MIDWAYS

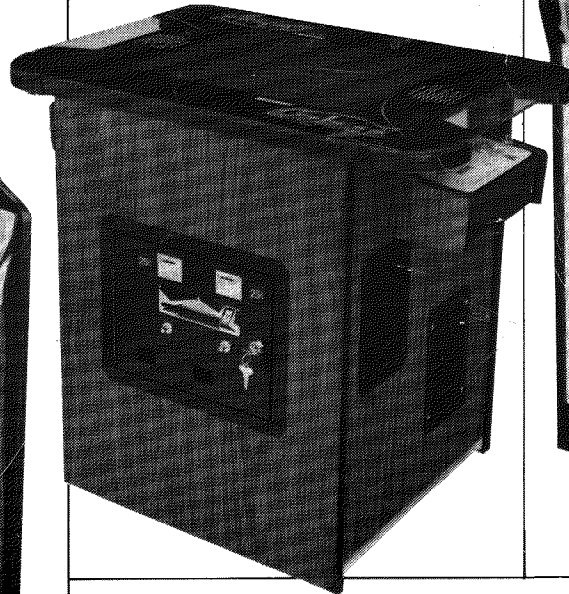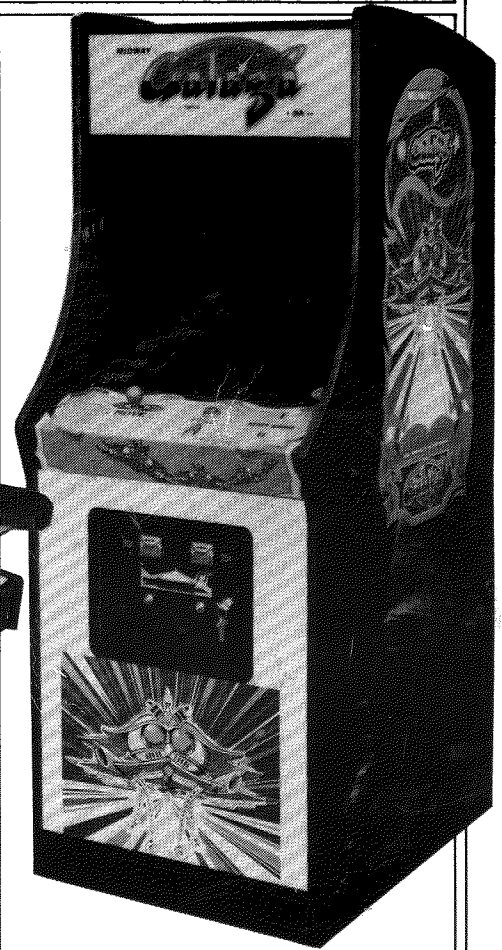## Parts and Operating Manual

No. 510 COCKTAIL

No. 508 UPRIGHT

No. 514 MINI

MIDWAY MFG. CO.
A BALLY COMPANY

10750 W. GRAND AVENUE
FRANKLIN PARK, ILLINOIS 60131
USA

Phone: (312) 451-1360   Cable Address: MIDCO   Telex No.: 72-1596

OPTION SWITCH SETTINGS:

To change the option switch settings, you DO NOT have to take the CPU board out of the game. They can be easily reached through the rear access door on the Upright and Mini models. On the Cocktail Table model, you do have to open the table top to reach them.

When changing any options, ALWAYS perform the Self-Test and play the game to be sure the switches have worked properly and that no switches were accidentally moved that were not meant to be. (These switches are small and this can happen.)

The option switch settings and what they will make the game do are shown in Figure 3. See Figure 2 for option switch locations.

ELIMINATING THE RAPID (AUTOMATIC) FIRE FEATURE

If you do not desire the RAPID (AUTOMATIC) FIRE FEATURE on your game, it can be simply and easily eliminated. See the following procedure.

1. Turn the power off to the game.

Figure 3. Option switch settings

DIP SWITCH 6J								
1 PLAYER GAME PRESS THE 1 PLAYER START BUTTON 2, 3, 4, OR 5 FIGHTERS	SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
	OFF						NOT USED	
2 PLAYER GAME PRESS THE 2 PLAYER START BUTTON 2, 3, 4, OR 5 FIGHTERS **EACH**								
1 PLAYER GAME PRESS THE 1 PLAYER START BUTTON 2, 3, 4, OR 5 FIGHTERS								
	ON						NOT USED	
1 PLAYER GAME WITH 5, 7, 9, OR 11 FIGHTERS PRESS THE **2 PLAYER** START BUTTON								
DIFFICULTY LEVEL SETTINGS — "A" IS THE EASIEST AND "D" IS THE MOST DIFFICULT								
	SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
RANK "A" - EASIEST LEVEL OF PLAY		OFF	OFF				NOT	
RANK "B" - 2ND LEVEL OF DIFFICULTY		ON	ON				USED	
RANK "C" - 3RD LEVEL OF DIFFICULTY		OFF	ON				NOT	
RANK "D" - MOST DIFFICULT LEVEL OF PLAY		ON	OFF				USED	
	SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
GAME PROVIDES SOUND IN **ATTRACT MODE**				ON			NOT	
GAME **DOES NOT** PROVIDE SOUND IN **ATTRACT MODE**				OFF			USED	
FREEZE VIDEO (MONITOR PRESENTATION STOPS MOVING)					ON		NOT	
MONITOR OPERATES NORMALLY					OFF		USED	
AUTOMATIC RACK ADVANCE						ON	NOT	
NORMAL OPERATION						OFF	USED	
COIN COUNTER								
	SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
ONE WAY							NOT	ON
TWO WAY							USED	OFF

2. UPRIGHT and MINI models:
Unlock and open the rear access door.

COCTAIL TABLE model:
If you have this model, you will need to open the table top to reach the necessary terminal board. (See the appropriate opening procedure in the "MAINTENANCE AND REPAIR" section of this manual.)

3. Move the plug in the Rapid Fire P.C. Board from position "A"-RAPID, to position "B"-MANUAL.

4. To close the game, reverse the opening procedure.

5. Turn the power back on, run the game Self-Test, and play one game to make sure everything is working properly.

Figure 3. Option switch settings (Continued)

DIP SWITCH 6K										
COINS PER CREDIT										
			SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
FREE PLAY			ON	ON	ON					
4 COINS	1 CREDIT		ON	ON	OFF					
3 COINS	1 CREDIT		ON	OFF	ON					
2 COINS	1 CREDIT		ON	OFF	OFF					
2 COINS	3 CREDITS		OFF	ON	ON					
1 COIN	3 CREDITS		OFF	ON	OFF					
1 COIN	2 CREDITS		OFF	OFF	ON					
1 COIN	1 CREDIT		OFF	OFF	OFF					

BONUS SHIPS AWARDED AT THE FOLLOWING POINT VALUES:										
BEGAN WITH 2, 3 OR 4 FIGHTERS		**BEGAN WITH 5 FIGHTERS**		SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
1st SHIP	20000	1st SHIP	30000								
2nd SHIP	60000	2nd SHIP	100000				ON	ON	OFF		
AND EVERY	60000	AND EVERY	100000								
1st SHIP	20000	1st SHIP	30000								
2nd SHIP	70000	2nd SHIP	120000				ON	OFF	ON		
AND EVERY	70000	AND EVERY	120000								
1st SHIP	20000	1st SHIP	30000								
2nd SHIP	80000	2nd SHIP	150000				ON	OFF	OFF		
AND EVERY	80000	AND EVERY	150000								
1st SHIP	30000	1st SHIP	30000								
2nd SHIP	100000	2nd SHIP	100000				OFF	ON	ON		
AND EVERY	100000										
1st SHIP	30000	1st SHIP	30000								
2nd SHIP	120000	2nd SHIP	120000				OFF	ON	OFF		
AND EVERY	120000										
1st SHIP	20000	1st SHIP	30000								
2nd SHIP	60000	2nd SHIP	150000				OFF	OFF	ON		
1st SHIP	30000	ONE SHIP	30000								
2nd SHIP	80000	ONLY					OFF	OFF	OFF		
NO BONUS SHIPS GIVEN WITH THIS SETTING							ON	ON	ON		

DETERMINES NUMBER OF SPACE FIGHTERS PLAYER BEGINS GAME WITH:										
2 SPACE FIGHTERS									ON	ON
3 SPACE FIGHTERS									ON	OFF
4 SPACE FIGHTERS									OFF	ON
5 SPACE FIGHTERS									OFF	OFF

GALAGA Pinout (bootleg)

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                  PARTS SIDE  |  SOLDER SIDE
-----------------------------|-------------------------------------
                  GND | A | 1 | GND
-----------------------------|---|---|-------------------------------
                  GND | B | 2 | GND
-----------------------------|---|---|-------------------------------
                  +5V | C | 3 | +5V
-----------------------------|---|---|-------------------------------
                  +5V | D | 4 | +5V
-----------------------------|---|---|-------------------------------
                      | E | 5 |
-----------------------------|---|---|-------------------------------
                      | F | 6 | tabletop (closed) or upright (open)
-----------------------------|---|---|-------------------------------
     Player 1 RIGHT SW | H | 7 | Player 2 RIGHT SW
-----------------------------|---|---|-------------------------------
      Player 1 LEFT SW | J | 8 | Player 2 LEFT SW
-----------------------------|---|---|-------------------------------
      Player 1 FIRE SW | K | 9 | Player 2 FIRE SW
-----------------------------|---|---|-------------------------------
     Player 1 START SW | L | 10| Player 2 START SW
-----------------------------|---|---|-------------------------------
                      | M | 11| Coin SW
-----------------------------|---|---|-------------------------------
                      | N | 12| Test/Setup Mode SW
-----------------------------|---|---|-------------------------------
   Video Red (see above) | P | 13|
-----------------------------|---|---|-------------------------------
 Video Green (see above) | R | 14|
-----------------------------|---|---|-------------------------------
  Video Blue (see above) | S | 15|
-----------------------------|---|---|-------------------------------
  Video Sync (see above) | T | 16|
-----------------------------|---|---|-------------------------------
                      | U | 17| Speaker (to GND)
-----------------------------|---|---|-------------------------------
                 +12V | V | 18| +12V
-----------------------------|---|---|-------------------------------
                  +5V | W | 19| +5V
-----------------------------|---|---|-------------------------------
                  +5V | X | 20| +5V
-----------------------------|---|---|-------------------------------
                  GND | Y | 21| GND
-----------------------------|---|---|-------------------------------
                  GND | Z | 22| GND
-----------------------------------------------------------------
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5 pin connector in one corner for the video output signal:
(closest to corner of board) 1 - Red
                             2 - Blue
                             3 - Green
                             4 - Sync
                             5 - Video GND