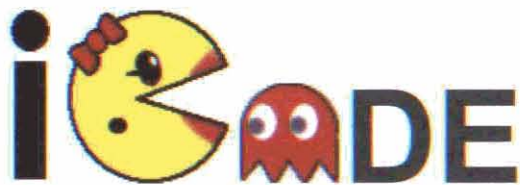


CGA/VGA JAMMA



**CLASSICAL GAME COLLECTION**



## I. PCB DIP Switch Settings

DIP SW3		1	2	3	4
Screen Orientation	Normal	OFF			
	Flip Screen	ON			
Display Mode (CRT)	CGA-15.75Khz		OFF		
	VGA-31.5Khz		ON		
High Score Saver	Disabled			OFF	
	Enabled			ON	
System Mode	Normal Mode				OFF
	Test Mode				ON

## II. System Setup

Keep **TEST SW** or **SERVICE SW** pressed or bit 4 of DIPSW 3 ON and power on to enter system setup mode or system test mode.

The first page is **Screen Test**. You may tune your screen size at this page or press TEST SW to enter next page.

If high score saver is supported and enabled, the second page is **Clear High Score**. You may clear all saved high scores by pressing both START and S1 buttons. Press TEST SW to enter next page or press SERVICE SW to return last page.

The next page is **System DIPSW Setup**. Use joystick to move cursor or S1 buttons to switch ON/OFF. The system DIPSW is shown below:

### System DIPSW Setup for All Amusement PCBs

DIP SW1		1	2	3	4	5	6	7	8
Coin 1	1 coin 1 credit	OFF	OFF	OFF	OFF				
	1 coin 2 credit	ON	OFF	OFF	OFF				
	1 coin 3 credit	OFF	ON	OFF	OFF				
	1 coin 4 credit	ON	ON	OFF	OFF				
	2 coin 1 credit	OFF	OFF	ON	OFF				
	2 coin 2 credit	ON	OFF	ON	OFF				
	2 coin 3 credit	OFF	ON	ON	OFF				
	2 coin 4 credit	ON	ON	ON	OFF				
	3 coin 1 credit	OFF	OFF	OFF	ON				
	3 coin 2 credit	ON	OFF	OFF	ON				
	3 coin 3 credit	OFF	ON	OFF	ON				
	3 coin 4 credit	ON	ON	OFF	ON				
	4 coin 1 credit	OFF	OFF	ON	ON				
	4 coin 2 credit	ON	OFF	ON	ON				
	4 coin 3 credit	OFF	ON	ON	ON				
	4 coin 4 credit	ON	ON	ON	ON				

Coin 2	1 coin 1 credit					OFF	OFF	OFF	OFF
	1 coin 2 credit					ON	OFF	OFF	OFF
	1 coin 3 credit					OFF	ON	OFF	OFF
	1 coin 4 credit					ON	ON	OFF	OFF
	2 coin 1 credit					OFF	OFF	ON	OFF
	2 coin 2 credit					ON	OFF	ON	OFF
	2 coin 3 credit					OFF	ON	ON	OFF
	2 coin 4 credit					ON	ON	ON	OFF
	3 coin 1 credit					OFF	OFF	OFF	ON
	3 coin 2 credit					ON	OFF	OFF	ON
	3 coin 3 credit					OFF	ON	OFF	ON
	3 coin 4 credit					ON	ON	OFF	ON
	4 coin 1 credit					OFF	OFF	ON	ON
	4 coin 2 credit					ON	OFF	ON	ON
	4 coin 3 credit					OFF	ON	ON	ON
	4 coin 4 credit					ON	ON	ON	ON

DIP SW2		1	2	3	4	5	6	7	8
Demo Music	Yes	OFF							
	No	ON							
Game Demo Sound	No		OFF						
	Yes		ON						
Free Play	No			OFF					
	Yes			ON					
Cabinet	Upright/1Control				OFF	OFF			
	Cocktail				ON	OFF			
	Upright/ 2Controls				OFF	ON			
	Cocktail				ON	ON			
Trackball Orientation	Normal						OFF		
	Exchange X/Y						ON		
Trackball Signals	Normal							OFF	
	Exchange DIR/CLK							ON	

Each game can be enabled or disabled respectively. Disabled games would not be shown for playing. Press setup to finish this step or press TEST SW to enter followed pages for DIPSW setup of each game or SERVICE SW to return last page.

The last two pages are **Volume Adjust** and **I/O Test**. You may adjust audio volume or diagnose PCB I/O status at these two pages.

For system test mode, only **Screen Test** and **I/O Test** pages are included.

### III. JAMMA Wire Map

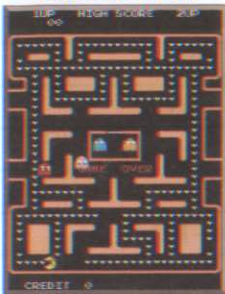
Part Side		Solder Side	
GND	1	1	GND
GND	2	2	GND
+5V	3	3	+5V
+5V	4	4	+5V
	5	5	
+12V	6	6	+12V
	7	7	
1P COIN METER	8	8	2P COIN METER
	9	9	
SPEAKER +	10	10	SPEAKER -
	11	11	
VIDEO R	12	12	VIDEO G
VIDEO B	13	13	VIDEO SYNC
GND	14	14	SERVICE
TEST	15	15	
1P-COIN	16	16	2P-COIN
1P-START	17	17	2P-START
1P-UP	18	18	2P-UP
1P-DOWN	19	19	2P-DOWN
1P-LEFT	20	20	2P-LEFT
1P-RIGHT	21	21	2P-RIGHT
1P-S1	22	22	2P-S1
1P-S2	23	23	2P-S2
1P-S3	24	24	2P-S3
	25	25	
	26	26	
GND	27	27	GND
GND	28	28	GND

PS: 1. The PCB voltage of +5V pin CAN NOT exceed +5.5V .

2. A track ball may be used on the Player 2 inputs when cabinet is set to "upright/1 control" mode.

# Game List

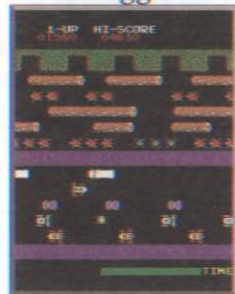
## Ms Pacman



## Galaga



## Frogger



## Donkey Kong



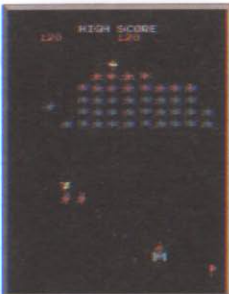
## Donkey Kong Junior



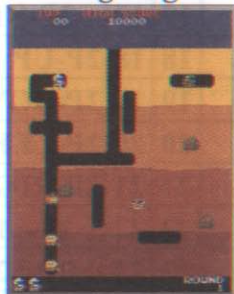
## Donkey Kong 3



## Galaxian



## Dig Dug



## Crush Roller



## Mr. Do



## Space Invaders



## Pacman



**Galaga3**



**Gyruss**



**Tank Battalion**



**1942**



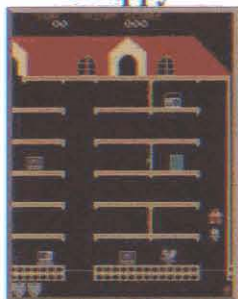
**Ladybug**



**Burger Time**



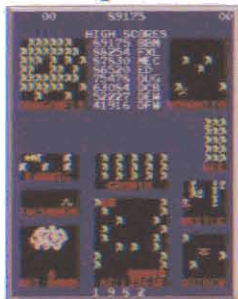
**Mappy**



**Centipede \***



**Millipede \***



**JR Pacman**



**Pengo**



**Phoenix**



**Time Pilot**



**Super Cobra**



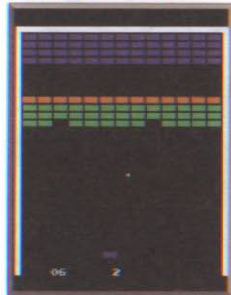
**Hustler**



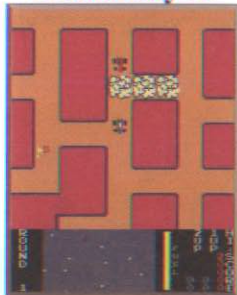
**Space Panic**



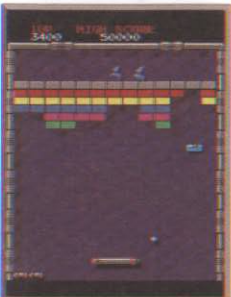
**Super Breakout \***



**New Rally X**



**Arkanoid \***



**\* Qix**



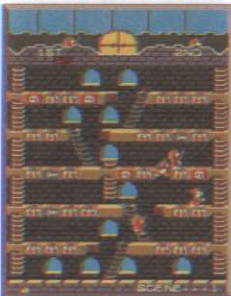
**Juno Frist**



**Xevious**



**Mr. Do's Castle**



**Moon Cresta**

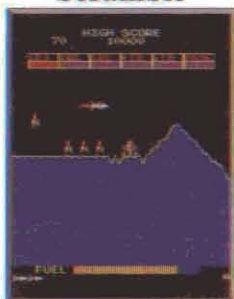




**Pinball Action**



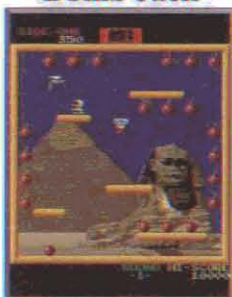
**Scramble**



**Super Pacman**



**Bomb Jack**



**Shao-Lin's Road**



**King & Balloon**



**1943**



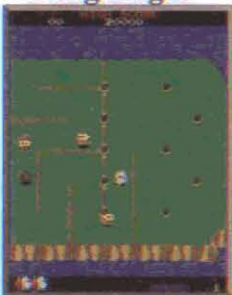
**Van-Van Car**



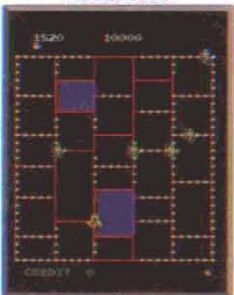
**Pacman Plus**



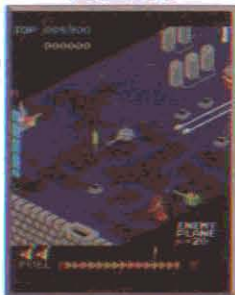
**Dig Dug 2**



**Amidar**



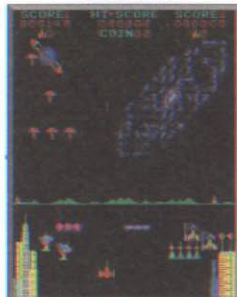
**Zaxxon**



Pooyan



Pleiads



Gun. Smoke



The End



1943 Kai



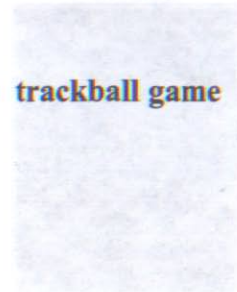
Congo Bongo



Jumping Jack



DOZAN



DOZAN



DOZAN



\* trackball game

### Ms Pacman DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	5	OFF	OFF						
	3	ON	OFF						
	2	OFF	ON						
	1	ON	ON						
Extra life	None			OFF	OFF				
	20000			ON	OFF				
	15000			OFF	ON				
	10000			ON	ON				
Difficulty	Easy					OFF			
	Hard					ON			
Speed	Normal						OFF		
	Fast						ON		
Ms Pacman Bean	Dot							OFF	
	Heart							ON	

### Galaga DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Difficulty	Easy	OFF	OFF						
	Hardest	ON	OFF						
	Hard	OFF	ON						
	Medium	ON	ON						
Continuous Shooting	No			OFF					
	Yes			ON					
Extra Life	B O N U S 1	30k 80k	B O N U S 2	30k	OFF	OFF	OFF		
		20k 80k 80k		30k 150k 150k	ON	OFF	OFF		
		30k 120k 120k		30k 120k	OFF	ON	OFF		
		20k 60k 60k		30k 100k 100k	ON	ON	OFF		
		20k 60k		30k 150k	OFF	OFF	ON		
		20k 70k 70k		30k 120k 120k	ON	OFF	ON		
		30k 100k 100k		30k 100k	OFF	ON	ON		
		(None)					ON	ON	ON
Life	5 (bonus2)							OFF	OFF
	3 (bonus1)							ON	OFF
	4 (bonus1)							OFF	ON
	2 (bonus1)							ON	ON

DIP SW2		1	2	3	4	5	6	7	8
Bullet Speed	Normal	OFF							
	Fast	ON							

### Frogger DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	7	ON	OFF						

	5	OFF	ON						
	3	ON	ON						

### Donkey Kong DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	6	ON	ON						
Extra Life	7000			OFF	OFF				
	10000			ON	OFF				
	15000			OFF	ON				
	20000			ON	ON				

### Donkey Kong Junior DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	6	ON	ON						
Extra Life	7000			OFF	OFF				
	10000			ON	OFF				
	15000			OFF	ON				
	20000			ON	ON				

### Donkey Kong 3 DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	6	ON	ON						
Extra Life	30000			OFF	OFF				
	40000			ON	OFF				
	50000			OFF	ON				
	None			ON	ON				
Additional Bonus	30000					OFF	OFF		
	40000					ON	OFF		
	50000					OFF	ON		
	None					ON	ON		
Difficulty	Easy							OFF	OFF
	Medium							ON	OFF
	Hard							OFF	ON
	Hardest							ON	ON

### Galaxian DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	7000	OFF	OFF						
	10000	ON	OFF						
	12000	OFF	ON						
	20000	ON	ON						
Life	2			OFF					
	3			ON					

### Dig Dug DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Continue	No	OFF							
	Yes	ON							
Difficulty	Easy		OFF	OFF					
	Medium		ON	OFF					
	Hard		OFF	ON					
	Hardest		ON	ON					
Extra Life	None				OFF	OFF	OFF		
	20k 70k 70k				ON	OFF	OFF		
	10k 50k 50k				OFF	ON	OFF		
	20k 60k				ON	ON	OFF		
	10k 40k 40k				OFF	OFF	ON		
	10k 40k				ON	OFF	ON		
	20k 60k 60k				OFF	ON	ON		
Life	3							OFF	OFF
	5							ON	OFF
	1							OFF	ON
	2							ON	ON

### Crush Roller DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	6	ON	ON						
Difficulty	Easy			OFF					
	Hard			ON					

### Mr. Do DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Difficulty	Easy	OFF	OFF						
	Medium	ON	OFF						
	Hard	OFF	ON						
	Hardest	ON	ON						

Special	Easy			<b>OFF</b>					
	Hard			<b>ON</b>					
Extra	Easy				<b>OFF</b>				
	Hard				<b>ON</b>				
Life	3					<b>OFF</b>	<b>OFF</b>		
	4					<b>ON</b>	<b>OFF</b>		
	5					<b>OFF</b>	<b>ON</b>		
	2					<b>ON</b>	<b>ON</b>		

### Space Invaders DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	<b>OFF</b>	<b>OFF</b>						
	4	<b>ON</b>	<b>OFF</b>						
	5	<b>OFF</b>	<b>ON</b>						
	6	<b>ON</b>	<b>ON</b>						
Extra Life	1500			<b>OFF</b>					
	1000			<b>ON</b>					
Mode	Color				<b>OFF</b>				
	B&W				<b>ON</b>				

### Pacman DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	5	<b>OFF</b>	<b>OFF</b>						
	3	<b>ON</b>	<b>OFF</b>						
	2	<b>OFF</b>	<b>ON</b>						
	1	<b>ON</b>	<b>ON</b>						
Extra Life	None			<b>OFF</b>	<b>OFF</b>				
	20000			<b>ON</b>	<b>OFF</b>				
	15000			<b>OFF</b>	<b>ON</b>				
	10000			<b>ON</b>	<b>ON</b>				
Difficulty	Easy					<b>OFF</b>			
	Hard					<b>ON</b>			
Ghost Name	Normal						<b>OFF</b>		
	Alternate						<b>ON</b>		
Speed	Normal							<b>OFF</b>	
	Fast							<b>ON</b>	

### Galaga3 DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Difficulty	0 (Easiest)	<b>OFF</b>	<b>OFF</b>	<b>OFF</b>					
	1	<b>ON</b>	<b>OFF</b>	<b>OFF</b>					
	2	<b>OFF</b>	<b>ON</b>	<b>OFF</b>					
	3	<b>ON</b>	<b>ON</b>	<b>OFF</b>					
	4	<b>OFF</b>	<b>OFF</b>	<b>ON</b>					
	5	<b>ON</b>	<b>OFF</b>	<b>ON</b>					
	6	<b>OFF</b>	<b>ON</b>	<b>ON</b>					
	7 (Hardest)	<b>ON</b>	<b>ON</b>	<b>ON</b>					

Life	3				OFF	OFF			
	2				ON	OFF			
	4				OFF	ON			
	5				ON	ON			
Extra Life	100k 300k 600k						OFF	OFF	OFF
	150k 400k						ON	OFF	OFF
	150k 400k 900k						OFF	ON	OFF
	100k 300k 300k						ON	ON	OFF
	50k 200k 300k						OFF	OFF	ON
	50k 150k 600k						ON	OFF	ON
	50k 150k 300k						OFF	ON	ON
30k 150k 600k						ON	ON	ON	

### Gyruss DIPSU Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	3	ON	ON						
Extra Life	30k 60k			OFF					
	40k 70k			ON					
Difficulty	1(Easiest)				OFF	OFF	OFF		
	2				ON	OFF	OFF		
	3				OFF	ON	OFF		
	4				ON	ON	OFF		
	5(Average)				OFF	OFF	ON		
	6				ON	OFF	ON		
	7				OFF	ON	ON		
	8(Hardest)				ON	ON	ON		

### Tank Battalion DIPSU Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	None	OFF	OFF						
	20000	ON	OFF						
	15000	OFF	ON						
	10000	ON	ON						
Life	2			OFF					
	3			ON					

### 1942 DIPSU Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	20k 80k	OFF	OFF						
	20k 100k	ON	OFF						
	30k 80k	OFF	ON						
	30k 100k	ON	ON						

Life	3			OFF	OFF				
	1			ON	OFF				
	2			OFF	ON				
	5			ON	ON				
Difficulty	Normal					OFF	OFF		
	Easy					ON	OFF		
	Hard					OFF	ON		
	Hardest					ON	ON		

### Ladybug DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Difficulty	Easy	OFF	OFF						
	Medium	ON	OFF						
	Hard	OFF	ON						
	Hardest	ON	ON						
High Score Names	10 Letters			OFF					
	3 Letters			ON					
Life	3				OFF				
	5				ON				

### Burger Time DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF							
	5	ON							
Extra Life	10000		OFF	OFF					
	15000		ON	OFF					
	20000		OFF	ON					
	30000		ON	ON					
Enemies	4				OFF				
	6				ON				
End of Lever Pepper	No					OFF			
	Yes					ON			

### Mappy DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	*5	ON	OFF						
	1	OFF	ON						
	2	ON	ON						
Extra Life	*30k 80k 20k 70k			OFF	OFF	OFF			
	*30k 100k 20k 60k			ON	OFF	OFF			
	*30k 120k 20k 80k			OFF	ON	OFF			
	*30k 30k 100k			ON	ON	OFF			
	*40k 20k			OFF	OFF	ON			
	*30k 100k 100k 20k 70k 70k			ON	OFF	ON			
	*40k 120k 120k 20k 80k 80k			OFF	ON	ON			
	None			ON	ON	ON			



Rank	A						OFF	OFF	OFF
	B						ON	OFF	OFF
	C						OFF	ON	OFF
	D						ON	ON	OFF
	E						OFF	OFF	ON
	F						ON	OFF	ON
	G						OFF	ON	ON
	H						ON	ON	ON

### Centipede \* DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Language	English	OFF	OFF						
	German	ON	OFF						
	French	OFF	ON						
	Spanish	ON	ON						
Life	2			OFF	OFF				
	3			ON	OFF				
	4			OFF	ON				
	5			ON	ON				
Extra Life	10000					OFF	OFF		
	12000					ON	OFF		
	15000					OFF	ON		
	20000					ON	ON		
Difficulty	Easy							OFF	
	Hard							ON	
Move Speed	Normal								OFF
	Fast								ON

### Millipede \* DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Millipede Head	Easy	OFF							
	Hard	ON							
Beetle	Easy		OFF						
	Hard		ON						
Life	2			OFF	OFF				
	3			ON	OFF				
	4			OFF	ON				
	5			ON	ON				
Extra Life	12000					OFF	OFF		
	15000					ON	OFF		
	20000					OFF	ON		
	None					ON	ON		
Spider	Easy							OFF	
	Hard							ON	
Starting Score Select	No								OFF
	Yes								ON

DIP SW2		1	2	3	4	5	6	7	8
Language	English	OFF	OFF						
	German	ON	OFF						
	French	OFF	ON						
	Spanish	ON	ON						
Bonus	0			OFF	OFF				
	0 1x			ON	OFF				
	0 1x 2x			OFF	ON				
	0 1x 2x 3x			ON	ON				
Move Speed	Normal					OFF			
	Fast					ON			

### JR Pacman DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	1	OFF	OFF						
	2	ON	OFF						
	3	OFF	ON						
	5	ON	ON						
Extra Life	10000			OFF	OFF				
	15000			ON	OFF				
	20000			OFF	ON				
	30000			ON	ON				
Difficulty	Normal					OFF			
	Hard					ON			
Speed	Normal						OFF		
	Fast						ON		

### Pengo DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	50000	OFF							
	30000	ON							
Life	2		OFF	OFF					
	3		ON	OFF					
	4		OFF	ON					
	5		ON	ON					
Difficulty	Easy				OFF	OFF			
	Medium				ON	OFF			
	Hard				OFF	ON			
	Hardest				ON	ON			
Machine Set	Set1						OFF		
	Set2						ON		

### Phoenix DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	6	ON	ON						
Extra Life	3K 30K			OFF	OFF				
	4K 40K			ON	OFF				
	5K 50K			OFF	ON				
	6K 60K			ON	ON				

### Time Pilot DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	5	ON	ON						
Extra Life	10k 50k			OFF					
	20k 60k			ON					
Difficulty	1(Easiest)				OFF	OFF	OFF		
	2				ON	OFF	OFF		
	3				OFF	ON	OFF		
	4				ON	ON	OFF		
	5(Average)				OFF	OFF	ON		
	6				ON	OFF	ON		
	7				OFF	ON	ON		
	8(Hardest)				ON	ON	ON		

### Super Cobra DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Continue (Single Game Only)	Yes	OFF							
	No	ON							
Life	4		OFF						
	3		ON						

### Hustler DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	2	OFF							
	1	ON							

### Space Panic DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	3000	OFF							
	5000	ON							
Life	3		OFF						
	4		ON						

### Super Breakout \* DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Mode	Color	OFF							
	B&W	ON							
Life	3		OFF						
	5		ON						
Move Speed	Medium			OFF	OFF				
	Slow			ON	OFF				
	Fast			OFF	ON				
	Very Fast			ON	ON				
Time *	None					OFF	OFF	OFF	
	200P 200C 200D					ON	OFF	OFF	
	400P 300C 400D					OFF	ON	OFF	
	600P 400C 600D					ON	ON	OFF	
	900P 700C 800D					OFF	OFF	ON	
	1200P 900C 1000D					ON	OFF	ON	
	1600P 1100C 1200D					OFF	ON	ON	
	2000P 1400C 1500D					ON	ON	ON	

\* Note : P: Progressive C: Cavity D: Double  
 S1 Button : Select Progressive  
 S2 Button : Select Cavity  
 S3 Button : Select Double

### New Rally X DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	3Cars None	OFF	OFF						
	4Cars None								
	3Cars 20k/80k	ON	OFF						
	4Cars 20k								
	3Cars 20k/100k	OFF	ON						
	4Cars 40k								
Life	3Cars 20k/120k	ON	ON						
	4Cars 60k								
Life	3			OFF					
	4			ON					

### Arkanoid \* DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Continue	No	OFF							
	Yes	ON							
Difficulty	Easy		OFF						
	Hard		ON						
Extra Life	20k 60k 60k			OFF					
	20k			ON					
Life	3				OFF				
	5				ON				

Move Speed	Normal					<b>OFF</b>	<b>OFF</b>		
	Slow					<b>ON</b>	<b>OFF</b>		
	Fast					<b>OFF</b>	<b>ON</b>		
	Very Fast					<b>ON</b>	<b>ON</b>		

### **Qix DIPSW Setup**

DIP SW1		1	2	3	4	5	6	7	8
Life	5	<b>OFF</b>	<b>OFF</b>						
	4	<b>ON</b>	<b>OFF</b>						
	3	<b>OFF</b>	<b>ON</b>						
	2	<b>ON</b>	<b>ON</b>						
Threshold	60%			<b>OFF</b>	<b>OFF</b>	<b>OFF</b>			
	65%			<b>ON</b>	<b>OFF</b>	<b>OFF</b>			
	70%			<b>OFF</b>	<b>ON</b>	<b>OFF</b>			
	75%			<b>ON</b>	<b>ON</b>	<b>OFF</b>			
	80%			<b>OFF</b>	<b>OFF</b>	<b>ON</b>			
	85%			<b>ON</b>	<b>OFF</b>	<b>ON</b>			
	90%			<b>OFF</b>	<b>ON</b>	<b>ON</b>			
95%			<b>ON</b>	<b>ON</b>	<b>ON</b>				
Time	60						<b>OFF</b>	<b>OFF</b>	<b>OFF</b>
	55						<b>ON</b>	<b>OFF</b>	<b>OFF</b>
	50						<b>OFF</b>	<b>ON</b>	<b>OFF</b>
	45						<b>ON</b>	<b>ON</b>	<b>OFF</b>
	40						<b>OFF</b>	<b>OFF</b>	<b>ON</b>
	35						<b>ON</b>	<b>OFF</b>	<b>ON</b>
	30						<b>OFF</b>	<b>ON</b>	<b>ON</b>
	25						<b>ON</b>	<b>ON</b>	<b>ON</b>

### **Juno First DIPSW Setup**

DIP SW1		1	2	3	4	5	6	7	8
Life	3	<b>OFF</b>	<b>OFF</b>						
	4	<b>ON</b>	<b>OFF</b>						
	5	<b>OFF</b>	<b>ON</b>						
	3	<b>ON</b>	<b>ON</b>						
Difficulty	1(Easiest)			<b>OFF</b>	<b>OFF</b>	<b>OFF</b>			
	2			<b>ON</b>	<b>OFF</b>	<b>OFF</b>			
	3			<b>OFF</b>	<b>ON</b>	<b>OFF</b>			
	4			<b>ON</b>	<b>ON</b>	<b>OFF</b>			
	5			<b>OFF</b>	<b>OFF</b>	<b>ON</b>			
	6			<b>ON</b>	<b>OFF</b>	<b>ON</b>			
	7			<b>OFF</b>	<b>ON</b>	<b>ON</b>			
8(Hardest)			<b>ON</b>	<b>ON</b>	<b>ON</b>				

## Xevious DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	1	ON	OFF						
	2	OFF	ON						
	5	ON	ON						
Flags Award Bonus Life	Yes			OFF					
	No			ON					
Difficulty	Normal				OFF	OFF			
	Easy				ON	OFF			
	Hard				OFF	ON			
	Hardest				ON	ON			
Extra Life	20k60k60k / 20k70k70k						OFF	OFF	OFF
	10k40k40k / 10k50k50k						ON	OFF	OFF
	10k50k50k / 20k50k50k						OFF	ON	OFF
	20k50k50k / 20k60k60k						ON	ON	OFF
	20k70k70k / 20k80k80k						OFF	OFF	ON
	20k80k80k/30k100k100k						ON	OFF	ON
	20k 60k / 20k 80k						OFF	ON	ON
None						ON	ON	ON	

DIP SW2		1	2	3	4	5	6	7	8
Machine Set	Set 1	OFF	OFF						
	Set 2	ON	OFF						
	Set 3	OFF	ON						
	Super Xevious	ON	ON						

## Mr. Do's Castle DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Difficulty	Easy	OFF	OFF						
	Medium	ON	OFF						
	Hard	OFF	ON						
	Hardest	ON	ON						
Machine Set	Set 1			OFF					
	Set 2			ON					
Advance Level On Getting Diamond	Off				OFF				
	On				ON				
Extra Life	Easy					OFF			
	Hard					ON			
Life	3						OFF	OFF	
	4						ON	OFF	
	5						OFF	ON	
	2						ON	ON	

### Moon Cresta DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	30000	OFF							
	50000	ON							
Machine Set	Set 1		OFF						
	Set 2		ON						

### Pinball Action DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
* Control	Mode 1	OFF	OFF						
	Mode 2	ON	OFF						
	Mode 3	OFF	ON						
	Mode 4	ON	ON						
Life	3					OFF	OFF		
	4					ON	OFF		
	5					OFF	ON		
	2					ON	ON		

Control	Left Paddle	Right Paddle	Shoot	Shake
Mode 1	LEFT	RIGHT	S1	S2
Mode 2	S1	S2	UP/DOWN	LEFT/RIGHT
Mode 3	LEFT	RIGHT	UP	S1
Mode 4	LEFT	RIGHT	UP	DOWN

DIP SW2		1	2	3	4	5	6	7	8
Extra Life	70k 200k	OFF	OFF	OFF					
	70k 200k 1000k	ON	OFF	OFF					
	100k	OFF	ON	OFF					
	100k 300k	ON	ON	OFF					
	100k 300k 1000k	OFF	OFF	ON					
	200k	ON	OFF	ON					
	200k 1000k	OFF	ON	ON					
	None	ON	ON	ON					
Extra	Easy				OFF				
	Hard				ON				
Difficulty (Flippers)	Easy					OFF	OFF		
	Medium					ON	OFF		
	Hard					OFF	ON		
	Hardest					ON	ON		
Difficulty (Outlans)	Easy							OFF	OFF
	Medium							ON	OFF
	Hard							OFF	ON
	Hardest							ON	ON

### Scramble DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	2	ON	ON						
Machine Set	Set 1			OFF					
	Set 2			ON					

### \* Super Pacman DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Difficulty	0 (Normal)	OFF	OFF	OFF	OFF				
	1 (Easiest)	ON	OFF	OFF	OFF				
	2	OFF	ON	OFF	OFF				
	3	ON	ON	OFF	OFF				
	4	OFF	OFF	ON	OFF				
	5	ON	OFF	ON	OFF				
	6 (Medium)	OFF	ON	ON	OFF				
	7	ON	ON	ON	OFF				
	8	OFF	OFF	OFF	ON				
	9	ON	OFF	OFF	ON				
	A	OFF	ON	OFF	ON				
	B (Hardest)	ON	ON	OFF	ON				
	C (Easy Auto)	OFF	OFF	ON	ON				
	D (Auto)	ON	OFF	ON	ON				
	E (Auto)	OFF	ON	ON	ON				
F (Hard Auto)	ON	ON	ON	ON					
Extra Life	*30k 100k 30k 100k					OFF	OFF	OFF	
	*30k 120k 30k 80k					ON	OFF	OFF	
	*40k 120k 30k 120k					OFF	ON	OFF	
	*30k 100k 100k 30k 80k 80k					ON	ON	OFF	
	*40k 120k 120k 30k 100k 100k					OFF	OFF	ON	
	*30k 30k 120k 120k					ON	OFF	ON	
	*40k 30k					OFF	ON	ON	
	None					ON	ON	ON	
Machine Set	Set 1								OFF
	Set 2								ON

DIP SW2		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	1	ON	OFF						
	2	OFF	ON						
	*5	ON	ON						



### Bomb Jack DIPSWS Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	2	ON	ON						
Bird Speed	Easy			OFF	OFF				
	Medium			ON	OFF				
	Hard			OFF	ON				
	Hardest			ON	ON				
Enemies Number & Speed	Easy					OFF	OFF		
	Medium					ON	OFF		
	Hard					OFF	ON		
	Hardest					ON	ON		
Special Coin	Easy							OFF	
	Hard							ON	

### Shao-Lin's Road DIPSWS Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	5	ON	OFF						
	7	OFF	ON						
	2	ON	ON						
Extra Life	30k 70k			OFF	OFF				
	40k 80k			ON	OFF				
	40k			OFF	ON				
	50k			ON	ON				
Difficulty	Easy					OFF	OFF		
	Medium					ON	OFF		
	Hard					OFF	ON		
	Hardest					ON	ON		

### King & Balloon DIPSWS Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	10000	OFF	OFF						
	12000	ON	OFF						
	15000	OFF	ON						
	None	ON	ON						
Life	2			OFF					
	3			ON					
Speech	Off				OFF				
	On				ON				

### 1943 DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Difficulty	1 (Easiest)	OFF	OFF	OFF	OFF				
	2	ON	OFF	OFF	OFF				
	3	OFF	ON	OFF	OFF				
	4	ON	ON	OFF	OFF				
	5	OFF	OFF	ON	OFF				
	6	ON	OFF	ON	OFF				
	7	OFF	ON	ON	OFF				
	8	ON	ON	ON	OFF				
	9	OFF	OFF	OFF	ON				
	10	ON	OFF	OFF	ON				
	11	OFF	ON	OFF	ON				
	12	ON	ON	OFF	ON				
	13	OFF	OFF	ON	ON				
	14	ON	OFF	ON	ON				
	15	OFF	ON	ON	ON				
	16 (Hardest)	ON	ON	ON	ON				
*2 Players Game	2 Credits					OFF			
	1 Credit					ON			
Allow Continue	Yes						OFF		
	No						ON		

- 2 Players Mode is enabled only in "Upright/ 2 Controls" mode

### Van-Van Car DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	None	OFF	OFF						
	20k 100k	ON	OFF						
	40k 140k	OFF	ON						
	70k 200k	ON	ON						
Life	3			OFF	OFF				
	4			ON	OFF				
	5			OFF	ON				
	6			ON	ON				

### Pacman Plus DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	5	OFF	OFF						
	3	ON	OFF						
	2	OFF	ON						
	1	ON	ON						
Extra Life	None			OFF	OFF				
	20000			ON	OFF				
	15000			OFF	ON				
	10000			ON	ON				

Difficulty	Easy					<b>OFF</b>			
	Hard					<b>ON</b>			
Ghost Name	Normal						<b>OFF</b>		
	Alternate						<b>ON</b>		
Speed	Normal							<b>OFF</b>	
	Fast							<b>ON</b>	

### **Dig Dug 2 DIPSW Setup**

DIP SW1		1	2	3	4	5	6	7	8
Life	3	<b>OFF</b>							
	5	<b>ON</b>							
Extra Life	30k 80k		<b>OFF</b>	<b>OFF</b>					
	30k 100k		<b>ON</b>	<b>OFF</b>					
	30k 120k		<b>OFF</b>	<b>ON</b>					
	30k 150k		<b>ON</b>	<b>ON</b>					
Level Select	Off				<b>OFF</b>				
	On				<b>ON</b>				

### **Amidar DIPSW Setup**

DIP SW1		1	2	3	4	5	6	7	8
Life	3	<b>OFF</b>	<b>OFF</b>						
	4	<b>ON</b>	<b>OFF</b>						
	5	<b>OFF</b>	<b>ON</b>						
	5	<b>ON</b>	<b>ON</b>						
Extra Life	50k 80k			<b>OFF</b>					
	30k 70k			<b>ON</b>					

### **Zaxxon DIPSW Setup**

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	10000	<b>OFF</b>	<b>OFF</b>						
	30000	<b>ON</b>	<b>OFF</b>						
	20000	<b>OFF</b>	<b>ON</b>						
	40000	<b>ON</b>	<b>ON</b>						
Life	3			<b>OFF</b>	<b>OFF</b>				
	5			<b>ON</b>	<b>OFF</b>				
	4			<b>OFF</b>	<b>ON</b>				

### Pooyan DIPSW Setup

DIP SW1			1	2	3	4	5	6	7	8
Life	3		OFF	OFF						
	4		ON	OFF						
	5		OFF	ON						
	5		ON	ON						
Extra Life	50k	80k			OFF					
	30k	70k			ON					
Difficulty	1 (Easiest)					OFF	OFF	OFF		
	2					ON	OFF	OFF		
	3					OFF	ON	OFF		
	4					ON	ON	OFF		
	5 (Average)					OFF	OFF	ON		
	6					ON	OFF	ON		
	7					OFF	ON	ON		
	8 (Hardest)					ON	ON	ON		

### Pleiads DIPSW Setup

DIP SW1			1	2	3	4	5	6	7	8
Life	3		OFF	OFF						
	4		ON	OFF						
	5		OFF	ON						
	6		ON	ON						
Extra Life	3k	30k			OFF	OFF				
	4k	40k			ON	OFF				
	5k	50k			OFF	ON				
	6k	60k			ON	ON				

### Gun. Smoke DIPSW Setup

DIP SW1				1	2	3	4	5	6	7	8
Extra Life	30k	100k	100k	OFF	OFF						
	30k	100k		ON	OFF						
	30k	80k	80k	OFF	ON						
	30k	100k	150k	ON	ON						
Difficulty	Easy					OFF	OFF				
	Normal					ON	OFF				
	Hard					OFF	ON				
	Hardest					ON	ON				
Allow Continue	Yes							OFF			
	No							ON			
Mode	3 Buttons								OFF		
	1 Button								ON		

### The End DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Life	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	5	ON	ON						

### 1943 Kai DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Difficulty	1 (Easiest)	OFF	OFF	OFF	OFF				
	2	ON	OFF	OFF	OFF				
	3	OFF	ON	OFF	OFF				
	4	ON	ON	OFF	OFF				
	5	OFF	OFF	ON	OFF				
	6	ON	OFF	ON	OFF				
	7	OFF	ON	ON	OFF				
	8	ON	ON	ON	OFF				
	9	OFF	OFF	OFF	ON				
	10	ON	OFF	OFF	ON				
	11	OFF	ON	OFF	ON				
	12	ON	ON	OFF	ON				
	13	OFF	OFF	ON	ON				
	14	ON	OFF	ON	ON				
	15	OFF	ON	ON	ON				
16 (Hardest)	ON	ON	ON	ON					
*2 Players Game	2 Credits					OFF			
	1 Credit					ON			
Allow Continue	Yes						OFF		
	No						ON		

- 2 Players Mode is enabled only in "Upright/ 2 Controls" mode

### Congo Bongo DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
Extra Life	10k	OFF	OFF						
	20k	ON	OFF						
	30k	OFF	ON						
	40k	ON	ON						
Difficulty	Easy			OFF	OFF				
	Medium			ON	OFF				
	Hard			OFF	ON				
	Hardest			ON	ON				
Life	3					OFF	OFF		
	4					ON	OFF		
	5					OFF	ON		
	3					ON	ON		

## Jumping Jack DIPSW Setup

DIP SW1		1	2	3	4	5	6	7	8
<b>Difficulty</b>	Easy	<b>OFF</b>	<b>OFF</b>						
	Medium	<b>ON</b>	<b>OFF</b>						
	Hard	<b>OFF</b>	<b>ON</b>						
	Hardest	<b>ON</b>	<b>ON</b>						
<b>Extra Life</b>	Easy			<b>OFF</b>					
	Hard			<b>ON</b>					
<b>Life</b>	3				<b>OFF</b>	<b>OFF</b>			
	4				<b>ON</b>	<b>OFF</b>			
	5				<b>OFF</b>	<b>ON</b>			
	2				<b>ON</b>	<b>ON</b>			



