

# **SELF-TEST PROCEDURE**

#### **IMPORTANT NOTE TO OPERATORS**

If the game's service manual, the TV monitor manual, or the schematic sheets were not included with the game when you unpacked it, contact your distributor to get free copies. (All Atari manuals for coinoperated games also include complete illustrated parts lists.)

nstruction	Results if Test Passes				
I. Set self-test	After about 3				
witch to on nosi.	seconds the				

tion (see Figure 5).

monitor displays the picture below.

**CENTER COIN MECH** MULTIPLIER (LEFT MECH OF A 2-MECH DOOR) RIGHT COIN MECH MULTIPLIER **SWITCH SWITCH TOGGLE 8 TOGGLE 1 SWITCH AT M10** AT P10 (TOP ONE) (BOTTOM ONE)

RAM FAILURE is indicated by a sequence of 1 to 10 tones. You will hear a short I tone for each good RAM chip, and a long high tone for a failing RAM chip. The to stops with the first failing RAM-chip pair (example: J2 and H2 are a pair). To restart 1 sequence, press the reset pushbutton on the Battlezone<sup>TM</sup> Analog Vector-Genera PCB, or set the self-test switch to off, then again to the on position. Identify the t RAM chip with the table below. Example: four short low tones followed by a long hi tone indicates failure of RAM at location B2.

**Results if Test Fails** 

failule of halvi at location bz.	
ong High Tone	Bad RAM Chip Location
1st	J2
2nd	H2
3rd	A2
4th	A1
5th	B2
6th	B1
7th	C2
8th	C1
9th	D2
10th	D1

ROM/PROM FAILURE is indicated by two columns of numbers on the left side of ithe screen. The number in the left column indicates the location of the failling ROM/PROM(s). Identify the bad ROM/PROM with the table immediately below.

Ignore the hexadecimal numbers in the right column.

Displayed No.	Failing ROM	Failing PROM
0	B/C3*	B/C3*, E3
1	<b>A</b> 3	A3, F/H3
2	E1	
3	F/H1	
4	J1	
5	K1	
6 .	L/M1	
7	N1**	

You will not hear a low or high beep for the defective switch.

\*If ROM or PROM B/C3 is bad, you will hear a continuous low tone, and the program may be unable to display a screen image.

\*\*If ROM N1 is bad, program will be unable to produce tones in RAM test.

MATH BOX FAILURE is indicated by a single letter displayed in the upper right corner of the display. Math-box failure is explained in the Signature Analysis Procedure, on the game schematic Sheet 1, Side B. Identify the failure with the table below.

Displayed Letter	Failure
T	Time out error
Н	Data error—high byte
L	Data error—low byte

VOLUME INCREASE:

SELF-TEST

SWITCH (EURO-

PEAN GAMES)

**TURN CLOCKWISE** 

2. Activate slam switch, all control panel switches and coin door switches. When satisfied with test, set self-test switch to off posi-

you'll hear a low beep. As switch deactivates. you'll hear a high beep.

3. Sounds Test (Optional)

DISPLAY OF COMPLETE **CHARACTER SET** 

You may test the hardware-generated sounds by starting a game and proceeding as follows:

As switch activates.

Engine Rumble (Idle): Should be heard as soon as start button is pushed.

Engine Rumble (Active): Pushing both control handles forward should cause an increase in pitch. Releasing control handles should cause engine rumble to return to idle.

Loud Shot: Press the fire button.

Loud Explosion: Heard when you get hit, indicated by cracked windshield.

Soft Explosion: Is heard when you hit an enemy tank or another object.

## **Game Option Settings**

To change toggle positions on the switch assemblies, you need not remove the game PCB. The switches, usually colored blue, are easily accessible when the Battlezone Analog Vector-Generator

monitor display by performing the self-test. Note that changing an option on any of the following eight toggles will cause an imme-

PCB is mounted in place. When changing the options, verify proper results on the TV diate change on the TV monitor screen during the self-test. SAFETY INTERLOCK Toggle Settings of 8-Toggle Switch on Battlezone PCB (at M10) (BOTTOM switch when PCB is in game) 2 1 Option On On Game starts with 2 tanks Game starts with 3 tanks \$ On Off Game starts with 4 tanks On Off Off Game starts with 5 tanks Missile appears after 5,000 points Missile appears after 10,000 points \$ Off Off Missile appears after 20,000 points Off Missile appears after 30,000 points No bonus tank Bonus tank at 15,000 and 100,000 points \$ Off On Bonus tank at 25,000 and 100,000 points Off Bonus tank at 50,000 and 100,000 points Off English language \$

French language German language

Spanish language

SELF-TEST

**SWITCH** 

VOLUME CONTROL



The white block below contains the manufacturer's suggested settings. All numbers 1 thru 8 are toggle settings on the 8-toggle switch at location P10, on the Battlezone<sup>TM</sup> Analog Vector-Gen erator PCB (the top switch assembly).

	50°				Bonus \$1.00 = 3 plays					\$.50 = 1 play \$.75 = 2 plays \$1.00 = 3 plays			
Straight 25 <sup>©</sup> Door	8 • On	7 On	6 On	5 On	8 On (3)	7 Off	6 Off	5 On	8 On (4)	7 On	6 Off	5 On	
	① <b>4</b>	3	2	1	4	3	2	1	4	3	2	1	
	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off	
25¢/\$1.00	8	7	6	5	3 On	7	6	5	8	7	6	5	
Door or	On	On	On	On		Off	Off	On	4 On	On	Off	On	
25¢/25¢/\$1.00	① 4	3	2	1	(5) 4	3	2	1	(5) 4	3	2	1	
Door	On	Off	Off	Off	On	Off	Off	Off	On	Off	Off	Off	

### 25¢ PER PLAY:

		No b	onus		•		nus 3 play	s	Bonus \$1.00 = 5 plays				
Straight 25 <sup>©</sup> Door	8 On	7 On	6 On	5 On	8 On	7 On	6 Off	5 On	8 On	7 Off	6 On	5 On	
20. 2001	(2) 4 On	3 On	2 Off	1 On	(7) 4 On	3 On	2 Off	1 On	(7) 4 On	3 On	2 Off	1 On	
25¢/\$1.00 Door or	8 On (2)	7 On	6 On	5 On	8 On (7)	7 On	6 Off	5 On	8 On	7 Off	6 On	5 On	
25¢/25¢/\$1.00 Door	4 On	3 Off	2 Off	1 On	On	Off 3	2 Off	1 On	Ø 4 On	3 Off	2 Off	1 On	

Circled numbers refer to coin-door labels you should use with each situation.

Note: Battlezone cannot be set for a 2-coin minimum.

For your information, we have defined below the switch settings for those options relating to game price, coin mechanism multipliers, and bonus play. This information is useful in case you

**BATTLEZONE ANALOG** 

VECTOR-GENERATOR PCB

**OPERATOR** 

**POWER** 

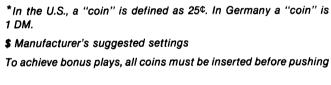
**ON/OFF SWITCH** 

**OPTION SWITCH** 

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need to temporarily set the Battlezone<sup>TM</sup> game on free play, or if you have German coin mechanisms in your door.

	Toggle Settings of 8-Toggle Switch on Battlezone PCB (at P10). TOP switch when PCB is in game							
8	7	6	5	4	3	2	1	Option
						On On Off Off	On Off On Off	Free play 1 coin* for 2 plays 1 coin* for 1 play 2 coins* for 1 play
				On On Off Off	On Off On Off			Right coin mech × 1 \$ Right coin mech × 4 Right coin mech × 5 Right coin mech × 6
			On Off					Center coin mech × 1 \$ (Both these settings affect the left mech in a 2-mech door)
On	On	On					·	No bonus coins
On	On	Off						For every 2 coins* inserted, game logic adds 1 more coin*
On	Off	On						For every 4 coins* inserted, game logic adds 1 more coin*
On	Off	Off						For every 4 coins* inserted, game logic adds 2 more coins* \$
Off	On	On						For every 5 coins* inserted, game logic adds 1 more coin*



🚱 🐶 🐧 coins = 2 plays





Note: Battlezone cannot be set for a 2-coin label no. 6 on the Battlezone coin door.



## **Coin Counter Option Settings**

[These toggles determine which coin mechanisms activate which counters]

Toggle Settings of 4-Toggle Switch on Game PCB (at L11)								
4	3	2	1	For Games Having These Coin Doors:	Option			
		On	On	Thai 1 Baht/1 Baht, German 1 DM/1 DM, U.S. 25¢/-25¢, Belgian or French 5 Fr/5 Fr, Swiss or French 1 Fr/1 Fr, U.S. 25¢/25¢/25¢, Japanese Y100/Y100, Swedish 1 Kr/1 Kr, U.K. 10 P/10 P, Australian 20¢/-20¢, or Italian 100 L/100 L.	All 3 coin mechanisms are same denomination; all register on <b>one</b> coin counter.			
Not Used	t Used	Off	On	German 2 DM/1 DM, German 1 DM/5 DM, U.S. 25¢/- 25¢/\$1, or U.S. 25¢/\$1.	Left and center mechanismare same denomination; right mech is another denomination. Requires two coin counters.			
No	Not	On	Off	No coin door is currently designed for this configuration.	Left mech is one denomination; center and right mechare another denomination. Requires two coin counter			
		Off	Off	German 1 DM/2 DM/5 DM.	Left, center and right mecl are 3 different denomina- tions. Requires three coin counters.			

On

Off

Off

On

Off