namco

BOSCONIAN

GENERAL INSTRUCTIONS

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FOR

BOSCONIAN

INSTALLATION

I.   Unlock and open the coin box door.

II. Remove four (4) "CABINET LEVELING LEGS" from inside the coin box.

III. Tip the cabinet to the side and remove the shipping cleats from its bottom.

    A. Locate the threaded holes - one in each corner - and install the "CABINET LEV-
       ELING LEGS" in them.

    B. Level the cabinet.

    C. When finished, the cabinet should be stable in the upright position.

IV. Plug the game into a **standard** A.C. wall outlet **ONLY** .

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------WARNING------

Game MUST be
properly grounded.
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A. The power ON/OFF switch is located:

1.   UPRIGHT MODEL: On top of the cabinet toward the back.

2.   MINI MODEL: In the center of the cabinet back just below the
                              rear access door.

3.   COCKTAIL TABLE MODEL: Underneath the cabinet on Player No. 2's side.

LINE VOLTAGE SAFETY INTERLOCK SWITCHES

Line voltage SAFETY INTERLOCK SWITCHES have been provided for your protection. The loca-
tions of these SAFETY INTERLOCK SWITCHES are:

I.   UPRIGHT MODEL: Inside the rear of the cabinet on the right side of the
                              rear access door.

PART NO. M051-00550-A007

    II. MINI MODEL: Inside the rear of the cabinet on the right side of the rear access door.

    III. COCKTAIL TABEL MODEL: Inside the cabinet on the hinge side of the coin door.

When the cabinet access door(s) are secured in place, the SAFETY INTERLOCK SWITCH plunger(s) are in a fully depressed condition. The game circuit can function normally.

When any cabinet access door(s) are opened, the SAFETY INTERLOCK SWITCH plunger(s) are in a partially extended condition. This isolates the game circuit from the line voltage.

To restore power to the game circuit with the access door(s) open, gently pull the SAFETY INTERLOCK SWITCH plunger(s) out to the fully extended condition. **THIS IS TO BE USED FOR SERVICING THE GAME ONLY!**

SELF-TEST

A slide switch is provided to make the game run a "Self-Test" on itself. The SELF-TEST SWITCH is located on the mounting bracket for the left hand coin meter on the back side of the coin door.

To put the game into the Self-Test mode; turn the power on and slide the SELF-TEST SWITCH to the ON position.

When in the Self-Test mode, the monitor screen will display the results of certain test functions it has run on itself. (These will be discussed in more detail later.)

TO SERVICE THE CONTROL PANEL(S)

    I.   UPRIGHT MODEL:

        A. The control panel is held in place by three latches, one on the left side, one on the right side, and one in the center of the front of the cabinet.

           1. They are spring loaded to provide constant positive pressure on their latch plates.

           2. They can be reached through the coin door **AFTER turning power to the game off.**

           3. To release the latches, lift up and toward the center of the control panel.

               a. Once they are released, unhook them from their latch plates.

        B. To remove the control panel:

           1. Raise it up and tilt it toward you until you can see the cable behind it.

           2. Cradling the control panel between yourself and the cabinet, disconnect it from its cabling.

3. The control panel is now free and can be removed.

II. MINI MODEL:

A. The control panel is held in place by two latches, one on the right side and one on the left side of the cabinet.

1. They are spring loaded to provide constant positive pressure on their latch plates.

2. They can be reached through the coin door **AFTER turning power to the game off.**

3. To release the latches, lift up and toward the center of the control panel.

a. Once they are released, unhook them from their latch plates.

B. To remove the control panel:

1. Raise it up and tilt it toward you until you can see the cable behind it.

2. Cradling the control panel between yourself and the cabinet, disconnect it from its cabling.

3. The control panel is now free and can be removed.

III. COCKTAIL TABLE MODEL:

A. Each control panel is held in place by several screws, two on the inside of the cabinet and three along the bottom edge of the control panel.

1. **Turn the power off to the game.**

2. Open the coin box door and release the two latches on the inside of the cabinet up next to the table top.

   CAUTION: The right hand latch is very close to the **HIGH VOLTAGE** on the monitor. **BE CAREFUL!!**

a. Once they're released, unhook them from their latch plates.

3. Grasp the table top in the center above the coin door lifting up and to the side to tilt it open.

   CAUTION: Due to the weight of the monitor, **EXTREME CARE MUST** be taken when opening the cabinet.

4. Remove the screws which secure the control panel in place.

    B. To remove the control panel(s):

       1. Disconnect it from its cabling.

       2. The control panel is now free and can be removed.

SPECIAL NOTE: TO REINSTALL ANY OF THE ABOVE REMOVED ITEMS, REVERSE THE PROCEDURE YOU USED TO REMOVE IT.

REMOVAL OF THE MAIN-DISPLAY-GLASS AND/OR THE T.V. BEZEL ASSEMBLY

    I.   UPRIGHT MODEL:

      NOTE: To do this, the latches which secure the control panel MUST be released. The control panel need not be removed. See the "UPRIGHT MODEL" procedure.

      A. **Turn the power to the game off** and remove the rear access door.

      B. Remove the screws from the glass support bracket and lift it out the back of the cabinet.

      C. Grasp the main-display-glass in the top center, lift up slightly and pull it out the rear of the cabinet.

      D. Loosen the screws which secure the T.V. bezel-glass-clamps in place.

       1. Move the clamps to the side and the bezel glass may be removed.

       2. Remove the above mentioned screws and the bezel with four bezel-glass-clamps may be removed.

      E. To reinstall the T.V. bezel asssembly and the main-display-glass, reverse this procedure.

    II. MINI MODEL:

      NOTE: In order to do this, the control panel MUST be removed first. See the "MINI MODEL" procedure.

      A. **Turn the power off to the game** and remove the control panel.

      B. Remove the screws which secure the glass clamping plate.

      C. Lift out the glass clamping plate. This frees the main-display-glass so in can be lifted up.

      D. By putting your finger in the hole in the middle of the main-display-glass support, you can lift it up and out.

.E. Remove the screws which secure the T.V. bezel assembly and lift it out.

> NOTE: Use the hole in the center of the main-display-glass support to grasp it.

F. Reverse this procedure to reinstall the T.V. bezel assembly and the main-display-glass.

III. COCKTAIL TABLE MODEL:

> NOTE: This may be done with the table top in the open or the closed position. If you decide to open the table top, **TURN THE POWER TO THE GAME OFF FIRST.**

A. Remove the screws which secure the table top glass clamps in place.

B. Remove the table top glass.

C. Lift out the T.V. bezel assembly.

D. To reinstall the T.V. bezel assembly and the table top glass, reverse this procedure.

VOLUME CONTROL POT

The volume control pot is located on the CPU board. The other board is the video board. There is only one pot. For adjustment, it may be reached through the rear access door on the UPRIGHT and MINI models. On the COCKTAIL TABLE models, you will have to open the table top to reach it.

To make the sounds louder, turn the pot clockwise as you face it (⟶).

To make the sounds **less** loud, turn the pot counterclockwise as you face it (⟵).

VOLTAGE CONTROL POT

The voltage control pot is located on the Power Supply P. C. Board. It is pre-set at the factory and **SHOULD NOT** be tampered with at all **unless** the distributors service department is contacted first.

SELF-TEST

The Self-Test mode is a special mode for checking game switches and computer functions. It is the easiest and best way to check for proper operation of the entire game.

You may begin a Self-Test at any time by sliding the Self-Test switch to the "ON" position after the power to the game is on. Now that the game is in the Self-Test mode, it will react as follows:

A.   First, you will see a moving multicolored pattern appear on the screen.

B.   Immediately following this, a rightside up test display is shown on the monitor
      screen. This will remain until you set the Self-Test switch back to the "OFF" posi-
      tion. This test display is shown below.

<u>S E L F - T E S T   D I S P L A Y</u>

RAM OK or (a number and a letter i.e. 1L, 3H, etc.)

ROM OK or (a number i.e. 0, 2, etc.)

UPRIGHT or (TABLE)

*1 COIN   *1 CREDIT

*3 SHIPS

RANK *A (B,C,AUTO)

SOUND 00 (01,02,03,04,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19)

1ST BONUS *20000 PTS

2ND BONUS *70000 PTS

*AND EVERY 70000 PTS

* SWITCH SELECTABLE

D.   If a bad ROM or RAM chip is found by the games internal check system during the Self-
      Test, the game indicates this to you by showing the location code of the bad chip(s) in
      place of the letters "OK":

DISPLAY	DESCRIPTION
RAM OK	All RAMs are good.
RAM 1L	RAM located on CPU PC board at position 2N is bad.
RAM 1H	RAM located on CPU PC board at position 2N is bad.
RAM 2L	RAM located on CPU PC board at position 2N is bad.
RAM 2H	RAM located on CPU PC board at position 2N is bad.
RAM 3L	RAM located on Video PC board at position 1E is bad.
RAM 3H	RAM located on Video PC board at position 1E is bad.
RAM 4L	RAM located on Video PC board at position 1E is bad.
RAM 4H	RAM located on Video PC board at position 1E is bad.
RAM 5L	RAM located on Video PC board at position 1H is bad.
RAM 5H	RAM located on Video PC board at position 1H is bad.
RAM 6L	RAM located on Video PC board at position 1H is bad.
RAM 6H	RAM located on Video PC board at position 1H is bad.
ROM OK	All ROMs are good.
ROM 0	ROM located on CPU PC board at position 3N is bad.
ROM 1	ROM located on CPU PC board at position 3M is bad.
ROM 2	ROM located on CPU PC board at position 3L is bad.
ROM 3	ROM located on CPU PC board at position 3K is bad.
ROM 4	ROM located on CPU PC board at position 3J is bad.
ROM 5	RAM located on CPU PC board at position 3H is bad.
ROM 6	ROM located on CPU PC board at position 3E is bad.

E. "RANK" is a difficulty setting, with "RANK B" being the **least** difficult level of play and "RANK C" being the **most** difficult level of play. "RANK AUTO"; at this setting the game measures the players skill level and progressively gets harder as the player gets better. See "OPTION SWITCH SETTINGS TABLE".

F. To check "SOUND" (the game has 20 different sounds):

1. Move the controller to the right momentarily and release it - "SOUND" number changes from "00" to "01" and you hear sound "01".

2. Press any button or activate the coin switches and sound "01" will change to sound "02" and it is heard.

3. Repeat Step 2 with a different button or switch, etc. and - "SOUND 02" changes to "SOUND 03" and it is heard - and so on.

G. To check your game function switches and buttons (coin counter switches, FIRE button, 1 PLAYER and 2 PLAYER buttons): activate each one while the game is in the Self-Test mode. You should hear a different game sound for each activation. If you do not hear it, the switch/button is either not working, miswired, or disconnected. Check it out thoroughly.

H. When finished with the Self-Test mode, slide the Self-Test switch back to the "OFF" position.

1. A cross hatch pattern appears on the monitor screen for about 1 to 2 seconds.

2. If you wish to keep this test pattern on the monitor screen for further use, slide Self-Test switch to the "ON" position **after** the cross hatch pattern appears and **before** it disappears.

3. When finished with the cross hatch pattern, set the Self-Test switch to the "OFF" position.

4. Normal game functions will now return to the monitor screen.

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B O S C O N I A N

O P T I O N   S W I T C H   S E T T I N G S

// DIP SWITCH 6J //

	SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
1 PLAYER GAME PRESS THE 1 PLAYER START BUTTON 1, 2, 3, OR 5 FIGHTERS	OFF						NOT USED	
2 PLAYER GAME PRESS THE 2 PLAYER START BUTTON 1, 2, 3, OR 5 FIGHTERS EACH								
1 PLAYER GAME PRESS THE 1 PLAYER START BUTTON 1, 2, 3, OR 5 FIGHTERS	ON						NOT USED	
1 PLAYER GAME WITH 3, 5, 7, OR 11 FIGHTERS PRESS THE 2 PLAYER START BUTTON								

DIFFICULTY LEVEL SETTINGS - "B" IS THE EASIEST AND "C" IS THE MOST DIFFICULT

	SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
RANK "A" - STANDARD LEVEL OF DIFFICULTY		OFF	OFF				NOT	
RANK "B" - EASIEST LEVEL OF DIFFICULTY		OFF	ON				USED	
RANK "C" - HARDEST LEVEL OF DIFFICULTY		ON	OFF				NOT	
RANK "AUTO" - (MEASURES PLAYERS SKILL LEVEL)		ON	ON				USED	

	SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
NO GAME CONTINUATION FEATURE. PLAYER(S) MAY CONTINUE GAME FROM PRESENT ROUND AFTER LAST SHIP HAS BEEN DESTROYED. **THIS COSTS ADDITIONAL CREDITS.** PLAYER(S) SCORE(S) ARE RETURNED TO **ZERO -"0"**.				ON OFF			NOT USED	
GAME PROVIDES SOUND IN ATTRACT MODE GAME **DOES NOT** PROVIDE SOUND IN ATTRACT MODE						ON OFF	NOT USED	
FREEZE VIDEO (MONITOR PRESENTATION STOPS MOVING) MONITOR OPERATES NORMALLY							ON OFF	NOT USED

COIN COUNTER

	SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
ONE WAY TWO WAY							NOT USED	ON OFF

NOTE: SWITCH NUMBER 6J-7 IS NOT USED AND SHOULD **ALWAYS** REMAIN IN THE **"OFF"** POSITION.

B O S C O N I A N

O P T I O N   S W I T C H   S E T T I N G S

/// 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	OFF	ON	ON					
3 COINS 1 CREDIT	ON	OFF	ON					
2 COINS 1 CREDIT	OFF	OFF	ON					
2 COINS 3 CREDITS	ON	ON	OFF					
1 COIN 3 CREDITS	OFF	ON	OFF					
1 COIN 2 CREDITS	ON	OFF	OFF					
1 COIN 1 CREDIT	OFF	OFF	OFF					

BONUS SHIPS AWARDED AT THE FOLLOWING POINT VALUES :

BEGAN WITH 1, 2 OR 3 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	70000	2nd SHIP	120000					ON	ON	OFF	
AND EVERY	70000										
1st SHIP	15000	1st SHIP	20000								
2nd SHIP	50000	2nd SHIP	70000					ON	OFF	ON	
AND EVERY	50000										
1st SHIP	15000	1st SHIP	30000								
2nd SHIP	50000	2nd SHIP	100000					ON	OFF	OFF	
		AND EVERY	100000								
1st SHIP	10000	1st SHIP	15000								
2nd SHIP	50000	2nd SHIP	70000					OFF	ON	ON	
AND EVERY	50000										
1st SHIP	30000	1st SHIP	30000								
2nd SHIP	100000	2nd SHIP	80000					OFF	ON	OFF	
AND EVERY	100000	AND EVERY	80000								
1st SHIP	15000	1st SHIP	20000								
2nd SHIP	70000	2nd SHIP	100000					OFF	OFF	ON	
AND EVERY	70000										
1st SHIP	20000	ONE SHIP	30000								
2nd SHIP	70000	2nd SHIP	120000					OFF	OFF	OFF	
		AND EVERY	120000								
NO BONUS SHIPS GIVEN WITH THIS SETTING								ON	ON	ON	

DETERMINES NUMBER OF SPACE FIGHTERS PLAYER BEGINS GAME WITH:

	SW#7	SW#8
1 SPACE FIGHTER	ON	ON
2 SPACE FIGHTERS	OFF	ON
3 SPACE FIGHTERS	ON	OFF
5 SPACE FIGHTERS	OFF	OFF

<u>E L I M I N A T I N G   T H E   R A P I D</u>

<u>(A U T O M A T I C)   F I R E   F E A T U R E</u>

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.**

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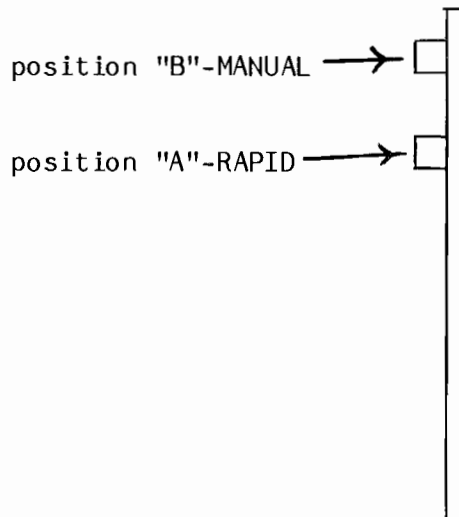   Unlock and open the rear access door.

    COCKTAIL 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.)

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.

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position "B"-MANUAL ——→ □
position "A"-RAPID ——→ □
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<u>RAPID FIRE P.C.B.</u>

<u>SIDE VIEW</u>