

KILLER INSTINCT 2 ROM KIT MANUAL

MANUAL INCLUDES

Installation & Operation • Testing & Problem Diagnosis
Parts Information • Wiring Diagrams

!! WARNING !! IMPORTANT NOTICE PLEASE READ

DO NOT CONNECT THE KILLER INSTINCT 2 DISK DRIVE RIBBON CABLE TO THE KILLER INSTINCT 1 CPU BOARD. THE KILLER INSTINCT 1 CPU ASSEMBLY WILL CORRUPT THE DATA STORED IN THE KILLER INSTINCT 2 HARD DISK. THIS WILL RENDER THE KILLER INSTINCT 2 HARD DISK NON-FUNCTIONAL.

HARD DRIVE HANDLING GUIDELINES

Hard drives are especially sensitive to rough handling and electrostatic discharge (ESD). To avoid these hazards, adhere to the following guidelines:

ELECTROSTATIC DISCHARGE (ESD)

- Keep the end of the drive cable in an anti-static bag until you are ready to install it in your system.
- Do not put any other objects inside the anti-static bag with the end of the drive cable.

<u>HANDLING</u>

- Do not put anything on top of the drive especially another drive.
- Do not drop a disk drive. Some drives can be damaged by being dropped from an inch above a hard surface.
- Be sure to handle the hard drive with care when setting it down. Do not set the drive on its edge.

INSTALLING

- When installing the drive, remove the cable from the anti-static bag.
- Turn off the power before connecting the drive to the system.
- Do not connect the drive to the CPU board, or disconnect the drive from the CPU board, while power is on.
- BE VERY CAREFUL TO ALIGN THE DRIVE CABLE CORRECTLY WITH THE CPU CONNECTOR. Installing a the hard drive cable incorrectly will ruin the drive!

STORING, PACKING, AND TRANSPORTING DRIVES

- If you are using the single pack carton, do not pack more than one drive per carton.
- Pack the end of the drive cable in an anti-static bag. Then, put the hard drive in an approved shipping container. (p/n 08-7981)
- Do not throw, drop, puncture, or walk on shipping boxes.

Note. You should use the same degree of care when handling a drive that may be defective that you use when handling a new, working drive.

ROM KIT

Information current at time of release.

Fill out and mall in game Registration card. Be sure to include the game serial number. For your records, write the game serial number in the manual.

MIDWAY Manufacturing Company reserves the rights to make modifications and improvements to its products. The specifications and parts identified in this manual are subject to change without notice.

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Killer Instinct 2 TM	
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™Trademark of Nintendo Developed by Rare	
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SECTION

OPERATION

SAFETY NOTICES

The following safety instructions apply to all game operators and service personnel. Specific warnings and cautions will be found throughout this manual where they apply. We recommend that you read this page before preparing your game for play.

ACAUTION

HARD DRIVE. The end of the hard drive cable must be packed in an anti-static bag. The disk drive assembly must be packed in an approved shipping container (p/n 08-7981) in order to be sent in for repair or replacement.

TRANSPORTING GAME: This game contains fragile electronic devices. Do not move this game with power on. Properly secure the game before transport. Avoid rough handling.

AC POWER CONNECTION. Before connecting the game to an AC power source, verify the Voltage Selection Chart jumper wires are installed correctly for the line voltage in your area. For details refer to Section 3 of this manual.

ISOLATION TRANSFORMER. The monitor does not require an isolation transformer. However, when servicing the monitor on a test bench *you must isolate the monitor from line voltage with an isolation transformer.*

ELECTRO STATIC DISCHARGE. This game contains devices that are sensitive to static electricity. Properly ground yourself before handling any of the electronic devices in this game. Prepare an anti-static work area before attempting to remove or repair any of the electronic devices in this game.

PROPERLY GROUND THE GAME. To avoid electrical shocks, do not plug in the game until it has been inspected and properly grounded. MIDWAY games should only be plugged into a grounded 3-wire outlet. NOTE: The control panel is removable. Be sure that the ground braid is securely attached to the control panel after servicing.

DISCONNECT POWER DURING REPAIRS. To avoid electrical shock, disconnect the game from the AC power source before removing or repairing any part of the game.

USE THE PROPER FUSES. To avoid electrical shock, replacement fuses must match the original fuse in fuse type, voltage rating, and current rating.

HANDLE FLUORESCENT TUBE AND CRT WITH CARE. If you drop a fluorescent tube or CRT and it breaks, it will implode! Shattered glass can fly eight feet or more from the implosion.

ATTENTION

PROPERLY ATTACH ALL CONNECTORS. Be sure that the connectors on each printed circuit board (PCB) are properly connected. If they do not slip on easily, do not force them. A reversed connector may damage your game and void the warranty. All connectors are keyed to fit specific pins on each board.

NOTICE - FCC COMPLIANCE

- I. THIS KIT WAS TESTED IN A KILLER INSTINCT VIDEO CABINET AND FOUND

 TO COMPLY WITH FCC PART 15 CLASS A REQUIREMENTS.
- II. INSTALLATION OF THIS KIT INTO ANY OTHER PRODUCT DOES NOT GUARANTEE COMPLIANCE WITH FCC REQUIREMENTS. YOU ARE SOLELY RESPONSIBLE, AND MIDWAY WILL HAVE NO RESPONSIBILITY FOR FCC COMPLIANCE FOR INSTALLATIONS IN OTHER PRODUCTS. THE FCC COMPLIANCE STICKER SHOULD NOT BE INSTALLED ON THE CONVERTED PRODUCT UNTIL FCC COMPLIANCE IS VERIFIED.

EPILEPSY WARNING

A very small portion of the population has a condition which may cause them to experience epileptic seizures or have momentary loss of consciousness when viewing certain kinds of flashing lights or patterns that are present in our daily environment. These persons may experience seizures while watching some kinds of television pictures or playing certain video games. People who have not had any previous seizures may nonetheless have an undetected epileptic condition.

If you or anyone in your family has experienced symptoms linked to an epileptic condition (e.g. seizures or loss of awareness), immediately consult your physician before using any video games.

We recommend that parents observe their children while they play video games. If you or your child experience the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation, or convulsions. DISCONTINUE USE IMMEDIATELY and consult your physician.

INSTALLATION PROCEDURE

The hard disk drive and IC chips included in this kit are fragile and static sensitive. Prepare an anti-static work area before removing them from their protective anti-static packaging. Avoid rough handling.

PARTS LIST

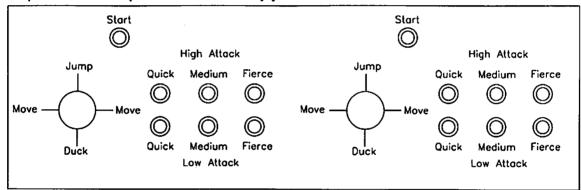
The following is a list of parts included in the KILLER INSTINCT 2 ROM Kit.

Part Number	Description	Quantity
A-20337	Programmed Hard Disk Drive	1
A-20348	Disk Drive Add-on Board	1
A-20356	Disk Drive Mounting Spacers	4
A-5343-45064-1	U98 EPROM	1
A-5343-40064-2	U10 EPROM	1
A-5343-40064-3	U11 EPROM	1
A-5343-40064-4	U12 EPROM	1
A-5343-40064-5	U13 EPROM	1
A-5343-40064-6	U33 EPROM	1
A-5343-40064-7	U34 EPROM	1
A-5343-40064-8	U35 EPROM	1
A-5343-40064-9	U36 EPROM	1
08-7981.1	Disk Drive Shipping Container	1
16-9478.2	Registration Card	1
16-10076	Disk Drive Handling Sheet	1
16-10080	Hard Disk Mounting Instructions	1
16-10081	ROM Kit Installation Instructions	1
16-45064-101	ROM Kit Game Manual	1
31-2380-1	Kit Marquee	1
31-2381-1	Player Moves Instruction Card	1
31-2381-2	Game Operation Instruction Card	1
31-2386	Control Panel Wallpaper Decal	1
31-2387	Control Panel Add-ons Decal	1

CABINET AND CONTROL PANEL MODIFICATIONS

- 1. Turn off and unplug the game. Remove the rear door. Open the coin door and the control panel.
- 2. Unscrew the five hex-head screws from the black marquee retaining strip on the top of the cabinet. Remove the KILLER INSTINCT marquee. Trim the KILLER INSTINCT 2 marquee to the KILLER INSTINCT marquee size and install in its place. Replace the marquee retaining strip.
- 3. Unscrew the five hex-head screws from the black metal strip at the bottom of the viewing glass. Grasp the viewing glass from the bottom and carefully slide it out of the side grooves and lift it clear of the cabinet. Be sure to clean the CRT and the viewing glass.
- 4. Apply the player moves instruction decal to the bottom front of the monitor bezel. And apply the game play instruction decals to the top front of the monitor bezel. Be sure the decals do not obstruct the CRT. Replace the viewing glass.
- 5 Remove the control panel buttons and joysticks and remove the KILLER INSTINCT vinyl control panel covering and artwork.

- 5a) Label each switch as it is removed from the control panel. This makes reinstallation much easier. Remove the switch from the push-button by pulling the large prong away from the switch, then pull the switch off of the housing. Unscrew the nut from the housing. Slide the push button out of the control panel and set it aside. Carefully, let the switch hang from control panel cable.
- 5b) To remove the joysticks, first remove the "E"-ring and slide the joystick shaft and the plastic ring off the joystick base. Be sure that the bushings remain in the base. Be sure to store the joystick shaft, plastic ring, and "E"-ring, together.
- 5c) Lift the KILLER INSTINCT control panel cover off of the control panel. Clean any glue reside. Be sure the surface of the control panel is smooth.
- 6. Carefully remove the backing on the KILLER INSTINCT 2 wallpaper decal overlay. Place the overlay on the top of the control panel. Prevent air bubbles from getting under the overlay.
- 7. After the overlay is secure, use a razor knife to trim any excess and to cut holes for the control panel buttons and joysticks. Position the add-on decals next to the appropriate hole locations.
- 8. Replace the control panel buttons and the joysticks.

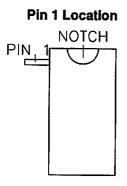


CONTROL PANEL LAYOUT

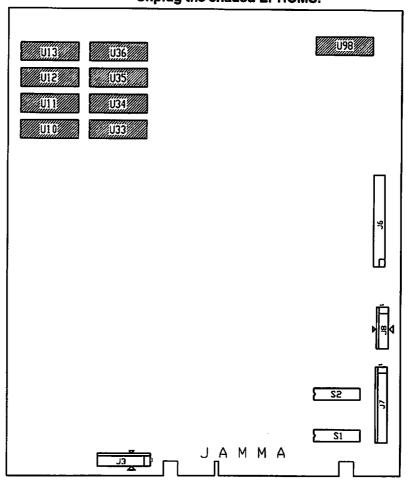
ELECTRONIC RACK MODIFICATIONS

The hard disk drive and IC chips included in this kit are fragile and static sensitive. Prepare an anti-static work area before removing them from their protective anti-static packaging. Avoid rough handling.

 Unplug the EPROMS shown in the drawing below, from the KILLER INSTINCT CPU board. Carefully, remove the KILLER INSTINCT 2 EPROMS from their anti-static container. Plug each one of the chips into the proper socket. Be sure to match the notch on the chip with the notch outlined in white on the board.



KILLER INSTINCT CPU board Unplug the shaded EPROMS.

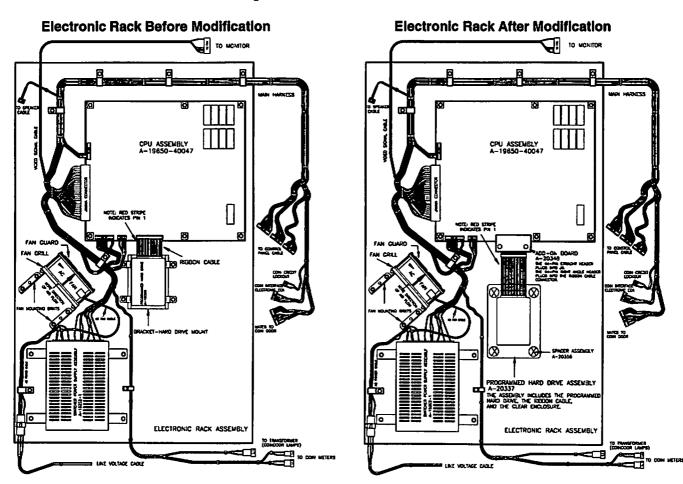


Unplug the disk drive connector from J6 on the CPU board. Remove the screws holding the disk drive mounting bracket to the rack and take the disk drive and mounting bracket out of the game. Also remove the ferrite bead.

NOTE: The EPROMS, disk drive, disk drive mounting bracket, wood screws and ferrite bead should be stored in a safe place and retained for future use.

From the component side of the board, push two small white plastic spacers into the mounting holes on the Add-on board. Plug J1 from the Add-on board into J6 of the CPU board so that the right

- angle connector, J2, extends out over the top of the CPU board. Screw the Add-on board to the rack.
- 4. Insert one red spacer into each of the four holes in the KILLER INSTINCT 2 disk drive enclosure. Place the disk drive next to the CPU board. Be sure that the connector on the disk drive cable can reach J2 (the right angle connector) on the Add-on board. Use the hex-head screws in the spacers and fasten the disk drive to the rack. Plug the ribbon cable connector from the disk drive into J2 of the Add-on board. See drawings below.



- 5. Once the cabinet, control panel and electronic rack modification are complete, close and latch the control panel. Close and lock the coin door. Replace the rear cabinet door. Plug the game in and turn it on.
- Verify proper game operation via internal game diagnostics. Configure the coinages and other game related options as necessary.

SERVICING

Servicing the Control Panel

Switch off power to the game and open the coin door. The control panel is held in place by two latches (located inside the cabinet) which provide constant pressure on the strikes. To release the latches, reach through the coin door opening toward the right and left sides of the cabinet. Do not reach straight back through the coin door or you could damage the monitor control board. Lift the latch handle and unhook the wire fasteners. Grip the joysticks and carefully tilt the control panel back on its hinge.

To return the control panel to its normal position, carefully lean it forward until it rests on the cabinet. Be careful not to let the control panel slam down onto the cabinet, or to pinch any wires. Always reclasp the latches.

Removal of the Viewing Glass

Switch off power to the game and open the control panel. Remove the five hex-head screws and the black metal strip at the bottom of the viewing glass. Carefully, slide the glass from the side grooves and lift it clear of the cabinet.

♦ Removal of the Monitor Bezel

Switch off power to the game. Open the control panel and remove the viewing glass. Lift the bezel off of the monitor.

♦ Monitor Replacement

We recommend that you read the SAFETY NOTICES section thoroughly before beginning this procedure.

Switch off power to the game. Remove the viewing glass and the monitor bezel. Completely disconnect the monitor from all of its cabling. Remove the four flange nuts securing the monitor's mounting flanges to its mounting panel. Pull the monitor carefully from the cabinet.



CAUTION

The monitor does not require an isolation transformer. However, when servicing the monitor on a test bench, YOU MUST ISOLATE THE MONITOR FROM LINE VOLTAGE WITH AN ISOLATION TRANSFORMER.

THE MONITOR IS HEAVY. BE SURE IT IS FIRMLY SUPPORTED IF IT MUST BE REMOVED FROM THE CABINET.

♦ Hard Drive Replacement REMEMBER: HARD DRIVES ARE FRAGILE

Use an anti-static bag and approved shipping container (p/n 08-7981.1) to return the hard drive to your distributor.

Switch off power to the game and open the rear door. Unplug the ribbon cable from the Add-on board. Unscrew the four hex head screws in the spacers. Remove the spacers from the enclosure and set them aside. Remove the hard drive and enclosure assembly, (see Hard Drive Handling Guidelines in the front of this manual). Place the spacers - one in each four corner holes - in the new hard drive enclosure. Place the enclosure assembly, with the ribbon cable facing the top of the game, on the wood chassis. Use the hex head screws to fasten the assembly in place. Carefully plug the ribbon cable into the Add-on board.

Removal of the Marquee

Switch off power to the game. Remove the hex-head screws from the black marquee retaining strip located on top of the header. Remove the strip and carefully lift the marquee and the marquee glass from the top of the header. Store the marquee carefully to prevent damage.

Removal of the Fluorescent Light Assembly

Switch off power to the game. Remove the marquee glass and the marquee. The fluorescent bulb is now accessible for replacement. Remove the plastic lamp locks. Grasp the bulb, give it a quarter turn, and remove it from its socket. Carefully, place a new bulb into the socket, and turn to reinstall.

To remove the entire light fixture, disconnect the fluorescent light assembly from its power cable. Remove the screws that hold the assembly to the cabinet then lift out the assembly.

!! WARNING !!

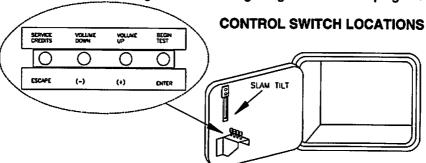
If you drop a fluorescent tube and it breaks, it will implode! Use care in handling.

♦ Removal of the Speakers

Switch off power to the game. Remove the marquee and the marquee glass. The speakers come out from the front of the cabinet. Be sure to disconnect the cabling and remove the nuts on the mounting screws before attempting to remove the speakers from the enclosure. Carefully, reinstall the seals upon completing any task in the speaker enclosure.

♦ Volume Control, Begin Test Switch, and Service Credit Switch

Open the coin door. The game's volume control and diagnostic push-button switches are located on a small bracket on the coin door. The volume is controlled by the two center buttons. Press the Volume Up or the Volume Down button until the desired sound level is reached. The Begin Test switch, on the right, activates the game's menu system. The Service Credit switch, on the left, allows credits to be allotted for service testing without affecting the game's bookkeeping total.



GAME FEATURES STARTING UP

Switch on power to the game. The game runs through a start-up routine.

Insert the desired amount of coins, bills or tokens. Select which player receives the credit by pressing the appropriate Start button.

NOTE

When an error is detected during the Start-up tests, game start-up does not progress, and an error message appears on the screen.

PLAYER CONTROLS

Start Button

Each player has a Start button. The Start buttons allow one or two players to begin or continue play.

Joysticks

Each player has a joystick which he uses to control an on-screen character. The player can make the on-screen character move, jump or duck.

♦ High Attack

An attack that originates above the waist, such as a punch.

Low Attack

An attack that originates below the waist, such as a kick.

Quick

A "quick" attack is a short range, short duration attack that inflicts little damage to an opponent.

Medium

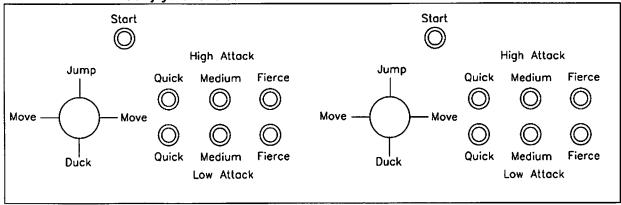
A "medium" attack is a moderate range, moderate duration attack that inflicts some damage to an opponent.

◆ Fierce

A "fierce" attack is a long range, long duration attack that inflicts much damage to an opponent.

NOTE

Use joystick and button combinations to discover secret moves.



CONTROL PANEL

GAME OPERATION

The KILLER INSTINCT/KILLER INSTINCT 2 game Control switches are located on a bracket, inside the coin door.

CONTROL SWITCHES

♦ Slam Tilt Switch

The Slam Tilt switch prevents pounding for free games.

♦ Volume Down/Volume Up Buttons

The **Volume Down** and **Volume Up** push-button switches increase or decrease the volume level of the music and speech. The volume level can be adjusted during the Attract Mode or during menu system operation. For greater profits, set your game's volume level at a nice loud setting.

Begin Test Button

The **Begin Test** push-button switch enters the game's menu system. Press the Begin Test switch to access any of the menu system functions.

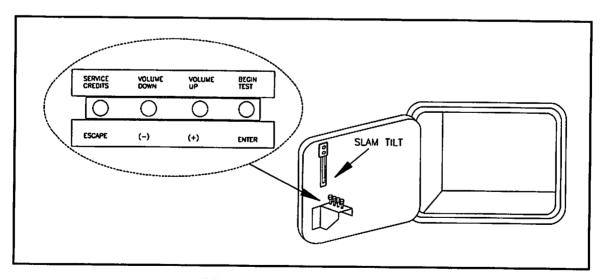
Service Credit Button

The Service Credit push-button switch is a special feature switch that allots credit without affecting the game's bookkeeping total.

These buttons can be used instead of the control panel buttons when operating the Menu System. The Up and Down buttons move the cursor, and the Enter and Escape buttons open and close the menus.

NOTE

The coin door must be open for the control switches to work.



CONTROL SWITCH LOCATIONS

MENU SYSTEM OPERATION

OPERATION

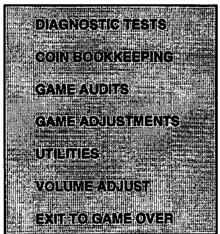
All game audits, adjustments and diagnostics are options of the Main Menu. Each option, in turn, has its own menu that lists several choices which you may act upon as desired.

Press the Begin Test switch on the coin door to open the Main Menu (shown below). Game adjustments, bookkeeping and diagnostics are all accessible from this menu.

Use any joystick to move the cursor up and down the menu screen. Notice that the options are highlighted in sequence. Press any action button (Quick. Medium, Fierce), on the control panel to open a highlighted option.

NOTE
Only highlighted options can be selected.





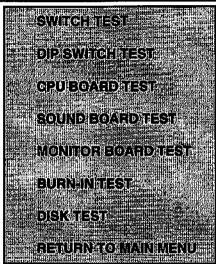
To exit the Main Menu and return to the Attract Mode, use any joystick to select EXIT TO GAME OVER and press any action button.

DIAGNOSTIC TESTS

Use any joystick to select the Diagnostic Menu and any action button to open it. Then, use any joystick to move the cursor up and down the menu and any action button to open a highlighted option.

To exit the Diagnostic Menu, use any joystick to select RETURN TO MAIN MENU and press any action button.



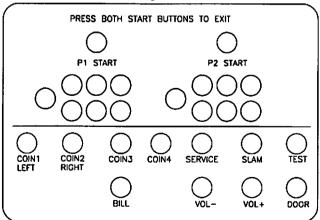


Switch Test

The Switch Test allows the operator to test the switches on the control panel and in the coin door.

Use any joystick to highlight the Switch Test and any action button to begin the test. During the Switch Test the top of the screen shows the control panel switches while the bottom of the screen shows the coin door switches. Press a control panel or coin door switch and the switch location on the screen lights. Release the switch and the screen returns to normal.

To exit the Switch Test, press both Start buttons together.



SWITCH TEST SCREEN

DIP Switch Test

The DIP Switch Test allows the operator to check or change the position of the DIP Switches on the CPU.

Use any joystick to select the DIP Switch Test. Press any action button to access the DIP Switch Setting Tables. The screen displays the current settings. To change a setting, slide the switch to the desired position. Check the screen to verify the new setting. In some cases, setting a function to OFF actually enables the function. For example, setting Coinage to Off enables DIP Switch Coinage.

Press any button to return to the Diagnostic Menu.

DIP Switch 1 Setting Table

				1 October	1 4510			
	SW. 1	SW. 2	SW. 3	SW. 4	SW. 5	SW. 6	SW. 7	SW. 8
Blood Level								-
High Blood Level	Off*	Off*	i					1
Med. Blood Level	On	Off	ļ					
Low Blood Level	Off	On				ŀ		i
No Blood	On	On				ŀ		
Attract Sounds					†			
Attract Sounds On			Off*			ł	İ	
No Attract Sounds			On		1			
Finishing Moves	-						<u> </u>	
Finishing Moves				Off*		ł		
No Finishing Move:	5			On		ì	İ	
Violence Warning								
Display Violence W					Off*			
No Violence Warni					On			
Not Used						Off*	Off*	Off•
						On	On	On I

DIP Switch 2 Setting Table

Coinage DIP Switch Off*			IF SWILL	I P OOK	ing I able	,				
Coinage			SW. 1	SW. 2	SW. 3	SW. 4	SW. 5	SW. 6	SW. 7	SW. 8
Coin Settings	Coinage									
USA 1 Ger. 1 Fr. 1 Off* Off* Off* USA 2 Ger. 2 Fr. 2 On Off Off USA 3 Ger. 3 Fr. 3 Off On Off USA 4 Ger. 4 Fr. 4 On On Off On USA 5 Ger. 5 Fr. 11 On Off On USA 9 Ger. 5 Fr. 11 On Off On On USA 10 N/U Fr. 12 Off On On On Free Play Free Play Free Play Free Play On On On Off On Off On On	DIP Switch		Off*			ŀ				
USA 1	CMOS		On					ŀ		
USA 2	Coin Setting	38	<u> </u>					ì		
USA 3	USA 1	Ger. 1	Fr. 1	Off*	Off*	Off*				
USA 4	USA 2	Ger. 2	Fr. 2	On	Off	Off				
USA ECA	USA 3	Ger. 3	Fr. 3	Off	On	Off				
USA 9	USA 4	Ger. 4	Fr. 4	On	On	Off]]	
USA 10 N/U Fr. 12 Off On On On Country USA Germany France Not Used 1 Counter 2 Counters Game Mode Off On On On On On On On On On On On On On	USA ECA	Ger. ECA	Fr. ECA	Off	Off	On		1	1	
Free Play Free Play Free Play On On On On On Off* Country USA Germany France Not Used Off On Off On Off Off On Off On Off On Off On Off On Off On Off On On Off On On Off On On Off On On Off On On Off	USA 9	Ger. 5	Fr. 11	On	Off	On				
Country USA Off* Off* Germany On Off Off France Off On On On Not Used On On Off* 1 Counter Off* On 2 Counters On Off*	USA 10	N/U	Fr. 12	Off	On	On				
USA Off* Off* Off* Off On Off On On On On On On On On On On On On On	Free Play	Free Play	Free Play	On	On	On				
Germany	Country									
France Off On On On On On Off* 1 Counter Off* 2 Counters On On On On On On On On On On On On On	USA						Off*	Off*		
Not Used On On On 1 Counter Off* On On On Off* On On Off* On On On Off* On On On On On Off* On On On On On On On On On On On On On	Germany						On	Off		
1 Counter Off* 2 Counters On Game Mode Off*	France						Off	On		
2 Counters On Off*	Not Used									
2 Counters On Off*	1 Counter								Off*	
	2 Counters									
50 4 6 6 6	Game Mode	1								Off*
	Test Mode									

^{*}Indicates factory setting.

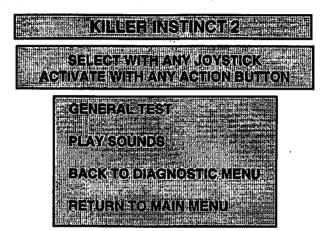
CPU Test

The CPU Board Test allows the operator to check the main CPU board components, including the RAM and EPROMS. Select the CPU Board Test with any joystick. Press any action button to start the test. A "rug" pattern appears on the screen. When the "rug" pattern ends, either *Test O.K.* or *Test Failed* appears on the screen. The game returns to the Diagnostic Menu automatically.

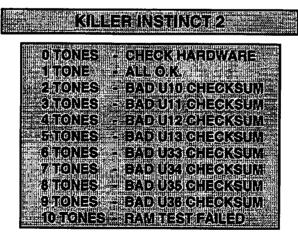
Sound Test

This test allows the operator to listen to some of the sounds this game is capable of producing.

Use any joystick to select the test, then press any action button to open the menu. The screen displays two test options. Use any joystick to select an option and any action button to begin the test.



GENERAL TEST analyzes the sound circuitry. The screen shows a list of error codes. A successful test causes a single "tone" to sound. Detection of a fault causes a series of tones or no tone at all to sound. Press any action button to return to the Sound Test Menu.



PLAY SOUNDS tests synthesized and digitized sounds from the CPU/Sound board. Advance to the next sound with any action button. Use any joystick to end the test.

Select RETURN TO MAIN MENU or BACK TO DIAGNOSTIC MENU and press any action button.

Monitor Patterns

The Monitor Patterns Test provides a menu for testing the monitor.

Select the test with any joystick. Press any action button to open the test menu. Once the menu is open, use any joystick to select an option, and any button to begin it. Press any action button again to return to the Monitor Patterns Menu.





The RED, GREEN and BLUE SCREEN tests fill the screen with either red, green or blue. Press any action button to return to the Monitor Patterns Menu.

The COLOR BARS test fills the screen with 15 shades of colors to help with red, green and blue level adjustments. Each color should appear sharp and clear. Adjust the contrast and brightness levels until the 15 color bars are visible. Press any action button to return to the Monitor Patterns Menu.

The CROSSHATCH PATTERNS test fills the screen with a grid and a series of dots. The grid and the dots should be clear. The dots should be round. Press any action button to return to the Monitor Patterns Menu.

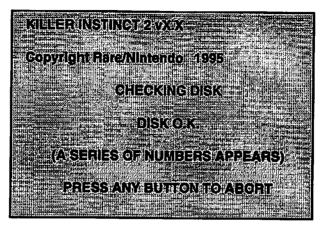
If any of the tests show a need for adjustment, use the proper knobs on the Monitor Controls board.

To exit this test, use any joystick to select RETURN TO MAIN MENU or BACK TO DIAGNOSTIC MENU, then press any action button.

Check Disk

This test checks the hard disk drive. NOTE: This test may take several minutes to complete.

Use either joystick to select the test, then press any button to activate it. Press any button to return to the Diagnostic Menu.



CHECK DISK SCREEN

Burn-in Test

The Burn-in Test continually repeats the CPU Board Test. Use this test to find intermittent CPU Board problems. The Audit Table specifies the number of Burn-in cycles that have been successfully completed.

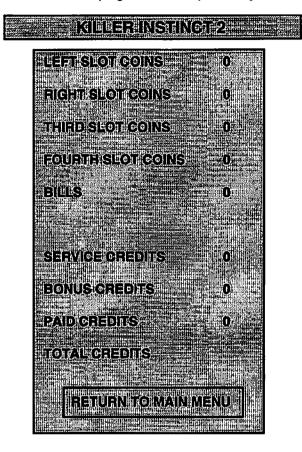
Use any joystick to select the test, then press any action button to activate it. When the Burn-in Test detects an error the test stops and an error message is displayed on the screen.

To exit this test, switch the game off, then on again.

COIN BOOKKEEPING

The Coin Bookkeeping Table records the coin box totals and the game play counters.

Use any joystick to select the Coin Bookkeeping Menu, then press any action button to open it.

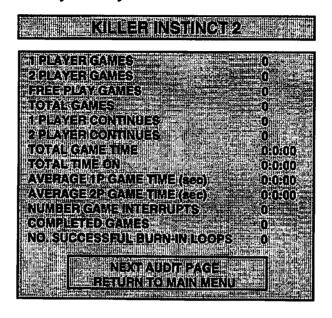


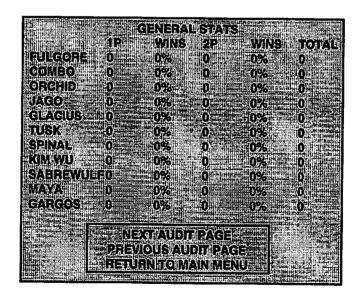
To exit Coin Bookkeeping, use any joystick to select RETURN TO MAIN MENU and press any action button.

GAME AUDITS

Use any joystick to select the Game Audits Menu, then press any action button to open it. Page through the available audits by selecting NEXT AUDIT PAGE or LAST AUDIT PAGE. Select RETURN TO MAIN MENU and press any action button to exit Game Audits.

Game audits cannot be set. They can only be cleared.





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GAME ADJUSTMENTS

The Game Adjustments allow the operator to customize the game.

Use any joystick to select the Game Adjustments Menu. Press any action button to open the menu.

The Game Adjustments Menu offers several options. Each option has several choices. Use any joystick to select an option, then press any action button to open the option. The next menu screen provides a setting value. Use any joystick to change the setting value and press any action button to lock it in.

To exit the Adjustments Menu, use any joystick to select RETURN TO MAIN MENU, and press any action button.

NOTE

Adjustment values set by DIP SWITCH, override adjustment values set by the menu system.





Game Adjustments

Standard Pricing

Standard pricing allow the operator to choose any of the "standard" selections from the Standard Pricing Table. See page 1-26

Modify the setting value with either joystick. Press any button to lock in the new value and return to the Adjustments Menu.

Custom Pricing

Custom pricing allows the operator to install pricing other than that of the Standard Pricing Table. Custom pricing also allows the operator to select the maximum amount of credits per game, the amount of credits required to start a game, and the amount of credits required to continue a game. To use Custom Pricing, the Coinage DIP Switch must be set to ON (CMOS - switch #1 of DIP Switch bank #2). See page 1-14 for DIP Switch Table. See page 1-27 for Custom Pricing Table.

Modify the setting value with either joystick. Press any button to lock in a new value and return to the Adjustment Menu.

Game Adjustments Continued...

Free Play

This option selects free play. The setting choices for this adjustment are:

- No
- Yes
- Factory Setting:

No

Computer Difficulty

This option determines how tough the computer opponents are. The setting choices for this adjustment are:

- (1) Extra Easy
- (2) Easy
- (3) Medium
- (4) Hard
- (5) Extra Hard
- Factory Setting:

Medium

Winning Streak

This option determines the number of games that must be played before the high scores automatically reset to factory settings. The setting choices for this adjustment are:

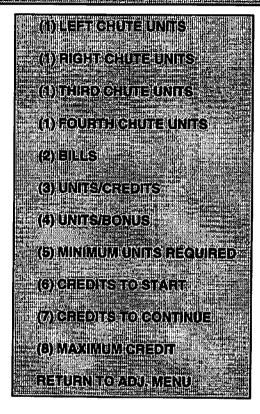
- No Reset
- 5000 games
- 10,000 games
- 15,000 games
- Factory Setting: No Reset

STANDARD PRICING TABLE

Name	Setting - Coin/Credit	Coin 1	Coin 2	Coin 3	Coin 4	Bills
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USA 1	1/25¢ (2 to Start, 2 to Continue)	25¢	25¢			\$1.00
USA 2	1/25¢ (2 to Start, 1 to Continue)	25¢	25¢			\$1.00
USA 3	1/25¢ (1 to Start, 1 to Continue)	25¢	25¢	•		\$1.00
USA 4	1/50¢, 3/\$1.00 (1 to Start, 1 to Continue)	25¢	25¢			\$1.00
USA 5	1/50¢, 4/\$1.00 (2 to Start, 1 to Continue)	25¢	25¢			\$1.00
USA 6	1/50¢ (1 to Start, 1 to Continue)	25¢	25¢			\$1.00
USA 7	1/50¢, 3/\$1.00 (1 to Start, 1 to Continue)	25¢	25¢			\$1.00
USA 8	1/50¢, 4/\$1.00 (1 to Start, 1 to Continue)	25¢	25¢			\$1.00
USA 9	1/25¢ (3 to Start, 2 to Continue)	25¢	25¢			\$1.00
USA 10	1/25¢ (3 to Start, 3 to Continue)	25¢	25¢	ŀ	l	\$1.00
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German 3	1/1DM, 8/5DM	1DM	5DM	2DM	i	1
German 4	1/1DM, 5/5DM	1DM	5DM	2DM	1	
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France 5	2/5F, 5/10F, 11/2 x 10F	5F	10F			
France 6	2/5F, 4/10F, 9/2 x 10F		10F		l l	
France 7	1/5F, 3/10F, 7/2 x 10F	5F	10F			
France 8	1/5F, 2/10F, 5/2 x 10F	5F	10F 5F			
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France 11	1/3 x 1F, 2/5F, 5/2 x 5F	1 <u>F</u>	5F			
France 12	1/2 x 1F, 3/5F, 7/2 x 5F	1 <u>F</u>	5F	1.05		
France ECA	1/3 x 1F, 2/5F, 5/2 x 5F	1F	5F	10F	ļ <u> </u>	64.00
Canada	1/2 x 25¢, 3/\$1.00	25¢	\$1.00			\$1.00
Swiss 1	1/1F, 6/5F	1F	5F		l	
Swiss 2	1/1F, 7/5F	1 <u>F</u>	5F			
Swiss 3	1/1F, 8/5F	1F	5F		 	<u> </u>
Italy	1/500 lire	500 lire	500 lire			
UK 1	1/20P, 3/50P	20P	50P			
UK 2	2/20P, 5/50P	20P	50P		10P	
UK ECA	1/20P, 3/50P 7/£1	£1	50P	20P	10P	
UK Elec w/CCU	1/30P, 2/50P, 4/£1	£1	50P	20P	10P	
Spain 1	1/100 peseta, 6/500 peseta	100 peseta	500 peseta		T	
Spain 2	1/100 peseta, 5/500 peseta	100 peseta	500 peseta	_		
Australia 1	1/3 x 20¢, 2/\$1.00	20¢	\$1.00			
Australia 2	1/5 x 20¢, 1/\$1.00	20¢	\$1.00	ŀ	1	1
Japan 1	1/100 yen	100 yen	100 yen			
	2/100 yen	100 yen	100 yen		1	
Japan 2	1/5 schilling, 2/10 schilling	5 schilling	10 schilling			†
Austria 1	1/5 schilling, 2/10 schilling	5 schilling	10 schilling	1	1	ŀ
Austria 2	1/2 x 5 schilling, 3/2 x 10 schilling		20F	-	 	
Belgium 1	1/20F	20F	20F			
Belgium 2	3/20F	20F				
Belglum 3	2/20F	20F	20F	==	1	1
Belgium ECA	1/20F	50F	20F	5F	+	+
Sweden	1/3 x 1 krona , 2/5 krona	1 krona	5 krona	 	+	-
New Zealand 1	1/3 x 20¢	20¢	20¢	1	1	1
New Zealand 2	1/2 x 20¢	20¢	20¢	<u> </u>		
Netherlands	1/1 HFI, 3/2.5 HFI	1 HFI	2.5 HFI			
Finland	1/1 markka	1 markka	1 markka			
Norway	1/2 x 1 krone, 3/5 x 1 krone	1 krone	1 krone			
	1/2 x 1 krone, 3/5 krone, 7/2 x 5 krone	1 krone	5 krone		1	T
Denmark		25¢	1 guilder	 	+	
Antilles	1/25¢, 4/1 guilder 1/2 x 10 forint, 3/2 x 20 forint			+	+	
Hungary	1 1/2 v 10 fariat 2/2 v 20 fariat	10 forint	20 forint	1	1	i

CUSTOM PRICING

SELECTIWITH ANY TOXETICK... ACIIVATEWITH ANY ACITON BUTTON

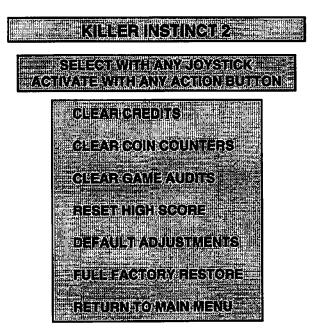


- 1. Coins inserted accumulate units. This adjustment specifies the number of units given for each coin in the fourth chute (see "Units/Credit").
- 2. Coins inserted accumulate units. This adjustment specifies the number of units given for each bill validated (see "Units/Credits").
- 3. This is the number of coin units required to buy one credit.
- 4. There is one bonus credit awarded after this many coin units have accumulated.
- 5. This is the minimum number of units required before any credits are awarded.
- 6. Each player needs this many credits to begin a game.
- 7. Each player needs this many credits to continue a game.
- 8. This is the limit for the credit counter. Additional coins inserted will be lost (factory setting: 50).

UTILITIES

The Utilities Menu allows the operator to clear the game's bookkeeping memory.

Use any joystick to select the Utilities Menu, then press any action button. Use any joystick to select a utility. Press any action button to activate the selection.



Once the selection is made, a dialogue box appears, and the operator can choose to reset the utility.

For example:



Use any joystick to choose a setting value. Press any action button to lock in the new setting value.

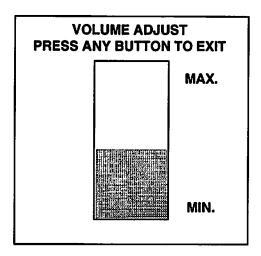
To exit the Utilities Menu, use any joystick to select RETURN TO MAIN MENU, then press any action button.

VOLUME ADJUST

The Volume Adjust feature allows the operator to determine the sound and music level of the game.

The volume level can be adjusted from either the Attract Mode or the Menu System. Press the Volume Up button to raise the volume level and the Volume Down button to lower the volume level. Any joystick can also be used to raise or lower the volume level. The current volume level is shown with a red bar.

Press any action button to return to the Main Menu.



USE JOYSTICK OR VOLUME BUTTONS TO ADJUST VOLUME.

TROUBLESHOOTING

PROBLEM

1) No picture or distorted picture. Check for disconnected video signal cable. 2) Turn game On and nothing happens. 2) Check line fuse. Check for +5Vdc at pins C, D, 3 and 4 of the JAMMA connector. 3) Check the speaker and the speaker 3) No sound. connection to pin L and 10 on the JAMMA connector. Check volume control setting. Check for +12Vdc at pins F and 6 on the JAMMA connector. Check for -5Vdc at pins E and 5 on the JAMMA connector. 4) No general illumination. 4) Check the 1A, S.B. fuse in the A.C. power pack assembly.

POSSIBLE SOLUTION

1) Check for faulty video board or monitor.

6) No credit given for number of coins inserted.

5) Press Start button and nothing happens.

6) Check DIP switch coin settings. Check for contamination on the coin switch contacts. Check for an open wire between Coin Switch 1 and pin 16 on the JAMMA connector or Coin Switch 2 and pin T of the JAMMA connector.

5) Check for open wires between the button and

the CPU board. Check for contamination on CPU board pins or the Start button switch blade contacts. Check for proper ground.

- 7) Too many credits for number of coins inserted.
- 7) Check the game pricing settings. Check for a short between pins T & 16 on the JAMMA connector.

8) Game stays in test mode.

8) Check that the switch #1 of DIP switch bank #2 is set to off.

NOTES

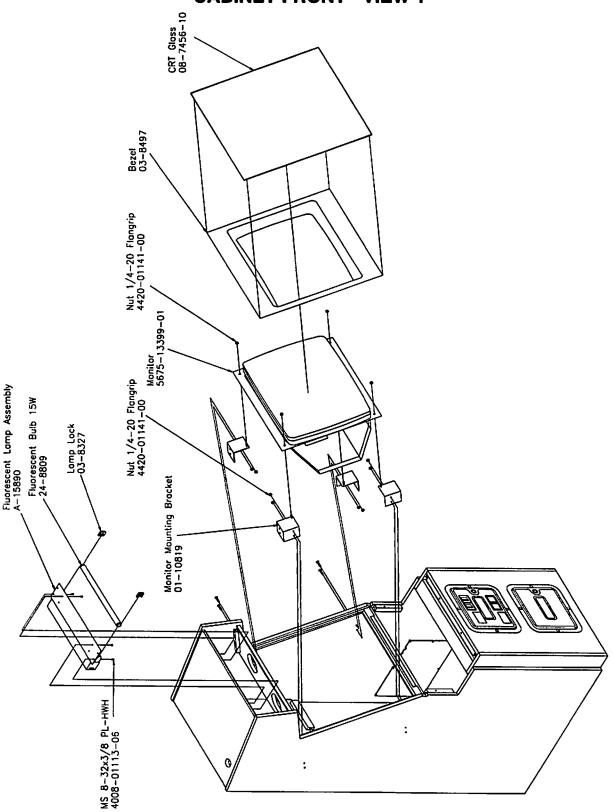




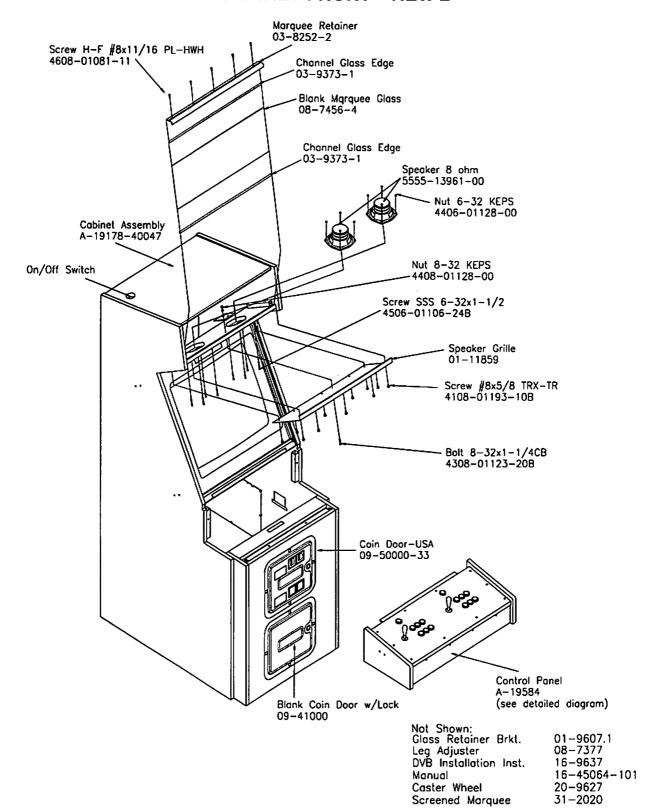
SECTION TWO

PARTS

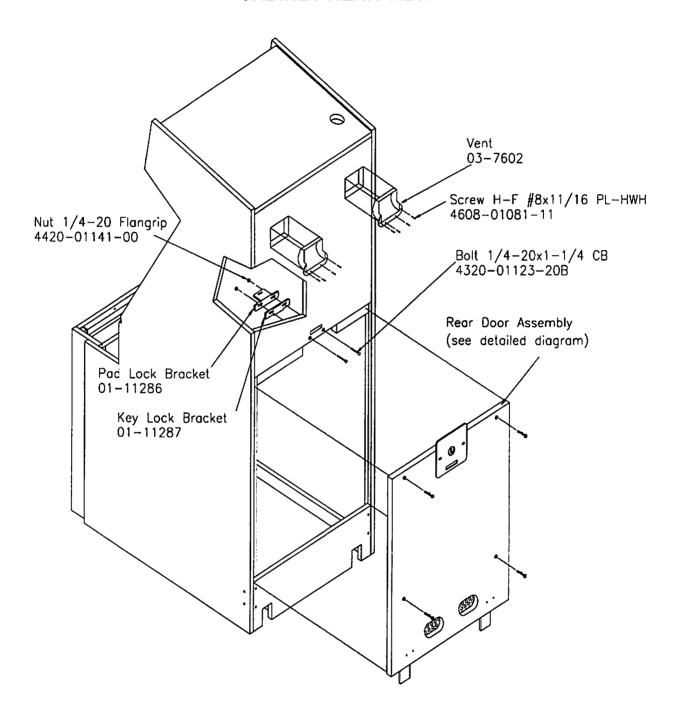
KILLER INSTINCT CABINET FRONT - VIEW 1



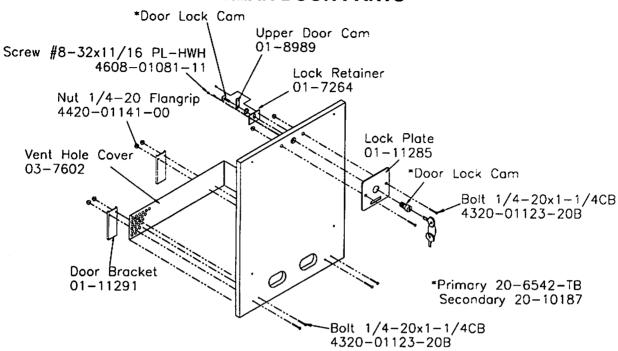
KILLER INSTINCT CABINET FRONT - VIEW 2



KILLER INSTINCT CABINET REAR VIEW

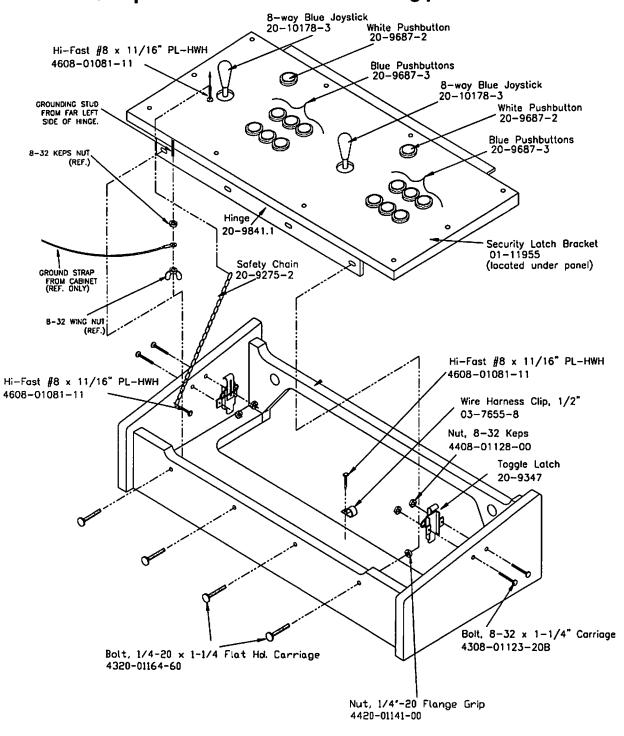


REAR DOOR PARTS



COIN DOOR PARTS Mars Chute Bolt 1/4-20x1-1/4 CB 01-11379 4320-01123-20B Bolt 1/4-20×1-1/4 CB 4320-01123-20B Coin Chute 01 - 12324Nut 1/4-20 Flongrip 4420-01141-00 Cover Plate 01 - 11275Screw MS 4-40x3/8 P-FLH 4004-01041-06 Screw SMS #10x3/4 SL-HWH 4110-01088-12 Meter Plate 01-11298-1-Coin Meter & Diode 5580-13476-00 Cash Tub 03-8863

CONTROL PANEL and HOUSING PARTS Complete Control Panel and Housing p/n A-19584



Not Shown:

Control Panel Plate
Control Panel Cable
Clear Overlay
Screened Overlav

N=19587
H=19597
03-9304
31-2021

Other necessary parts:

Electronic Rack Assembly

Electronic Rack A-19591 Switcher Power Supply A-15202-1 CPU Board A-19650-40047

*Programmed Hard Drive A-20337 Add-on Board A-20348

Drive Mounting Spacers A-20356 (Qty. 4)

 Fan Grille
 03-9223

 Fan Guard
 20-9420

 Fan
 20-9947

Transformer Asembly

Power Pack Assembly A-15916

Fuse, SB, 1A, 250V 5731-06569-00 Fuse, SB, 3A, 250V 5731-10356-00

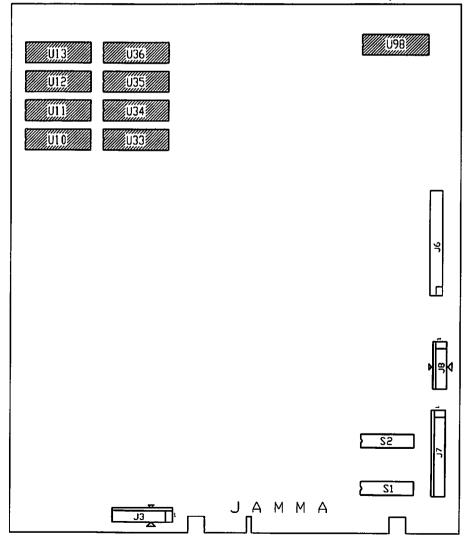
Cables

Dixle-Narco Cable H-17019
Control Panel Cable H-19597
Main Harness (JAMMA) Cable H-19598.1
Speaker Cable H-19599
Line Voltage Cable H-19639

^{*} In order to be sent on for repair or replacement the end of the hard drive cable must be packed in an anti-static bag. Then the entire disk drive assembly must be packed in an approved shipping container. (p/n 08-7981.1).

CPU BOARD A-19650-40047 Before conversion to Killer Instinct 2.

Designation	Part Number	<u>Description</u>
U98	A-5343-40047-1	Game EPROM
U10	A-5343-40047-2	Sound EPROM
U11	A-5343-40047-3	Sound EPROM
U12	A-5343-40047-4	Sound EPROM
U13	A-5343-40047-5	Sound EPROM
U33	A-5343-40047-6	Sound EPROM
U34	A-5343-40047-7	Sound EPROM
U35	A-5343-40047-8	Sound EPROM
U36	A-5343-40047-9	Sound EPROM
S1, S2	5645-09025-00	DIP Switch
J3	5791-12461-10	Header, 10-pin
J6	5791-14457-00	Header, 44-pin
J7	5791-12461-15	Header, 15-pin
J8	5791-12461-08	Header, 8-pin

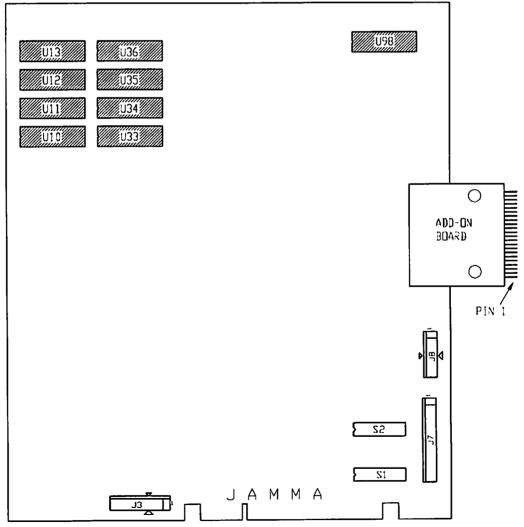


CPU BOARD A-19650-40047

After conversion to Killer Instinct 2.

Note: Only parts shown in italic changed.

<u>Designation</u>	Part Number	Description
	A-20348	Add-on Board
U98	A-5343-45067-1	Game EPROM
U10	A-5343-40064-2	Sound EPROM
U11	A-5343-40064-3	Sound EPROM
U12	A-5343-40064-4	Sound EPROM
U13	A-5343-40064-5	Sound EPROM
<i>U33</i>	A-5343-40064-6	Sound EPROM
U34	A-5343-40064-7	Sound EPROM
<i>U35</i>	A-5343-40064-8	Sound EPROM
<i>U36</i>	A-5343-40064-9	Sound EPROM
S1, S2	5645-09025-00	DIP Switch
J3	5791-12461-10	Header, 10-pin
J6	5791-14457-00	Header, 44-pin
J7	5791-12461-15	Header, 15-pin
J8	5791-12461-08	Header, 8-pin

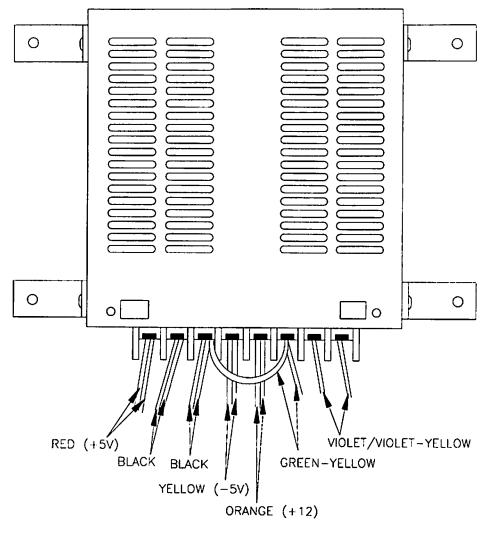


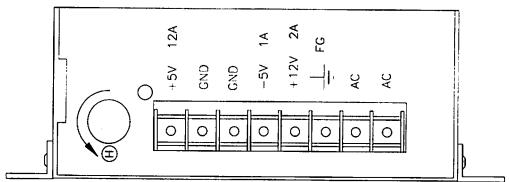
POWER SUPPLY A-15202-1

Part Number 01-10500 01-12162 20-9920 **Description**Mounting Bracket

Shield

P/S Switcher Supply





NOTES

NOTES



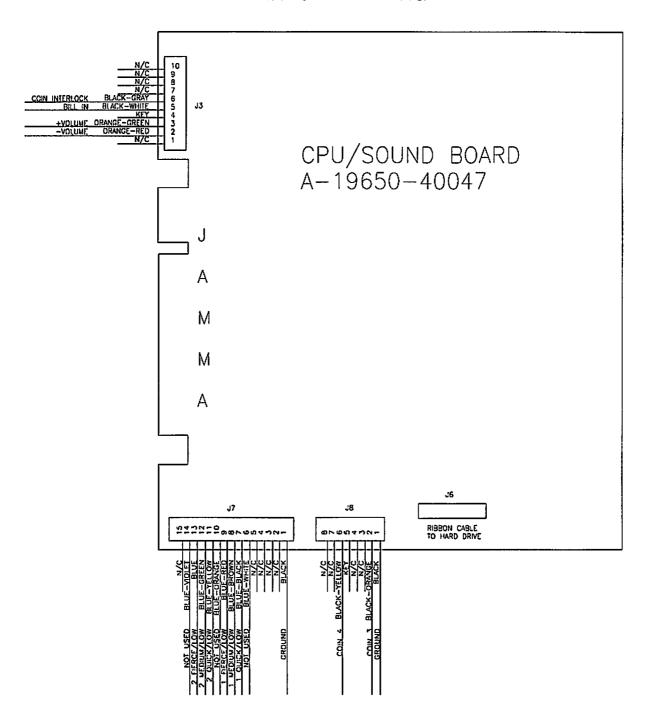
SECTION THREE

WIRING

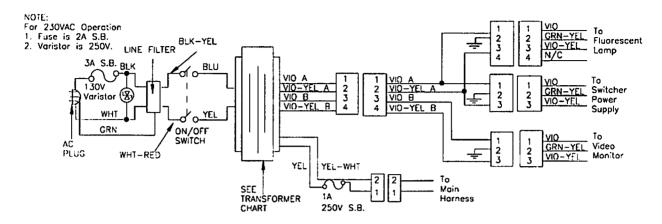
JAMMA CHART

	T				
FUNCTION	WIRE COLOR	PIN	PIN	WIRE COLOR	FUNCTION
Ground	Black	Α	1	Black	Ground
Ground	Black	В	2	Black	Ground
+5VDC	Red	С	3	Red +5VDC	
+5VDC	Red	D	4	Red	+5VDC
-5VDC	Yellow	E	5	Yellow	-5VDC
+12VDC	Orange	F	6	Orange	+12VDC
	Key	Н	7	Key	
Coin Counter 2	Brown-Red	J	8	Brown	Coin Counter 1
	N/C	К	9	N/C	
Speaker-	Brown-Gray	L	10	Red-Gray	Speaker +
	N/C	М	11	N/C	
Video Green	Green	N	12	Red	Video Red
Video Sync	White	Р	13	Brown	Video Blue
Service Credits	White-Gray	R	14	Shield	Video Ground
Slam Tilt	Black-Green	S	15	Black-Blue	Test
Coin 2	Black-Red	T	16	Black-Brown	Coin 1
2 Start	Violet-White	U	17	White	1 Start
2 Up	Violet-Black	V	18	White-Black	1 Up
2 Down	Violet-Brown	W	19	White-Brown	1 Down
2 Left	Violet-Red	Х	20	White-Red	1 Left
2 Right	Violet-Orange	Υ	21	White-Orange	1 Right
2 Quick/High	Violet-Yellow	Z	22	White-Yellow	1 Quick/High
2 Medium/High	Violet-Green	а	23	White-Green	1 Medium/High
2 Fierce/High	Violet-Blue	b	24	White-Blue	1 Fierce/High
Not Used	Violet	С	25	White-Violet	Not Used
	N/C	ď	26	N/C	
	N/C	е	27	N/C	
Ground	Black	f	28	Black	Ground
SOLDER SIDE		COMPONENT SIDE			

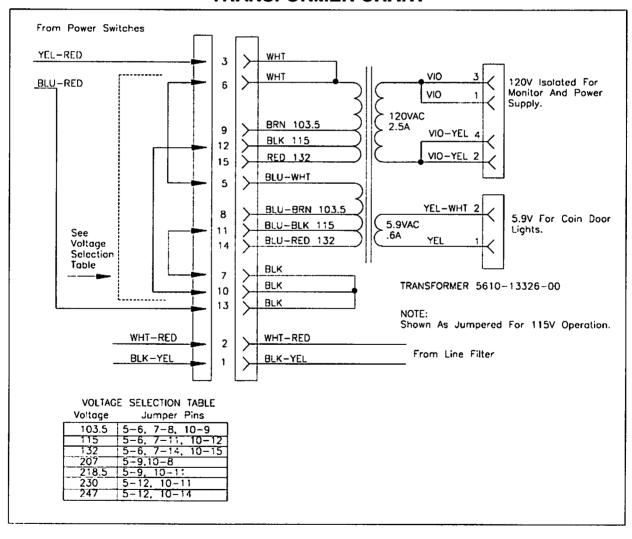
INTERBOARD WIRING

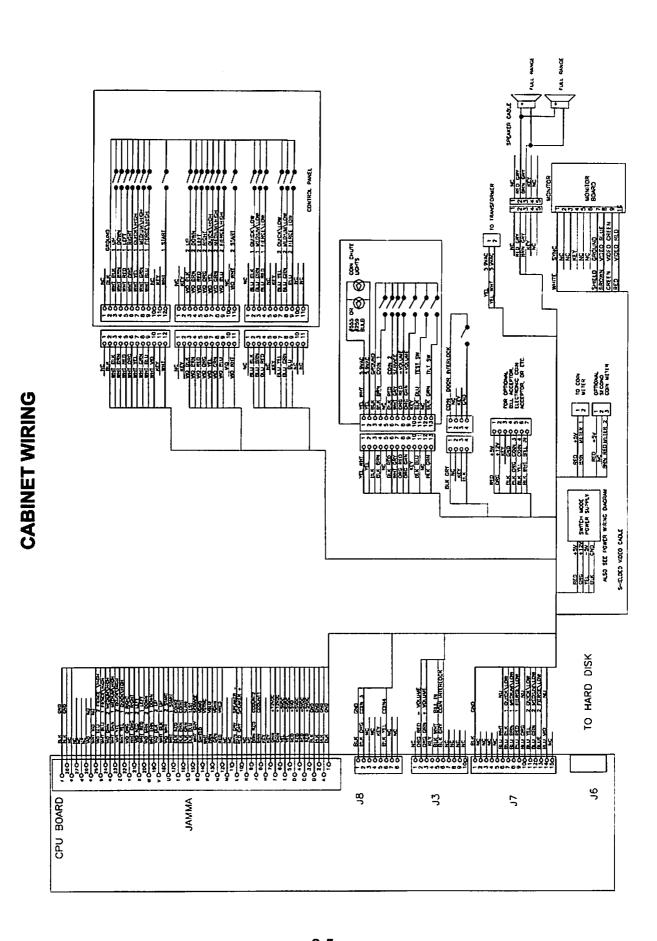


POWER WIRING

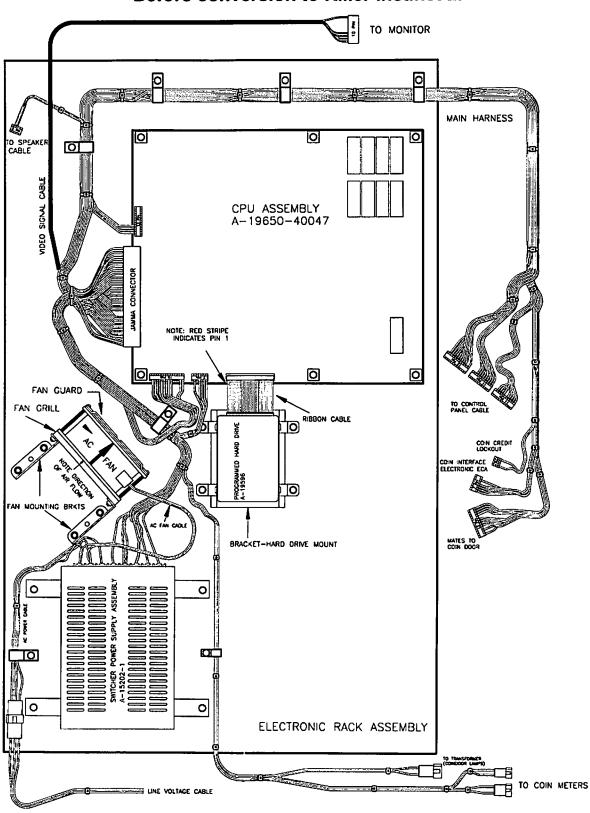


TRANSFORMER CHART

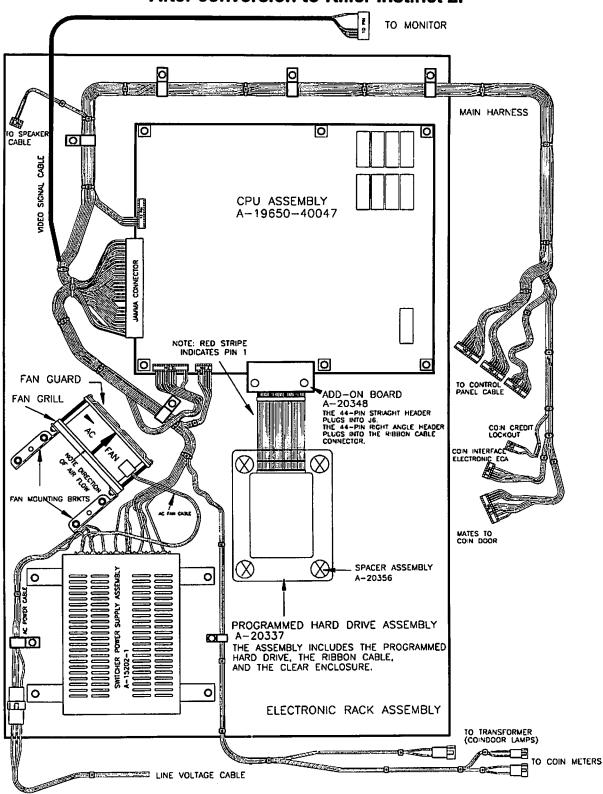




ELECTRONIC RACK ASSEMBLYBefore conversion to Killer Instinct 2.



ELECTRONIC RACK ASSEMBLY After conversion to Killer Instinct 2.



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WARNINGS & NOTICES

WARNING

USE OF NON-MIDWAY PARTS OR CIRCUIT MODIFICATIONS MAY CAUSE SERIOUS INJURY OR EQUIPMENT DAMAGE! USE ONLY MIDWAY AUTHORIZED PARTS.

- * For safety and reliability, substitute parts and modifications are not recommended.
- * Substitute parts or modifications may void FCC type acceptance.
- * Use only MIDWAY Manufacturing authorized components and parts. Failure to do so will void warranty and may result in incorrect and/or unsafe operation.
- * This game is protected by federal copyright, trademark and patent laws. Unauthorized modifications may be illegal under federal law. This also applies to MIDWAY logos, designs, publications and assemblies. Moreover, facsimiles of MIDWAY equipment (or any feature thereof) may be illegal under federal law, regardless of whether or not such facsimiles are manufactured with MIDWAY components.

WARNING

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Prevent shock hazard and assure proper game operation. Only plug this game into a properly grounded outlet. Do not use a cheater plug to defeat the power cord's grounding pin. Do not cut off the ground pin.

WARNING

A very small portion of the population has a condition which may cause them to experience epileptic seizures or have momentary loss of consciousness when viewing certain kinds of flashing lights or patterns that are present in our daily environment. These persons may experience seizures while watching some kinds of television pictures or playing certain video games. People who have not had any previous seizures may nonetheless have an undetected epileptic condition.

If you or anyone in your family has experienced symptoms linked to an epileptic condition (e.g. seizures or loss of awareness), immediately consult your physician before using any video games.

We recommend that parents observe their children while they play video games. If you or your child experience the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation, or convulsions, DISCONTINUE USE IMMEDIATELY and consult your physician.

NOTICE - FCC COMPLIANCE

- I. THIS KIT WAS TESTED IN A KILLER INSTINCT VIDEO CABINET AND FOUND TO COMPLY WITH FCC PART 15 CLASS A REQUIREMENTS.
- II. INSTALLATION OF THIS KIT INTO ANY OTHER PRODUCT DOES NOT GUARANTEE COMPLIANCE WITH FCC REQUIREMENTS. YOU ARE SOLELY RESPONSIBLE, AND MIDWAY WILL HAVE NO RESPONSIBILITY FOR FCC COMPLIANCE FOR INSTALLATIONS IN OTHER PRODUCTS. THE FCC COMPLIANCE STICKER SHOULD NOT BE INSTALLED ON THE CONVERTED PRODUCT UNTIL FCC COMPLIANCE IS VERIFIED.

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