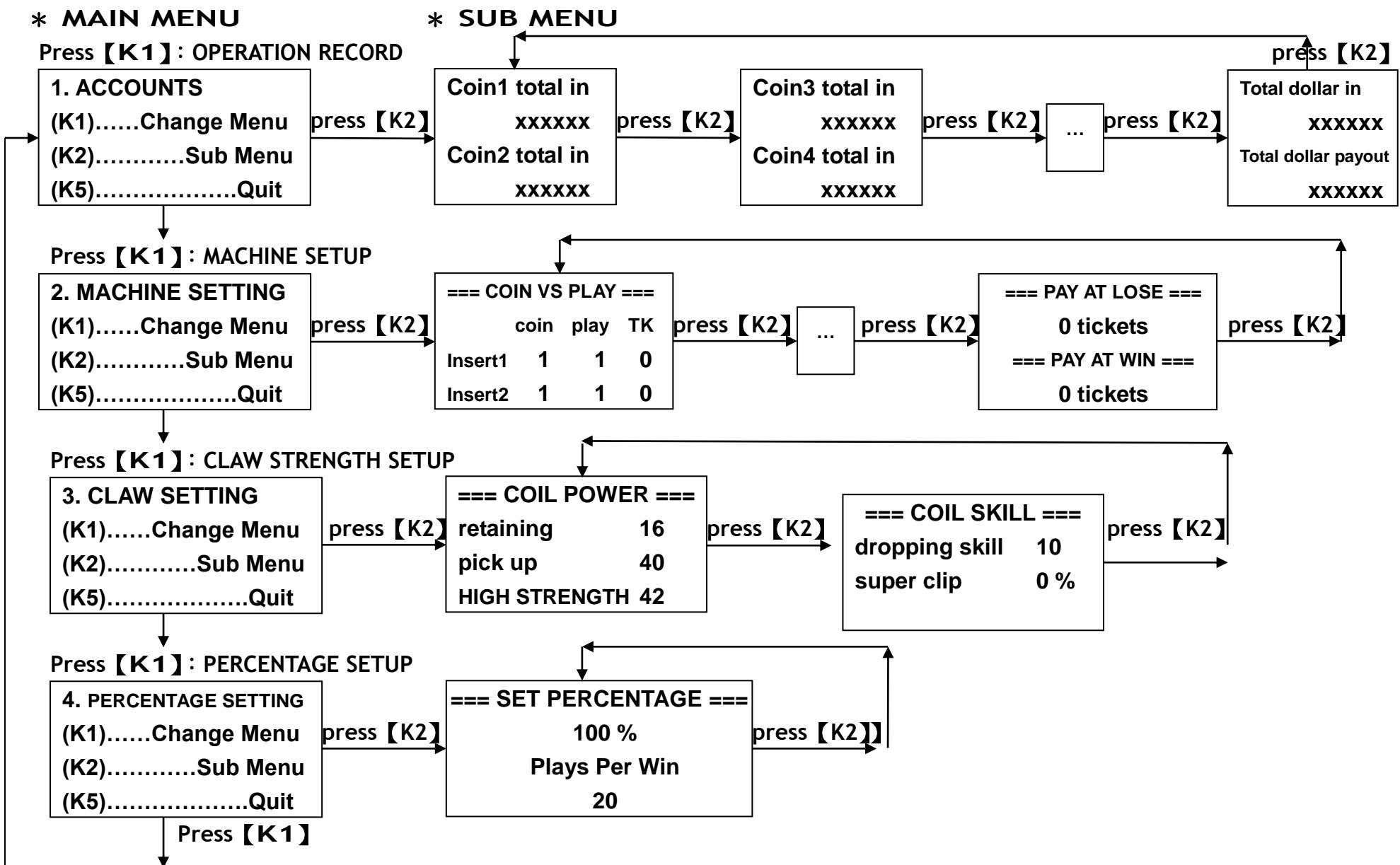
K4 : - 1 to the value

K5 : CONFIRM, SAVE, QUIT

- **LCM feature operation:**

1. Press **【K1】** to enter into the main menu to select , push **【K1】** to switch to different main menu , there are four main menuS : 1. Operation Records , 2. Game Setup , 3. Claw Strength Setup , 4. Percentage setup 。
2. Press **【K2】** to enter into the sub menu to select , push **【K2】** to switch to different sub menus , Press **【K5】** to enter into the selected sub menu 。
3. Adjust the setup values with **【K3】** to add 1 to the value or press **【K4】** to deduct 1 to the value. Holding the push buttons to accelerate the increase or the decrease 。
4. Press **【K5】** to confirm (save) the new value. Press **【K2】** to switch to the next sub menu or press **【K1】** to resume the main menu. **CAUTION: leaving the new value pressing **【K2】** or **【K1】** without previously pressing **【K5】** , the amendment will not be saved .**
5. 50 seconds standing by in any screen will automatically resume to the previous screen or menu: values setting -> sub-menu -> main menu -> stand by screen -> regular game play.

※ Instruction to set up on the LCM display



※ LCM setup introduction :

Main menu1	Page	Sub menu displays	Explanation	
ACCOUNTS	1	Coin1 total in 0 Coin2 total in 0	Coin mech #1 total coins inserted Coin mech #2 total coins inserted	ACCOUNTS Operation records
	2	Coin3 total in 0 Coin4 total in 0	Coin mech #3 total coins inserted Coin mech #4 total coins inserted	
	3	Total game 0 Total test 0	Total number of games played Total number of free games plays(games for test)	
	4	Total catches out 0 Total tickets out 0	Total prizes out Total tickets out	
	5	Total capsules out 0 Total balls out 0	Total capsules out Total bouncing balls out	
	6	Total dollar in 0 Total dollar payout 0	Total money (\$) in Total money (\$) out	

Main menu2	Page	Sub menu displays	Explanation
MACHINE SETTING	1	<pre>== COIN VS PLAY == coin playTK Insert1 1 1 0 Insert2 1 1 0</pre>	<p>==== Coins setting ===</p> <ol style="list-style-type: none"> 1. coin : number of coins 1~20。 2. play : number of plays 1~20。 3. TK : number of ticket payout upon coins inserted : 0~9。 4. Insert1 : coin mech1 ; Inster2 : coin mech 2。
	2	<pre>== COIN VS PLAY == coin playTK Insert3 1 1 0 Insert4 1 1 0</pre>	<p>==== Coins setting ===</p> <ol style="list-style-type: none"> 1. coin : number of coins 1~20。 2. play : number of plays 1~20. 3. TK : number of ticket payout upon coins inserted : 0~9. 4. When coin and play are both set to 0 , 5. the respective coin mech will be inhibited. <ol style="list-style-type: none"> 1. Insert3 : coin mech 3 ; Inster4 : coin mech 4.
	3	<pre>==== GAME TIME === 50 seconds = TILT'S SENSIBILITY = 1</pre>	<ol style="list-style-type: none"> 1. GAME TIME : unit : seconds 10~99 , 2. 0~9 not available. 3. TILT'S SENSIBILITY : smaller is the number, higher is the sensibility 1~10 , 4. 0 not available .
	4	<pre>= ATTRACT MUSIC = on 3 minute off 10 minute</pre>	<p>==== Demo music time setting ===</p> <ol style="list-style-type: none"> 1. Based on DIP SW setup , 2.if DIP SW is set to without attract music. This setting is invalid . 3. on stands for the music playing time : 1~20 minutes , 4. off stands for the break time between 2 attract music plays : 1~90 minutes . The setting example represents playing 3 minutes attract music every 10 minutes .
	5	<pre>==== SUPER CARD == 8 (1 free play) 3 (2 free play) 1 (super power)</pre>	<p>==== Super card setting ===</p> <ol style="list-style-type: none"> 1. Based on DIP SW setup, if DIP SW is set to without super card, this setting will not be displayed. 2. 1 free play : within a circle of 100 plays how many (8 for now) chances to get 1 free game. 3. 2 free play : within a circle of 100 plays

			how many (3 for now) chances to get 2 free games. 4. super power : within a circle of 100 plays how many (1 for now) chances to get super claw strength. 5. A circle of super card is fixed at 100 plays. Therefore the setup range of this sub menu is always between 0~50.
	6	== PAY AT LOSS == 0 tickets == PAY AT WIN == 0 tickets	== Tickets payout == 1. PAY AT LOSS : tickets out upon loss 0~10 2. PAY AT WIN : tickets out upon winning 0~50 .

Main menu 3	Page	Sub menu displays	Explanation
CLAW SETTING	1	== COIL POWER== retaining 16 pick up 40 High Strength 42	== Coil power (VR1 & VR2) setting == 1. retaining : VR2 power : 10~45V 2. pick up : VR1 power : 10~45V 3. HIGH STRENGHT : Super Power: 10~42V 4. Bigger is the value, stronger is the power. .
	2	== COIL SKILL == dropping skill 10 super clip 0 %	== Dropping skill & full power rate == 1. dropping skill : power breaking between VR1 & VR2 : 0~20. Set to 0 stands for no power breaking. Bigger is the value, longer is the breaking time. 2. super clip : how often the full power will be sent : 0~ 50 %. If set to 0, VR1 is the only claw power during catching.

※ Claw strength setup instruction:

- Press **[K1]** to select main menu #3 : “CLAW SETTING”. Press **[K2]** to enter into the sub menu. LCM will show screen to adjust claw strength. Press **[K5]** to VR1 & VR2 setting .
- VR2 (retaining) : the cursor is stopping on VR2. Press **[K3]** to increase the value. Press **[K4]** to decrease the value. Press **[DROP]** push button to close the claw. The voltage change of VR2 will alternatively act with the “dropping skill”. Press **[DROP]** push button again to open the claw or press **[K5]** to save the new value and the cursor will jump to VR1 setting.
- VR1(pick up): the cursor is stopping on VR1. Press **[K3]** to increase the value. Press **[K4]** to decrease the value. Press **[DROP]** push button to close the claw. The voltage change of VR1 will alternatively act with the “dropping skill”. Press **[DROP]**

push button again to open the claw or press **[K5]** to save the new value and the cursor will jump to VR2 setting.

- d. High Strength : the cursor is stopping on High Strength. Press **[K3]** to increase the value. Press **[K4]** to decrease the value. Press **[DROP]** push button to close the claw. Press **[DROP]** push button again to open the claw or press **[K5]** to save the new value and the cursor will jump to High Strength setting.
- e. Press **[K2]** to go into DROPPING SKILL setting.
- f. Dropping skill: the cursor is stopping on “dropping skill”. Press **[K3]** to increase the value. Press **[K4]** to decrease the value. Press **[DROP]** push button to close the claw. The voltage change of VR2 will alternatively act with the “dropping skill”. Bigger the value set to “dropping skill”, wider is the opening of the claw during “dropping skill”. Press **[DROP]** push button again to open the claw or press **[K5]** to save the new value and the cursor will jump to Super clip setting.
- g. Super clip: the cursor is stopping on Super clip. Press **[K3]** to increase the value. Press **[K4]** to decrease the value. This value is the appearance rate of the full power during catching. Press **[K5]** to save the new value.
- h. When claw is closed over 15 seconds and any push button has been pressed, it will open itself.

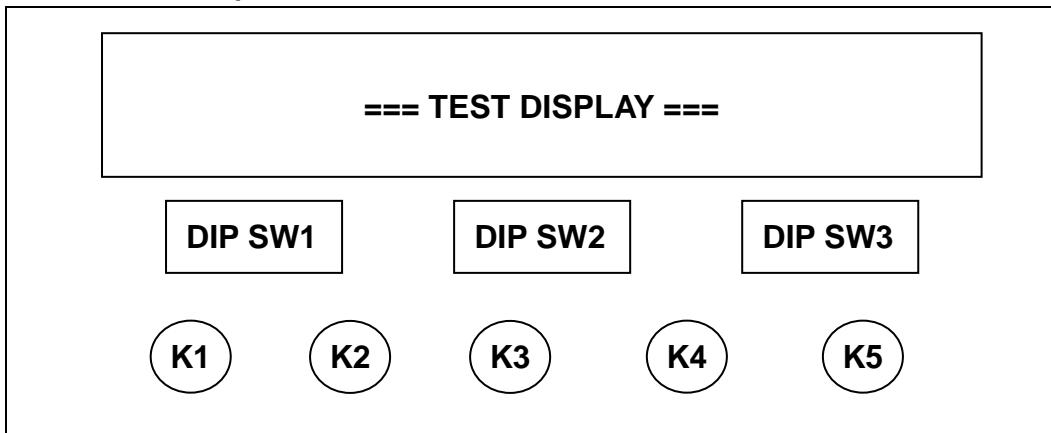
Main menu : 4	Page	Sub menu displays...	EXPLANATION
PERCENTAGE SETTING	1	= SET PERCENTAGE = 100 % win prize about play 20 times	<p>== Profit percentage setting ==</p> <ol style="list-style-type: none"> 1. SET PERCENTAGE : profit rate : 1~999 % 2. win prize about play : This can not be set up by the operator. It is calculated automatically by the system based on SET PERCENTAGE, PRODUCT COST and GAME COST.
	2	Reserved	

WMH-288B1 PCB test & reset

1. To enter into TEST mode :

- A. Push “TEST” SW and turn power ON. Display show 『PP』. Release “TEST” SW, 『00』 will be a flashing on display and means it is in TEST menu. Using Joystick to select Test item 『02』 and push “Drop” button to enter. Display show 『CC』. It has to turn power off to leave “TEST Mode” after entering each test item.

2. LCM buttons operation instruction



3. How to operate the push buttons:

K1 : quit from TEST mode

K4 : switch to other test item

K5 : enter into test items or quit test item

4. TEST ITEMS

ITEM	TEST DESCRIPTION	
01	TEST DISPLAY	
02	TEST PCB DIPSW	Test main PCB DIP SW (Press 【DROP】 push button to quit this test item)
03	TEST VOICE	
04	TEST MUSIC	
05	TEST W041158	Test LCM (Press 【DROP】 push button to quit this test item)
06	TEST METER OUT	
07	TEST PAY TICKET	
08	TEST PAY BALL	
09	TEST PAY CAPSULE	
10	CLEAR PCB RAM	Reset all data in RAM including book keeping and percentage setting
11	CLEAR ACCOUNT	Book keeping reset
12	CLEAR PERCENTAGE	Percentage reset

WMH-288B1 test & trouble shooting

1. Auto Test model: Push "TEST" SW and turn power ON. Display show 『PP』. Release "TEST" SW, 『00』 will be flashing on display and means it is in TEST menu. Using Joystick to select Test item 『03』 and push "Drop" button to enter. It has to turn power off to leave "TEST Mode" after entering each test item.
2. There are 2 ways to enter into GANTRY TEST mode :
 - A. Push "TEST" SW and turn power ON. Display show 『PP』. Release "TEST" SW, 『00』 will be flashing on display and means it is in TEST menu. Using Joystick to select Test item 『03』 and push "Drop" button to enter. Display show 『a0』 It has to turn power off to leave "TEST Mode" after entering each test item.

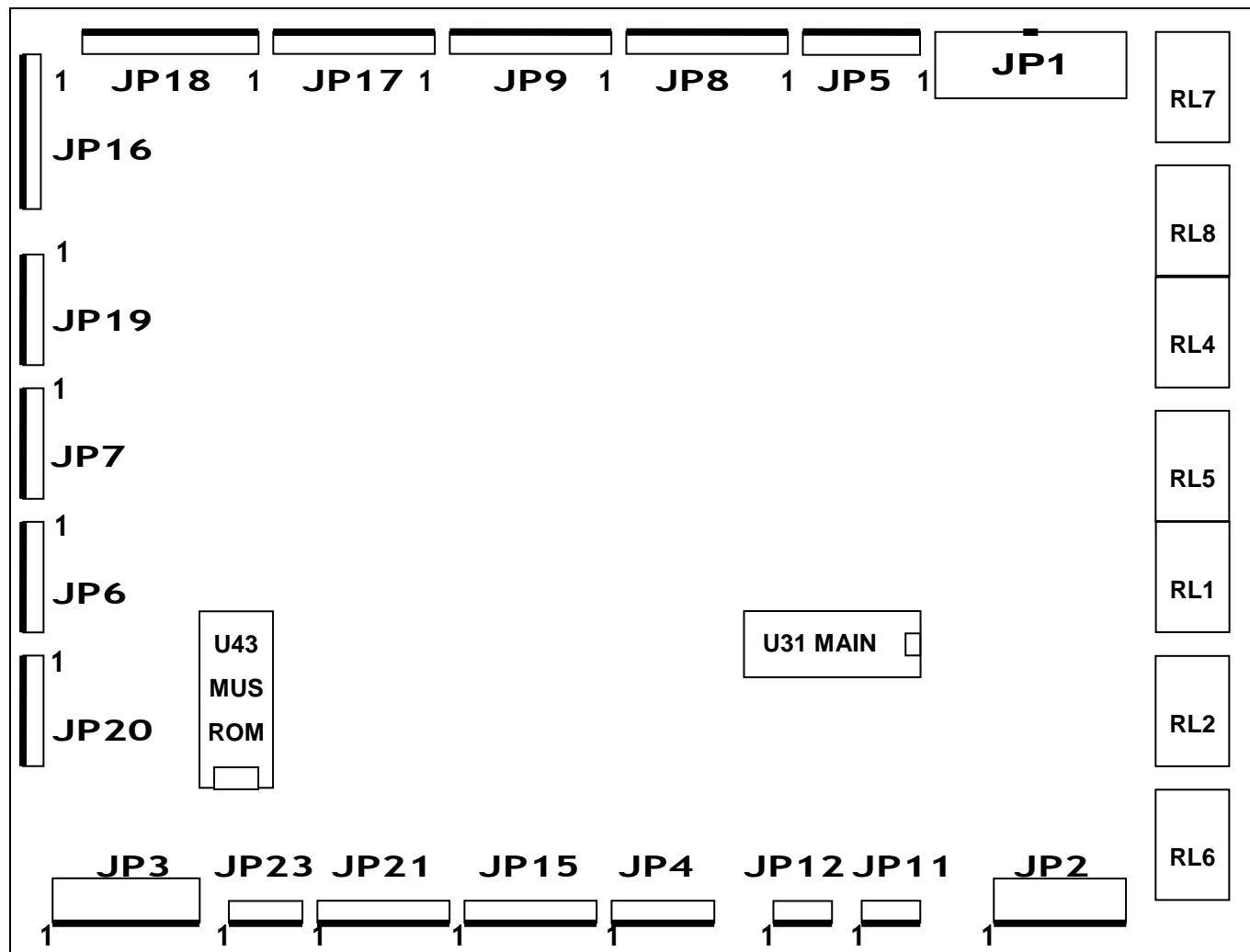
1. GANTRY TEST

Joystick or push buttons operation	TEST items	Display showing...
【Forward】	Gantry moving forward	-F
【Backward】	Gantry moving backward	-b
【Left】	Gantry moving left	L-
【Right】	Gantry moving right	r-
【DROP】 + 【Forward】	Raise string up	U-
【DROP】 + 【Backward】	Lower string down	d-
【DROP】 + 【Left】	Close claw with VR1	-1
【DROP】 + 【Right】	Close claw with VR2	-2

2. TROUBLE SHOOTING

CODE	ERROR DESCRIPTION
01	String unable to be raised up
02	Machine is inclined (Tilt activated within more than 3 seconds)
03	String unable to be lowered down
04	Up-down motor blocked over 3 seconds
05	Left-right motor blocked over 3 seconds
06	Forward-backward motor blocked over 3 seconds
10	Optic breakdown
71	Ticket dispenser breakdown
72	Capsule dispenser breakdown
73	Ball dispenser breakdown
91	COIN1 meter breakdown
92	COIN2 meter breakdown
93	Prize out meter breakdown
94	Ticket out meter breakdown
95	COIN3 or ball dispenser meter breakdown
96	COIN4 or capsule dispenser meter breakdown

WMH-588 wiring diagram



JP2	color	Connector
1	Black	GND
2		GND
3	Green	+24V input
4	Green	+24V input
5	Grey	+48V input
6		+48V input

JP4	color	Connector	Super card pin
1	Black	Connected to super card	#7 pin GND
2	Green		#2 pin D0
3	Yellow		#3 pin D1
4	Orange		#4 pin D2
5	Red		#5 pin D3
6	Brown		#6 pin D4
7			
8	Blue		#1 pin +12V

JP11	color	Connector
1		+5V
2		+12V
3		Prize sensor signal
4		GND

JP12	color	Connector
1		RESERVED
2		
3		
4		

JP15	color	Connector
1	Brown	Joystick - Forward SW
2	Red	Joystick - Backward SW
3	Yellow	Joystick - Left SW
4	Orange	Joystick - Right SW
5	Green	DROP SW
6		
7	Pink	TEST SW
8		
9	Blue	TIILT
10	Black	GND , SW & push COM point
11	Black	GND , TIILT COM point
12	Black	GND , TEST SW COM point
13	Purple	DROP button light
14		

JP20	color	Connector
1	Red	
2	Orange	
3	Yellow	
4	Green	
5	Blue	
6	Purple	
7	Grey	
8	White	Connected to LCM (W041158) 1 to 1
9	Pink	
10	Bn/Oe	
11	Rd/Bk	
12	Oe/Bk	
13	Yw/Bk	
14	Gn/Rd	
15	Be/Oe	
16	Pe/Yw	

JP21	color	Connector
1		Reserved
2		
3		
4		
5		
6		
7		
8		
9		
10		

JP6	color	Connector
1	Black	GND
2	White	Coin mech1 COIN signal
3	Green	Coin mech1 inhibit signal
4		
5	Red	+12V
6	Red	+12V
7	We/Bk	Coin mech2 COIN signal
8	Green	Coin mech2 inhibit signal
9		
10	Black	GND

JP23	color	Connector
1	Purple	Speaker 1 +
2	Blue	Speaker 2 +
3	Black	Speaker 1, 2 -
4	Black	Volume VR3
5	Red	Volume VR2
6	White	Volume VR1

JP7	color	Connector
1		GND
2		Coin mech3 COIN signal
3		
4		
5		
6		
7		

JP3	color	Connector
1	Yellow	+12V input

2		+12V input
3	Red	+5V input
4	Red	+5V input
5		+5V input
6	Black	GND
7	Black	GND
8		GND

		signal	
8		Coin mech4 inhibit signal	
9			
10		GND	

JP19	color	Connector
1	Bn/Oe	Connected to LCM (W041158) 1 to 12
2	Rd/Bk	
3	Oe/Bk	
4	Yw/Bk	
5	Gn/Rd	
6	Be/Oe	
7	Pe/Yw	
8	Gy/Rd	
9	We/Bk	
10	Pk/Be	
11	Black	
12	Brown	

JP17	color	Connector
1		Reserved
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		

JP16	color	Connector
1	Black	Connected to CREDIT display board (W991907)
2	Brown	
3	Red	
4	Orange	
5	Yellow	
6	Green	
7	Blue	
8	Purple	
9		
10		
11		
12		
13	Rd/Bk	
14	Oe/Bk	

JP9	color	Connector
1		Reserved
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

JP18	color	Connector
1		Reserved
2		
3		
4		
5		
6		
7		
8		

JP8	color	Connector
1		
2		
3	WE	
4	RD	
5		
6		
7	BK	GND / Solenoid valve
8		Prize door Solenoid valve+
9		

9		
10		
11		
12		
13		
14		
15		
16		

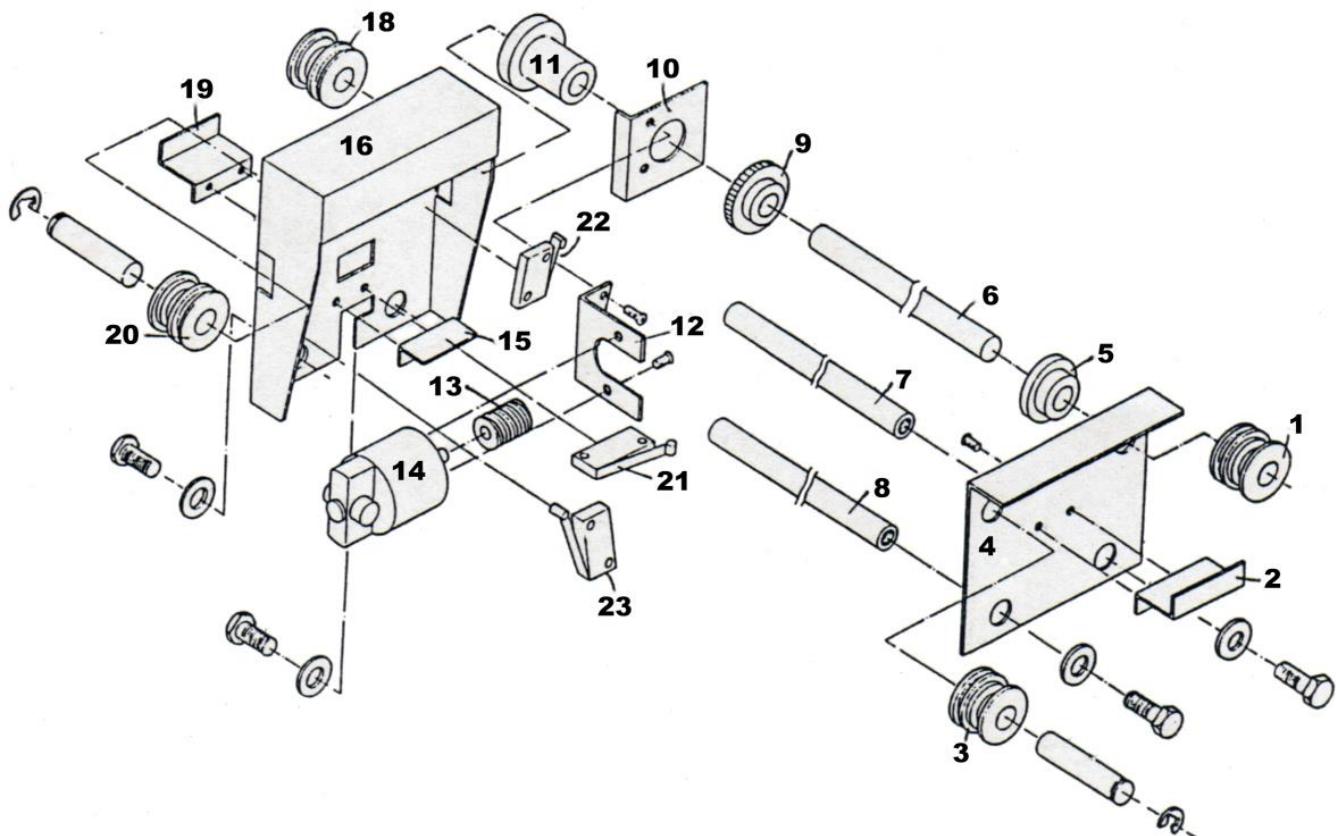
10		
11		
12		

JP5	color	Connector
1	Rd/Bk	+12V output
2	Oe/Bk	COIN1 counter meter
3	Yw/Bk	COIN2 counter meter
4	Gn/Rd	Prize out meter
5	Bl/Bk	COIN3 counter meter
6		
7		
8		

JP1	color	Connector
1	Bn/Oe	Forw-backw motor +
2		
3	Brown	Forw-backw motor -
4		
5	Red	Left-right motor +
6		Left-right motor limit switch sensor signal
7	Rd/Bk	Left-right motor -
8		F-B motor limit switch sensor signal
9	Orange	Up-down motor +
10	Be+Pe	SW COM point
11	Oe/Bk	Up-down motor -
12	Grey	SW COM point
13	Pk/We	Claw power +/voltmeter +
14	Black	Lower stop SW
15	Yw/Bk	Claw power - /voltmeter -
16	Pink	Upper stop SW
17		
18	Pe/Yw	Left-right stop SW
19		
20	Be/Oe	Forward、Backward stop SW
21		
22		+12V
23		
24		+12V

GANTRY & ASSEMBLY I

No.	品名	Description	料號 Code No.
1, 3, 18, 20	前後輪	Front/Back Wheel	S002
2, 19	天車固定片	X-Y Overhead Crane Fixing plate	P008
4	右板	Right Plate	P015
5	固定軸承	Fixed Bearing	S004
6	傳動軸	Propeller Shaft	S014
7, 8	固定軸	Fixed Shaft	S013
9	軸齒輪	Black Cog	S007
10	軸承座	Bearing Stand	P007
11	軸承	Bearing	S001
12	馬達固定座	Motor Fixing Stand	P006
13	馬達軸齒	Motor Shaft pinion	S016
14	前後馬達	Front/Back Motor	
15	左停 SW 座	Stop-Left SW stand	P004
16	左蓋	Left Cover plate	P014
21	左停 SW	Stop-Left Switch	
22	前停 SW	Stop-Front Switch	
23	後停 SW	Stop-Back Switch	



GANTRY & ASSEMBLY II

No.	品名 Description		料號 Code No.
1	中外蓋	Middle outer cover plate	P013
2	傳動軸	Propeller Shaft	S008
3	傳動軸	Propeller Shaft	S009
4,5,21,22	左右輪	Left/Right Wheel	S006
6	繞線輪	Winding-Cord Wheel	S003
7, 9	導線輪	Conductive-Cord Wheel	S005
8	爪控制片	Control plate for claw	P009
10	中馬達鐵片	Middle-Motor iron plate	P001
11, 12	軸承	Bearing	S001
13	中軸承座	Middle Bearing Stand	P003
14,15	軸齒輪	Black Cog	S007
16, 23	馬達固定座	Motor Fixing Stand	P006
17	線管	Conduit	S015
18	上下彈簧	Up/Down Spring	L002
19, 24	馬達軸齒	Motor Shaft Pinion	S016
20	上下馬達	Up/Down Motor	
25	左右馬達	Left/Right Motor	
26	中內蓋	Middle inner cover plate	P012
27	三爪組(含線圈)	3-Claws Kit (Coils included)	Small / Large Claw
28	下停 SW	Stop-Down Switch	
29	上停 SW	Stop-Up Switch	

