Important Note to Operators

If the operators 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).

Self-Test Displays

Turn *on* the self-test switch on the utility panel inside the coin door to obtain Screen 1 (Operator Information Display). Screen 1 shows the condition of the gamma microprocessor RAM and ROM and its location. Press the auxiliary coin switch to end each display and obtain the next display.

NOTE

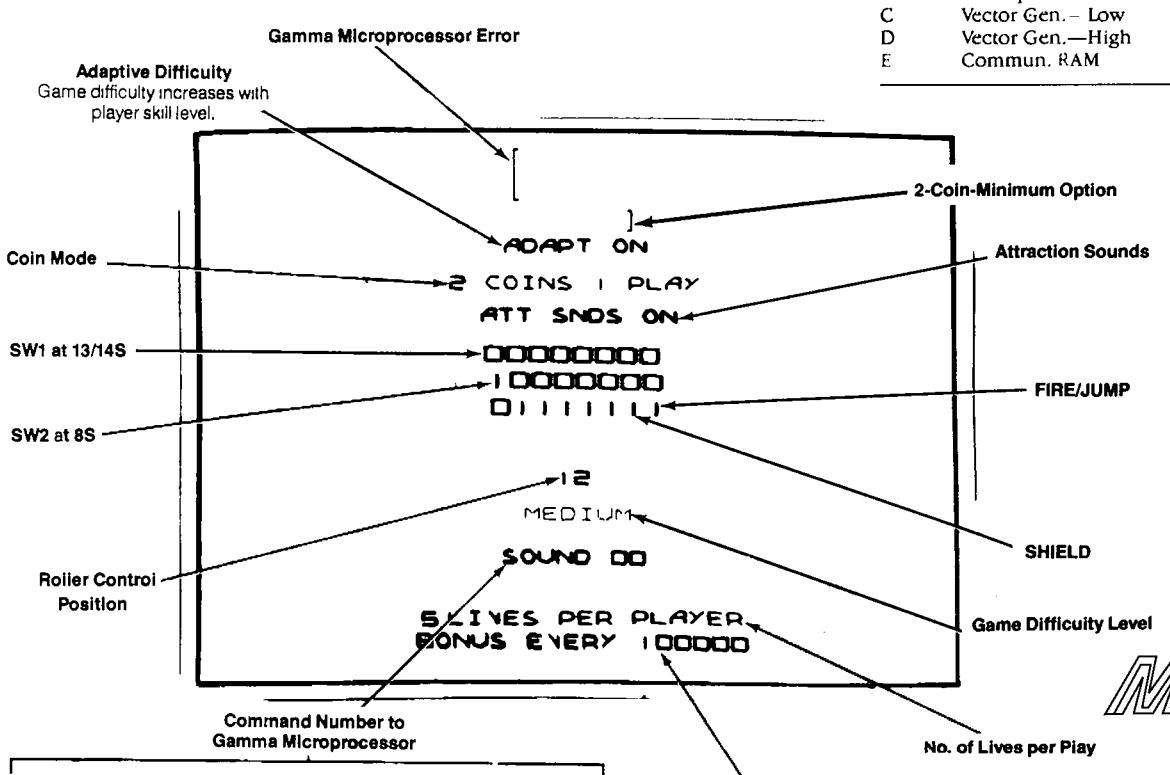
If a locked condition (blank screen) occurs, turn the self-test switch *off* and *on* again. If the game does not restart, troubleshoot the game reset circuitry.

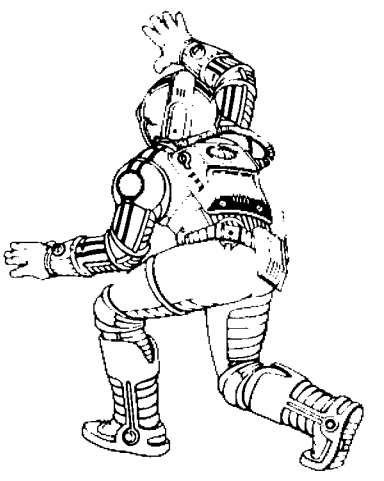
Gamma Processor Faulty Component Locations (see Screen 1: Operator Information Display).

Identifier	Meaning	Location
R	Gamma RAM Error	9P/Q
O	Gamma ROM Error	9S
P	Custom IC Error	13Q
E	EEROM Error	9Q/R

Alpha Processor Faulty Component Locations (see Screen 2: Alpha Processor Display)

Identifier	Hex Location	Definition	PCB Location
A	0000-07FF	RAM Error	1J/K
B	0800-08FF & Swap 0200-0700	RAM	1H/J
C	Vector Gen.– Low	RAM Error	6M/N
D	Vector Gen.—High	RAM Error	6L/M
E	Commun. RAM	Error	1F





MAJOR HAVOC

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Press SHIELD button to advance through sounds or functions.

Press FIRE/JUMP button to activate the sound or function.

Reset High Scores. Activating this function replaces the game High-Score Table with the default set of high scores. To see the High-Score Table, enter the Attract Mode and spin the Roller Control to the left. Spin the Roller Control to the right to re-enter the Attract Mode.

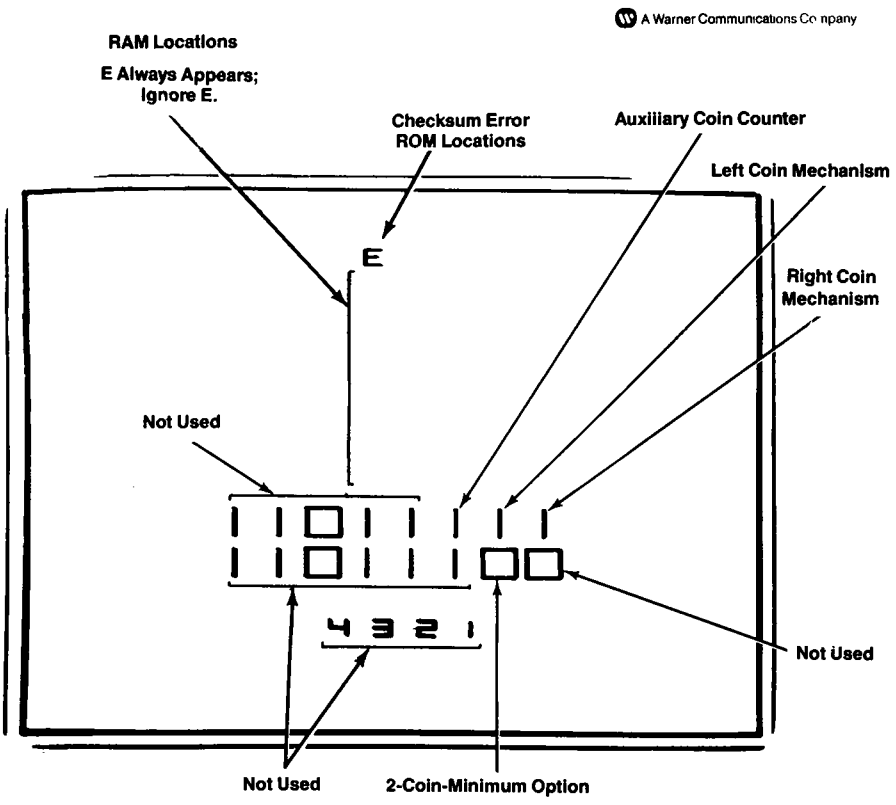
To reset high scores to default settings, hold down the right coin switch. Then, depress and release FIRE/JUMP button. You will hear a loud hissing sound. Wait for this sound to finish before exiting self test. Wait 10 seconds before turning the game off or leaving the Self-Test Mode.

Left Coin Counter

Right Coin Counter

Sounds Off

Sound Values



NOTE

If the ROM checksum is correct, neither the self-test ROM identifier (a single character) nor the checksum (a double character) appears on the screen.

ROM Locations of Checksum Errors (see Screen 2: Alpha Processor Display)

Identifier	PCB Location
A	1N/P
9	1N/P
8	1Q
7	1Q
6	1L*
5	1M/N*
4	6J/K
3	6J/K
2	6H
1	6H
0	6K/L*

**This ROM must be good for self test to function.*

Switch Settings for Play Options

Settings of 8-Toggle Switch on Game PCB *(SW1 at location 13/14S)* 1	2	3	4	5	6	7	8	Option		
								Starting Lives		
								Free Play	1 Coin Setting	2 Coin Setting
Off	Off							2	3	5◄
On	On							3	4	4
On	Off							4	5	6
Off	On							5	6	7
								Game Difficulty		
		On	On					Hard		
		Off	Off					Medium◄		
		Off	On					Easy		
		On	Off					Demo		
								Bonus Life		
				On	On			Bonus Life at 50,000 points		
				Off	Off			Bonus Life at 100,000 points◄		
				Off	On			Bonus Life at 200,000 points		
				On	Off			No Bonus Life		
								Attract Mode Sound		
						On		Silence		
						Off		Sound◄		
◄*Manufacturer's recommended settings*								**Adaptive Difficulty***		
*Game difficulty increases with player skill level							On	No		
							Off	Yes◄		

Switch Settings for Price Options

Settings of 8-Toggle Switch on Game PCB *(SW2 at location 8S)* 1	2	3	4	5	6	7	8	Option
						On	**Off**	**Free Play**
						Off	Off	1 coin for 1 game (or 1 player)
						On	On	1 coin for 2 games (or 2 player)
◄*Manufacturer's recommended settings*						Off	On	2 coins for 1 game (or 1 player◄
								Right Coin Mechanism
				Off	Off			Right coin mech × 1◄
				Off	On			Right coin mech × 4
				On	Off			Right coin mech × 5
				On	On			Right coin mech × 6
								Left Coin Mechanism
			Off					Left coin mech × 1◄
			On					Left coin mech × 2
								Bonus Coin Adder
Off	Off	Off						No Bonus coins◄
Off	On	Off						For every 4 coins, game logic adds 1 coin
Off	On	On						For every 4 coins, game logic adds 2 coins
On	Off	Off						For every 5 coins, game logic adds 1 coin
On	Off	On						For every 3 coins, game logic adds 1 coin
								2-Coin Minimum*

* This game has the ability to select the 2-coin-minimum capability which requires the player to pay for two games in advance. If you want this capability, short pin 6 on 13N to ground soldering a short piece of wire from ground to this point.