

Namco-America, Inc.

NUMAN ATHLETICS™

VIDEO GAME CONVERSION KIT

Operators Manual

FCC Notice

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.

NUMAN ATHLETICS™ Operators Manual

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Published by:
NAMCO-AMERICA, INC.
P. O. Box 641630
San Jose, CA 95164-1630
TEL: (408) 383-3900
FAX: (408) 383-0128

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NUMAN ATHLETICS™

VIDEO GAME CONVERSION KIT

1. SPECIFICATIONS

GAME NAME:	NUMAN ATHLETICS™
APPLICATIONS:	2-player upright 4-player upright
CONTROL PANEL TYPES REQUIRED:	
For 2-player applications	2-player Interactive
For 4-player applications	4-player Interactive, (EG HS9, Data East, KONAMI, or DYNAMO Extended Control Panel)
CONTROLS SUPPLIED WITH KIT:	
Push buttons	16
EDGE CONNECTOR REQUIRED:	JAMMA Standard (56 pin edge connector, 3.96mm pitch) (48 pin edge connector, 2.54mm pitch)
POWER SUPPLY REQUIRED:	+ 5 Volts DC, 2.5 Amps +12 Volts DC, 2.5 Amps

Note: Specifications may change without prior notice. Modification and/or alteration of the NUMAN ATHLETICS™ game with kits or parts not supplied by NAMCO may void the warranty.

Use only a **JAMMA STANDARD HARNESS**, as any modification, such as filing the edges of the Printed Circuit Board, may cause operational problems and also void the warranty.

2. GAME CONVERSION OVERVIEW

The NAMCO NUMAN ATHLETICS™ kit allows conversion of several video games to 2-player or 4-player applications. Conversion consists of a few simple steps involving changing the Game PC Board, installing controls and harnesses, and applying graphics.

This manual describes the steps required to convert existing games, and then describes the adjustments, tests, and various settings associated with your "new" NUMAN ATHLETICS™ game.

Before beginning the conversion, you should familiarize yourself with Illustrations 5-1, 5-2, and 5-3 in Section 5, Installation. The Edge Connector designations on pages 10, and 11 should also be reviewed.

3. PRECAUTIONS

3-1 Installation Precautions

This game is designed for **INDOOR USE ONLY**. It **MUST NOT** be installed outdoors or under the following conditions:

- a. In areas directly exposed to sunlight, high humidity, direct water contact, dust, high heat or extreme cold.
- b. In locations that would present an obstacle in case of emergency, i.e. near fire equipment or emergency exits.
- c. On an unstable surface or subject to floor or other vibration.

3-2 Handling Precautions

- a. AC Power **MUST** always be turned **OFF**, and the game unplugged, before replacing any parts.
- b. When unplugging the game from an electrical outlet, always grasp the plug, not the cord.
- c. The cabinet **MUST** be grounded with a securely connected ground line.
- d. The monitor includes areas of high-voltage. Care should be taken at all times to avoid electrical shock whenever inspecting or adjusting the game.
- e. **DO NOT** attempt to repair the Printed Circuit Board (PCB) on site. It contains sensitive integrated circuit chips that could easily be damaged by even the small internal voltage of a multi-meter. Always return the PCB to your distributor for any repairs.
- f. Always return the levelers to the extreme "up" position before moving the game.

4. INSPECTION

The NUMAN ATHLETICS™ Kit carton should be carefully inspected upon receipt to insure that the kit is complete and was delivered in good condition. A complete kit contains the following:

1. NAMCO Game Printed Circuit Board.
2. NAMCO Game Wiring Harness (56 pin JAMMA and 48 pin connectors for 4-player games).
3. New Game Controls:

a. Start Pushbuttons	(White)	4
b. Control Pushbuttons	(Red)	8
c. Control Pushbuttons	(Blue)	4
d. Control ID Tags		16
4. FCC required Ferrite Core
5. New Monitor Bezel
6. New Control Panel decal overlay
7. New Marquee overlay
8. Game Instruction decal

5. INSTALLATION

A converted NUMAN ATHLETICS™ 4-player Extended Control Panel is illustrated below. Note the placement of the buttons.

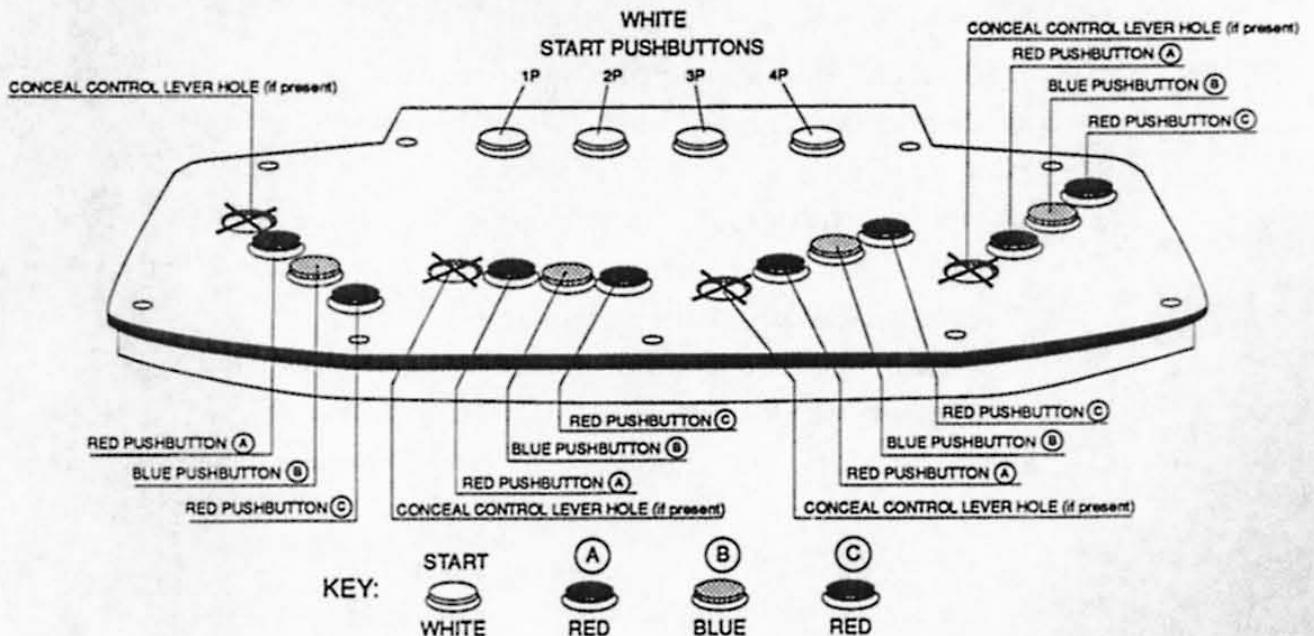


Illustration 5-1, SUGGESTED FOUR-PLAYER CONTROL PANEL LAYOUT

5-1 Electronics

WARNING: DISCONNECT THE POWER PLUG BEFORE STARTING INSTALLATION!

Open the service door of the cabinet to be converted and locate the existing game Printed Circuit Board which will be replaced by the NUMAN ATHLETICS™ PCB (illustrated below).

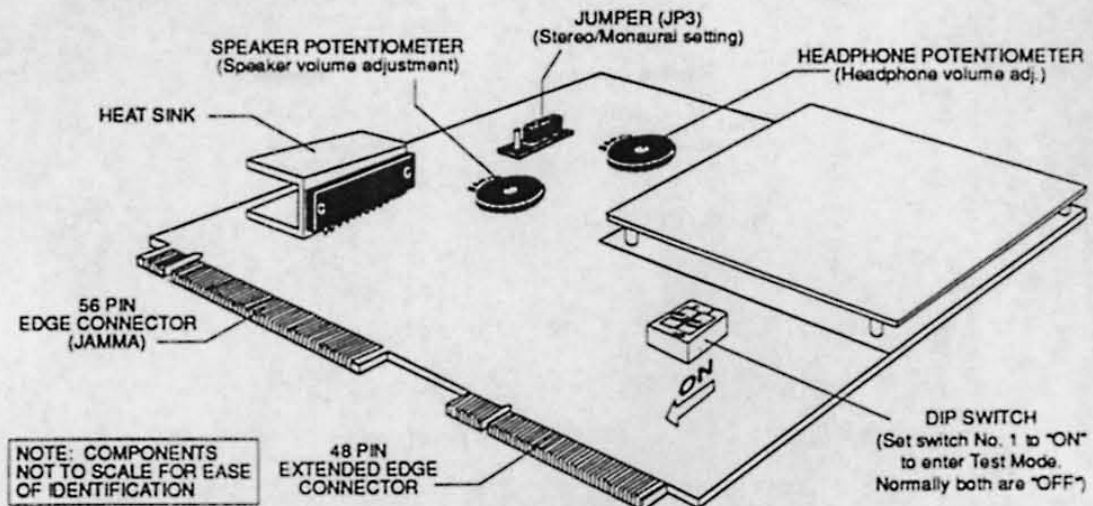


Illustration 5-2, NAMCO GAME PCB LAYOUT

5-1-1 Installing NAMCO PC Board

Follow these steps to remove the existing PCB and install the NAMCO PCB.

- a. Carefully disconnect the edge connector from the existing PC Board.
- b. Remove the original game PCB from the cabinet.
- c. Remove the main harness.
- d. Place the NAMCO PCB in the same location as the removed PCB, and secure it using the mounting feet and hardware supplied with the kit.

5-1-2 Connecting Wiring Harness

- a. Connect a JAMMA (56 pin) harness edge connector to the NAMCO PCB, referring to Illustration 7-1, JAMMA Edge Harness Connection.
- b. Next, connect the Extended (48 pin) Edge Connector to the NAMCO PCB, referring to Illustration 7-2, Extended Edge Connection.

5-1-3 Connecting Speakers

- a. The speaker output of the 56 pin (JAMMA) edge connector on the PCB is for the left (L) speaker. For monaural cabinets this is all that is required.

- b. If cabinet is equipped with stereo speakers, also connect the right (R) speaker to the right (R) speaker output of the 48-pin edge connector on the PCB, and set the JP3 jumper on the PCB to ST (STEREO) as shown below.

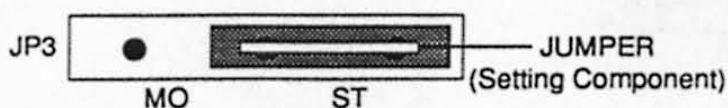


Illustration 5-3, STEREO/MONAURAL JUMPER

5-1-4 Installing Ferrite Core

- a. Carefully secure the FCC required Ferrite core and housing around the branch of the JAMMA harness as close to the NAMCO PCB as possible.

5-2 Player Controls

5-2-1 Two-Player Applications

NOTE: The NAMCO Game PC Board factory settings are for a 4-player game. For a 2-player game, refer to Illustration 6-4 for settings.

- a. If the existing game being converted has control panel cutouts that can accommodate two sets of controls (one start button, and three pushbuttons for each player), the NAMCO controls can be installed in those openings.
- b. If holes don't exist, they must be cut and drilled using a 2-player control panel as a template for positioning and cutting out for controls.
- c. Apply the control panel decal overlay from the kit, and cut it out to match the control panel holes.
- d. Install a start button and the three buttons per player.
- e. Connect the controls to the PCB JAMMA connector per the table shown in Illustration 7-1

5-2-2 Four-Player Applications

- a. To convert to a 4-player NUMAN ATHLETICS™ game requires an extended control panel.
- b. Install the start buttons, and pushbuttons for all four players per the suggested layout shown in Illustration 5-1. Be sure to conceal any unused control holes.
- c. Consult the 48 pin Extended Edge Connector table shown in Illustration 7-2 for connecting the controls for players 3 and 4.

5-3 Graphics

NOTE: The pressure sensitive decals have a protective covering on their backs that must be peeled away before applying. Care should be taken regarding their positioning as they stick very tight, and once placed they are difficult to remove.

5-3-1 Marquee Panel

- a. Remove the existing marquee panel.
- b. Cut a new piece of clear acrylic to match the old marquee panel.
- c. Trim the excess decal from the edges of the acrylic, and install the new marquee.

5-3-2 Screen Bezel

- a. Remove the glass panel protecting the monitor, and remove the existing monitor bezel.
- b. The new screen bezel is preprinted on the back with guidelines for cutting out an opening based on most commonly used game screens. Cut out an opening using the guidelines for the monitor in the game being converted.
- c. Apply game instruction decal to bezel.
- d. Place the cutout screen bezel over the monitor face and replace the protective glass removed in step a.

5-3-3 Control Panel Overlay

- a. Remove all controls, bolts, old overlays, and objects that may obstruct the installation of the new control panel overlay.
- b. Remove the protective backing from the NAMCO NUMAN ATHLETICS™ control panel overlay, and carefully place it into position.
- c. Trim the excess overlay from the edges of the control panel.

6. TEST MODE

6-1 Power on

When installation is complete, connect the power cord to an AC outlet and turn the power on.

6-2 Test Mode – DIP switch

The DIP switch is located on the main PC Board. (See DIP switch on PCB Illustration 5-2). Turn DIP switch "1" on the NAMCO game PCB to the "ON" position to put the game into the test mode. The following Test Menu Screen will be displayed.

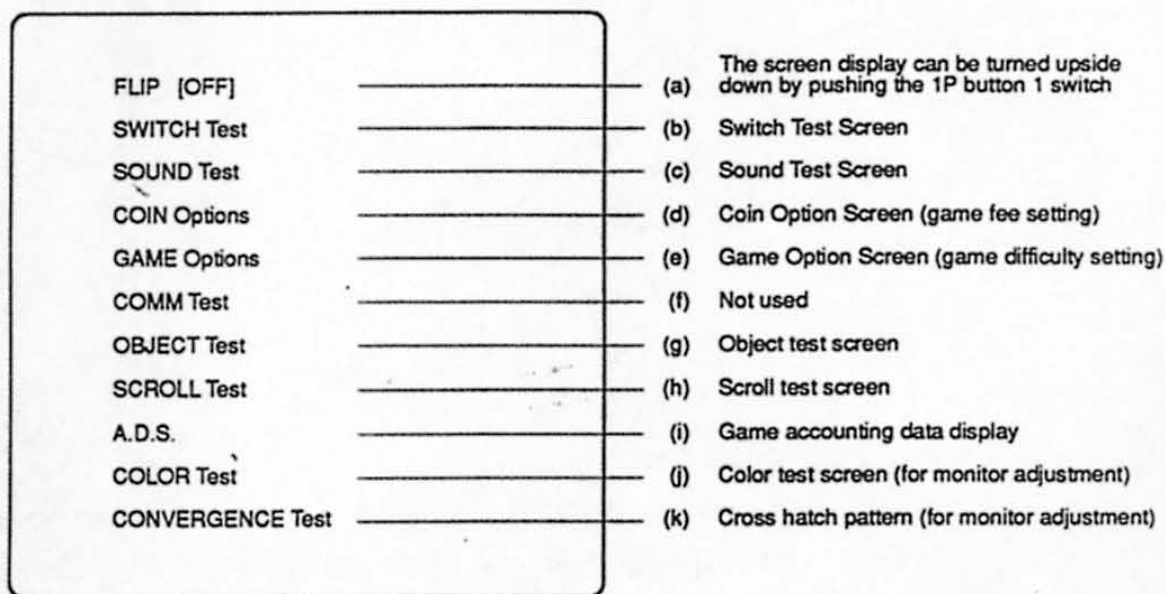


Illustration 6-1, TEST MENU SCREEN

6-2-1 Selecting Test Screens

- Use the Player 1 left and right buttons (A & C) to select the desired test.
- Press the Player 1 center button (B) to enter the selected test.
- To exit the specific test screen, press the Player 1 center (B) button.

Once testing has been completed, turn the option switch "1" to the "OFF" position. The Game Play Screen will always reappear from whatever test screen is being displayed at the moment.

Note: Both DIP switches should normally be in the "OFF" position.

6-2-2 Coin Option Screen

- a) To select the option that you wish to change – Use the Player 1 left and right buttons (A & C) to move up and down.
- b) To change the content of the selected option according to the Game Option Settings table – use the Player 1 center (B) button.

COIN OPTIONS (Defaults in GREEN)	
GAME COST: 1 Coin, 1 Credit	(1)
DISCOUNT TO CONTINUE: No	(2)
COIN 1 MECH. VALUE: 1 Coin Counts as 1 Coin	(3)
COIN 2 MECH. VALUE: 1 Coin Counts as 1 Coin	(4)
COIN 3 MECH. VALUE: 1 Coin Counts as 1 Coin	(5)
COIN 4 MECH. VALUE: 1 Coin Counts as 1 Coin	(6)
BONUS FOR QUANTITY BUY IN: None	(7)
FREE PLAY: No	(8)

Illustration 6-2, COIN OPTION SCREEN

6-2-3 Game Option Screen

- a) To select the option that you wish to change – Use the Player 1 left and right buttons (A & C) to move up and down.
- b) To change the content of the selected option according to the Game Option Settings table – use the Player 1 center (B) button.

GAME OPTIONS (Defaults in GREEN)	
DIFFICULTY LEVEL: Medium	(9)
MUSIC IN ATTRACT: Yes	(10)
DISPLAY FBI SCREEN: No	(11)
CREDIT MODE: Common	(12)
COIN COUNTER: Type A	(13)
CABINET TYPE: 4 Player	(14)

Illustration 6-3, GAME OPTION SCREEN

TABLE OF GAME OPTION SETTINGS (◀ standard setting)

ITEM	CONTENT
(1) Game Fees	Number of coins required for one game (one credit) 1-9 (original setting is 2 ◀)
(2) Discount	50% discount when continuing a play No ◀ Yes
(3) Coin 1 Mech.	Count per coin 1-9 (original setting is 1 ◀)
(4)(5)(6) Coin 2 thru 4 Mech.	Count per coin 1-9 (original setting is 1 ◀)
(7) Bonus Coin	One additional coin per the specified number of coins None ◀ 2 Coins Give 1 Credit 9 Coins Give 3 Credits
(8) Free Play	No ◀ Yes
(9) Game Difficulty	Easy Medium◀ Hard Very Hard
(10) Attract Sound	Yes◀ No
(11) FBI Display	No (Not displayed)◀ Yes (Displayed)
(12) Credit Mode	Common (Credit is common to 1P, 2P, 3P, and 4P)◀ Each One (Credit is paid for individually by 1P, 2P, 3P, and 4P) 1P & 2P Common, 3P & 4P Common (credit is common to 1P & 2P [for Coin 1 Mech], and 3P & 4P [for Coin 2 Mech])
(13) Coin Counter	Type A (1 coin counter for all four slots)◀ Type B (1 coin counter for each slot) Type C (1 coin counter for each two slots)
(14) Cabinet Type	4 Players (standard)◀ 2 Players

Illustration 6-4, TABLE OF GAME OPTION SETTINGS

Once the option change(s) has been completed, return the DIP switch "1" on the PCB to the "OFF" position, and the monitor will return to the Game Screen.

7. PC BOARD CONNECTIONS

7-1 JAMMA Edge Connector (56 Pin)

JAMMA EDGE CONNECTOR (56P, 3.96 mm pitch)

SOLDER SIDE	TERMINAL NUMBER		PARTS SIDE
GND	A	1	GND
GND	B	2	GND
+5V	C	3	+5V
+5V	D	4	+5V
	E	5	
+12V	F	6	+12V
Insertion error preventing key	H	7	Insertion error preventing key
Coin counter 2	J	8	Coin counter 1
	K	9	Coin lockout 1
Speaker (-)	L	10	Speaker (-)
Audio (GND)	M	11	Audio (GND)
Video GREEN	N	12	Video RED
Video SYNC	P	13	Video BLUE
Service switch	R	14	Video GND
	S	15	Test switch
Coin switch 2	T	16	Coin switch 1
2P start switch	U	17	1P start switch
	V	18	
	W	19	
	X	20	
	Y	21	
2P button 1	Z	22	1P button 1
2P button 2	a	23	1P button 2
2P button 3	b	24	1P button 3
	c	25	
	d	26	
GND	e	27	GND
GND	f	28	GND

- **DO NOT** connect anything to the blank connectors.
- Both the lockout solenoid and the coin counter operate on +12V.
- The supply voltage is available within $\pm 5\%$. For use in the best condition, get the supply voltage as close to the specified voltage as possible.

(Recommended power capacity)

+5V $\pm 5\%$	2.0A or more
+12V $\pm 5\%$	2.0A or more

Illustration 7-1, JAMMA EDGE CONNECTIONS

7-2 Extended Edge Connector (48 Pin)

EXTENDED EDGE CONNECTOR (48P, 2.54 mm pitch)

SOLDER SIDE	TERMINAL NUMBER		PARTS SIDE
Speaker R (-)	A1	B1	Speaker R (+)
Headphone R	A2	B2	Headphone L
4P start switch	A3	B3	Headphone GND
	A4	B4	
Insertion error preventing key	A5	B5	Insertion error preventing key
	A6	B6	
	A7	B7	
4P button 1	A8	B8	4P button 2
VCC	A9	B9	GND
VCC	A10	B10	GND
	A11	B11	
	A12	B12	
	A13	B13	4P button 3
	A14	B14	
Coin switch 3	A15	B15	Coin switch 4
Coin counter 3	A16	B16	Coin counter 4
VCC	A17	B17	GND
VCC	A18	B18	GND
3P button 3	A19	B19	3P button 2
3P button 1	A20	B20	
	A21	B21	
	A22	B22	3P Start switch
	A23	B23	
	A24	B24	

DO NOT connect anything to the blank connectors.

Connection to stereo cabinet:

(1) STEREO/MONO setting:

Place the STEREO/MONO jumper (JP3)
on the PC board in the STEREO position.

(Caution) If the JP3 is set to "STEREO" on a cabinet
with monophonic specifications as shown above,
on the left channel sound comes from the speaker.



(2) Connection to speakers

The speaker output of the 56P Edge Connector (JAMMA)
on the PC Board is the left (L) output. Connect the
right (R) speaker to the right (R) speaker output of the
48P Extended Edge Connector on the PC Board

NOTE: Use a DDK 225-100242-2314 as a 48P Extended Edge Connector.

Illustration 7-2, EXTENDED EDGE CONNECTIONS

NOTES:

Warranty

Seller warrants that its printed circuit boards and parts thereon are free from defects in material and workmanship under normal use and service for a period of ninety (90) days from the date of shipment. Seller warrants that its video displays (in games supplied with video displays) are free from defects in material and workmanship under normal use and service for a period of thirty (30) days from date of shipment. None of the Seller's other products or parts thereof are warranted.

If the products described in this manual fail to conform to this warranty, Seller's sole liability shall be, at its option, to repair, replace, or credit Buyer's account for such products which are returned to Seller during said warranty period, provided:

- (a) Seller is promptly notified in writing upon discovery by Buyer that said products are defective;
- (b) Such products are returned prepaid to Seller's plant; and
- (c) Seller's examination of said products discloses to Seller's satisfaction that such alleged defects existed and were not caused by accident, misuse, neglect, alteration, improper repair, installation, or improper testing.

In no event shall Seller be liable for loss of profits, loss of use, incidental or consequential damages.

Except for any express warranty set forth in a written contract between Seller and Buyer which contract supersedes the terms herein, this warranty is expressed in lieu of all other warranties expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose, and of all other obligations or liabilities on the Seller's part, and it neither assumes nor authorizes any other person to assume for the Seller any other liabilities in connection with the sale of products by Seller.

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NAMCO-AMERICA, INC.

P. O. Box 641630
San Jose, CA 95164-1630

(408) 383-3900

FAX: (408) 383-0128

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