

## Self-Test Procedure

Instruction	Results if Test Passes (If results are not as indicated, see list of failures that follows)
<b>1. Begin:</b> Set self-test switch to on position	The monitor displays the picture below. The game produces no sound at all. The two start-switch LEDs will stay on throughout self-test.
<b>2. Mini-Trak Ball Test:</b> Roll the Mini-Trak Ball controls in all directions.	The centipede head moves around on the screen in directions corresponding to Mini-Trak Ball control.
<b>3. Switch Test:</b> One after another, activate and release all control-panel switches, the slam switch, and coin switches.*	As long as you activate (close) each switch, you'll hear a high beep.
<b>4. Audio I/O Chip Test:</b> One after another, press and hold 2 of the control-panel switches and at least one of the coin switches.	Volume increases and pitch decreases with each additional switch that is activated.
<b>5. Audio I/O Channel Test:</b> Press 1-player start button four times.	You'll hear a high beep for each press of the button.
<b>6. Background Color Test:</b> Press 1-player start button at least 16 times.	Background color changes with each press of the 1-player start button.
<b>7. Object Color Test:</b> Press 2-player start button at least 16 times.	Objects on playfield change color.
<b>8. Moving Object Test:</b> Watch the screen, and move the Mini-Trak Ball around. Place the moving object in an open area of the screen. Press fire button several times.	Each press of the fire button changes the moving object to another moving object. At certain points in the series, the object will disappear. This is not a failure indication.
<b>9. Erasing the High Score Table (optional)</b> The current three highest scores are held in permanent memory, even if the game is unplugged. If you want to erase these scores, simultaneously press either fire and two start buttons. The 4 FF message in the upper left corner of the screen will then be displayed. The average game time data will also be erased, but still displayed on the screen.	
<b>10. End:</b> When satisfied with test, set self-test switch to off position.	

\* Activate coin switches by inserting at least one coin in each coin slot. You will not trip the coin counters as long as you stay in self-test.

**Important Note to Operators:**  
If the operation, maintenance and service manual was not included in this game when you unpacked it, contact your distributor to get a free copy. (All Atari manuals for coin-operated games also include complete illustrated parts lists.)

## Game Price Settings

The white block below contains Atari's suggested settings. All numbers 1 thru 8 are toggle settings on the 8-toggle switch at location N8, on the Centipede™ Game PCB (the LEFT switch assembly).  
Circled numbers refer to game pricing labels you should use with each situation (labels are below). Use the label no. 6 (indicated with ⑥) only if you set toggle 7 at PCB switch assembly P10 to on.

### 50¢ PER CREDIT

	No bonus				Bonus \$1.00 = 3 credits				Bonus \$.75 = 2 credits \$1.00 = 3 credits			
	8	7	6	5	8	7	6	5	8	7	6	5
<b>Straight 25¢ Door</b>	①	Off	Off	Off	③	Off	On	On	④	Off	Off	On
		4	3	2		4	3	2		4	3	2
		Off	On	On		Off	On	On		Off	On	On
<b>25¢/\$1.00 Door or 25¢/25¢/\$1.00 Door</b>	①	Off	Off	Off	③	Off	On	On	④	Off	Off	On
		4	3	2		4	3	2		4	3	2
		Off	On	On		Off	On	On		Off	On	On

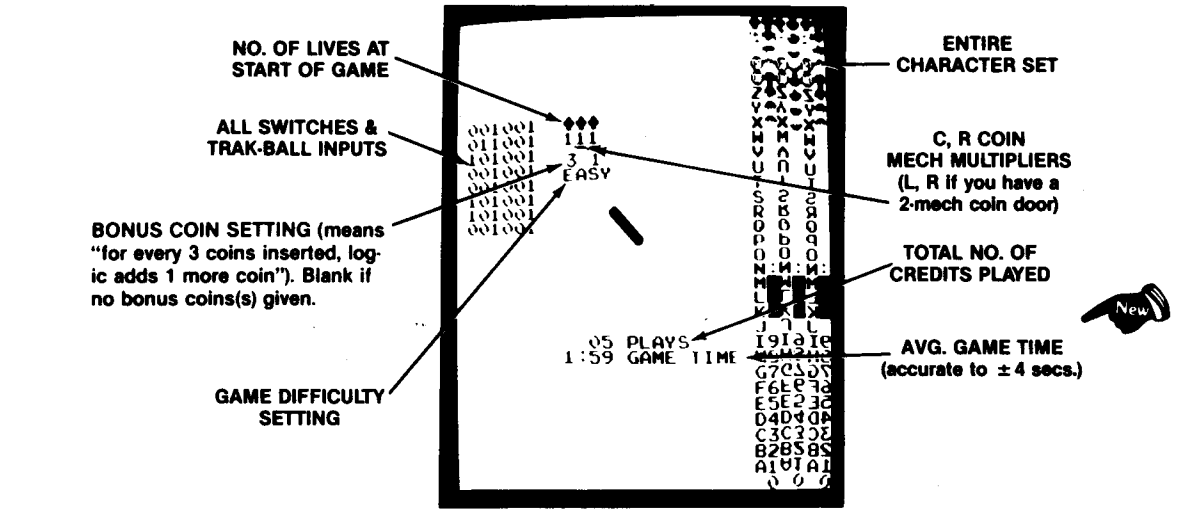
### 25¢ PER CREDIT

	No bonus				Bonus \$.50 = 3 credits				Bonus \$1.00 = 5 credits			
	8	7	6	5	8	7	6	5	8	7	6	5
<b>Straight 25¢ Door</b>	②	Off	Off	Off	⑥	Off	Off	On	⑥	Off	On	Off
		4	3	2		⑦	4	3		⑦	4	3
		Off	On	On		Off	On	Off		Off	On	Off
<b>25¢/\$1.00 Door or 25¢/25¢/\$1.00 Door</b>	②	Off	Off	Off	⑥	Off	On	On	⑥	Off	On	Off
		4	3	2		⑦	4	3		⑦	4	3
		Off	On	On		Off	On	Off		Off	On	Off

The switch settings below relate to options for game price, coin mechanism multipliers, and bonus play. This information is useful in case you need to temporarily set the Centipede™ game on free play, or if you have German coin mechanisms in your door.  
To achieve bonus plays, all coins must be inserted before pressing the start button. The label no. 6 shown below should be used only if you set toggle 8 at PCB switch assembly N9 to off.

Toggle Settings of 8-Toggle Switch on Centipede PCB (at N8). LEFT switch when PCB is in game				Option	
8	7	6	5	2	1
				On	On
				On	Off
				Off	On
				Off	Off
			On		
			On		
			Off		
			Off		
		On			
		Off			
On	On	On			
On	On	Off			
On	Off	On			
On	Off	Off			
Off	On	On			
Off	On	Off			

\* In the U.S., a "coin" is defined as 25¢. In Germany a "coin" is 1 DM.  
\$ Manufacturer's suggested settings



### Results if Test Fails

<b>1. Begin:</b> RAM FAILURE is indicated by one to 10 beeps. Note the number of beeps and determine which RAM may be bad. To restart the test, press the reset pushbutton on the game PCB, or set the self-test switch to off, then again to the on position.	<b>2. Mini-Trak Ball Test:</b> The character doesn't move in same direction as ball, jumps rather than moves smoothly, or doesn't move at all. One of the Coupler PCBs in either Mini-Trak Ball control may be bad, harness wires or connector may be loose, Mini-Trak Ball reading circuitry on Game PCB may be bad, or Mini-Trak Ball bearings may need oiling.
<b>3. Switch Test:</b> Sound is constantly on, even though you are not activating any switch. Or, no beep is given for any switch, or LED is dark. Indicates a bad switch, loose harness wires, bad LED-driving circuitry, volume turned all the way down, or loose connector.	<b>4. Audio I/O Chip Test:</b> No increase in volume or decrease in pitch indicates bad custom audio I/O chip at location B/C/D3.
<b>5. Audio I/O Channel Test:</b> On one out of the four activations, no audio is produced. Indicates one channel is bad in the custom I/O audio chip at location B/C/D3 (replace entire chip).	<b>6. Background Color Test:</b> Background doesn't change color, or doesn't display all 16 colors. Indicates bad color RAM chip. (RAM failure would have been indicated earlier with from 3 through 10 beeps.)
<b>7. Object Color Test:</b> Objects don't change color, or don't display all 16 colors. RAM failure.	<b>8. Moving Object Test:</b> Object doesn't change to another object. ROM/RAM failure.

Any bad RAM must be replaced before the computer can check the other RAMs, as well as continue with the self-test.  
ROM/PROM FAILURE is indicated by two groups of numbers in the upper left corner of the screen. The number at the far left indicates the location of the failing PROM/ROM(s). Identify the bad ROM/PROM with the table below. If the screen displays "garbage," or the logic produces strange audio or randomly activates the coin counters, the chip at location J1 is probably bad. Ignore the hexadecimal numbers just to the right of the chip location number.

Number of Beeps Given	Possible Bad RAM Chip Location
1	H2
2	F2
3	K7
4	K5
5	L7
6	L5
7	M7
8	M5
9	N7
10	N5

Displayed Number	Failing ROM/PROM Chip Location
0	D1
1	E1
2	F/H1
3 or "garbage"	J1
4*	E5*
5	B/C/D3

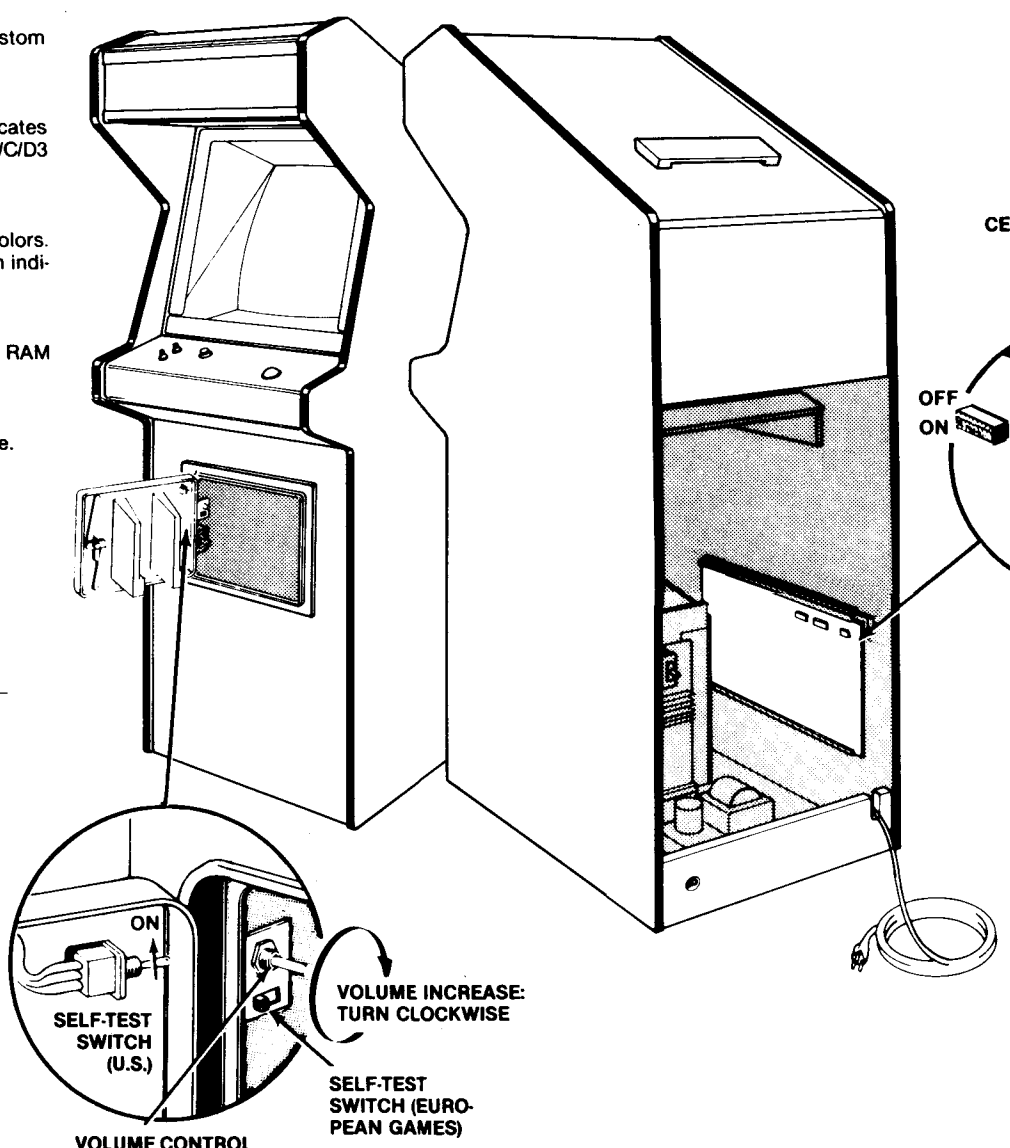
\* If you replace or erase this ROM, the number 4 FF will be displayed throughout the self-test. The next time you enter self-test, the 4 disappears after a game is played. Otherwise the self-test will continue to display the numbers 4 FF.

## 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 Centipede Game PCB is mounted in place.  
When changing the options, verify proper results on the monitor display by performing the self-test. Note that changing an option on any of the following eight toggles will not cause an immediate change on the monitor screen during the attract mode.

Toggle Settings of 8-Toggle Switch on Centipede Game PCB (at N8) (CENTER switch assembly when PCB is in game)				Option	
8	7	6	5	2	1
				On	On
				On	Off
				Off	On
				Off	Off
			On		
			On		
			Off		
			Off		
		On			
		Off			
		Off			
		Off			
	On				
	Off				
On					
Off					

\$ Manufacturer's suggested settings  
\* Refer to F. Game Play, for information on game difficulty.  
For pricing of "credits," see Game Price Settings above.  
Changing toggles 3-7 erases the high score table.



**Game Pricing Labels**

- Label 1: 2 coins = 1 play
- Label 2: 4 coins = 3 plays
- Label 3: 2 coins = 1 play
- Label 4: 3 coins = 2 plays
- Label 5: 4 coins = 3 plays
- Label 6: 2 coins = 1 play
- Label 7: \$1 coin = 3 plays (Susan B. Anthony coin)
- Label 8: 1 coin = 1 play
- Label 9: 2 play minimum (2 coins = 2 plays)
- Label 10: (For operator use—write in the appropriate phrase. Use a permanent-ink water-resistant marker.)

## Coin Counter Option Settings

[These toggles determine which coin mechanisms activate which counters]

Toggle Settings of 4-Toggle Switch on Game PCB (N11)				Two coin acceptors in the coin door:	Two coin acceptors and a push-button utility coin switch in the game:	Three coin acceptors in the coin door:
4	3	2	1			
	On	On		Both acceptors activate all coin counters simultaneously.	Do not use this setting.	All 3 are same denomination and they activate all coin counters simultaneously.
	On	Off		Both acceptors activate 2 counters separately.	Do not use this setting.	Left and center acceptor activate one coin counter; right acceptor activates another coin counter.
Not Used	Not Used	Off	On	Both acceptors activate all coin counters simultaneously.	Utility coin switch will not activate a coin counter, if you do not hook it up. Both acceptors activate all coin counters simultaneously.	Left acceptor activates one coin counter; center and right acceptor activate another coin counter. Not for any currently designed 3-mech coin door.
	Off	Off		Both acceptors activate 2 counters separately.	Utility coin switch will not activate a coin counter, if you do not hook it up. Left and right acceptors activate 2 coin counters separately.	Left, center and right acceptors activate 3 coin counters separately.

\$ Manufacturer's suggested settings

