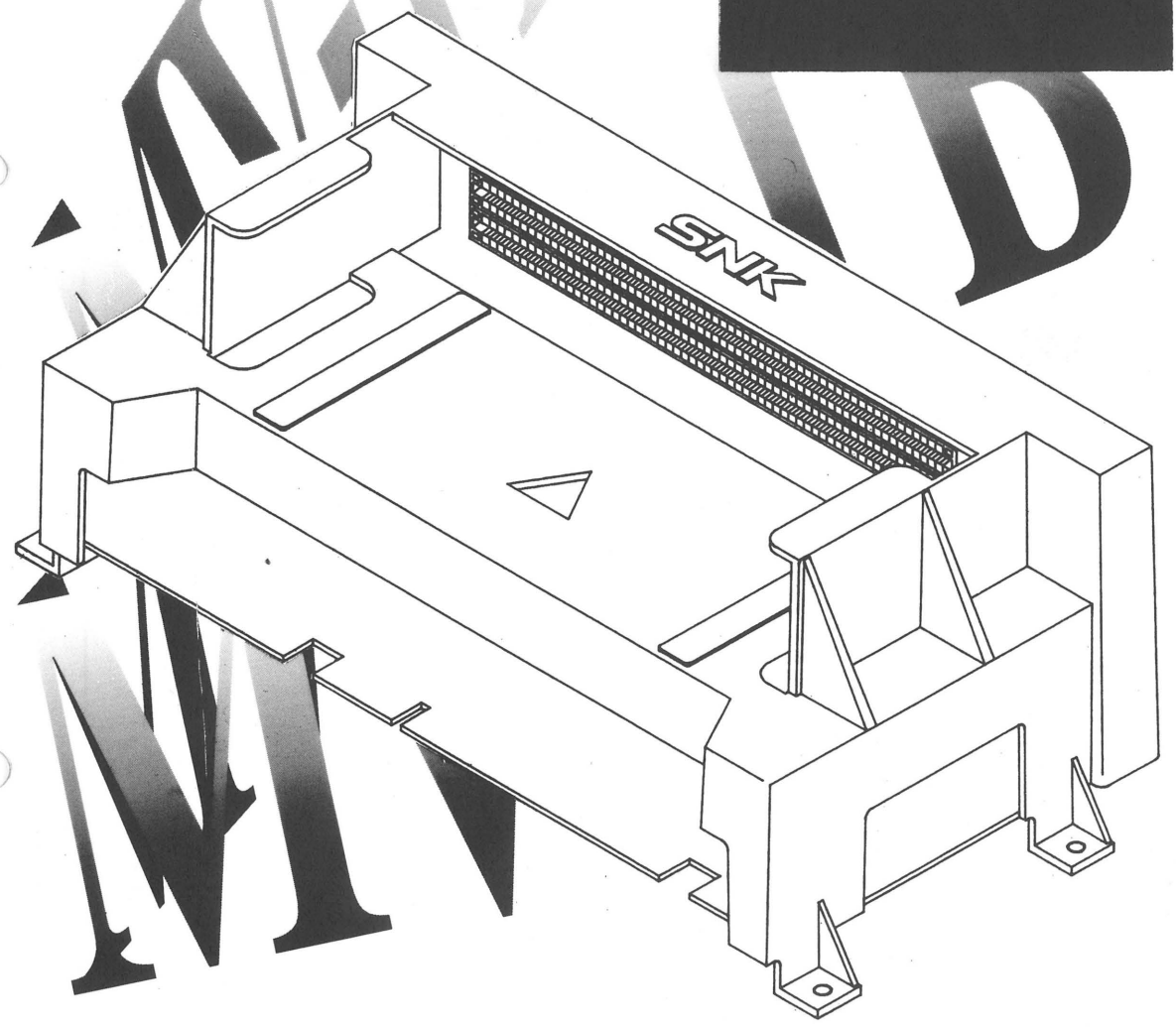
SNK

MV-1B

NEO GEO 1-SLOT HARDWARE KIT

USER'S MANUAL

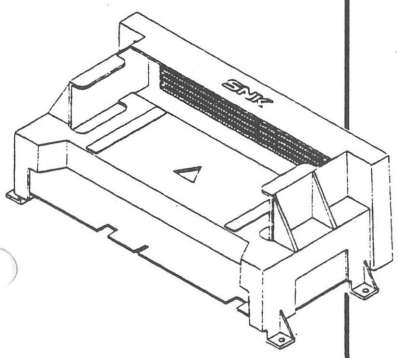


WARNING

- **Be sure to read this user's manual before use.**
- **Keep this manual nearby when operating this cabinet.**

INTRODUCTION

The MV-1B 1-slot PCB can be used with cabinets meeting JAMMA specifications. This user's manual contains information on operating the MV-1B. Before use, please carefully read through the manual for proper usage methods.



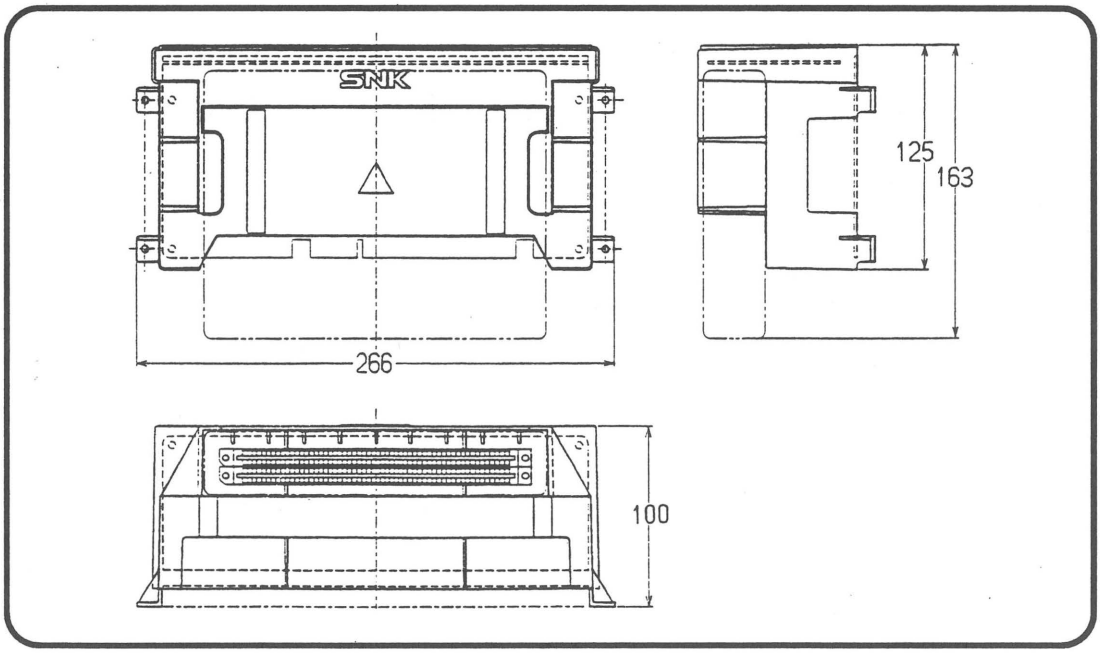
Index

Introduction/Specifications 1
Precautions for safe operation 2
Parts names 4
Installing software cartridges 5
Using the setting modes 6
Main harness 12
Wiring diagram 13

■ Specifications

MV-1B

Power source	DC +5 V 3A/DC +12 V 1A
Dimensions	266 mm (W) × 125 mm (D) × 100 mm (H)
Weight	550 g (without software cartridge)
Accessories	User's manual × 1



* Design and specifications are subject to change for product improvement without notice.

Precautions for safe operation

Before use, please carefully read through these precautions for proper usage methods. After reading it, be sure to keep the manual in a safe place for later reference.

■ Display Explanations

The procedures listed herein must be carefully followed to ensure both safe operation and to prevent personal injury and property damage.

 Danger	 Warning
Ignoring these warnings may result in death or serious injury.	Ignoring these warnings may result in injury or property damage.


Danger

- **Should any of the following occur, immediately turn the power switch off and unplug the cabinet. Continued use may cause fire or electric shock.**
  - Emissions of smoke, unusual odors, or strange noises
  - Operation irregularities
  - Water or foreign materials in the cabinet
  - Damage to the cabinet
- **Do not place the cabinet in areas prone to leaking or flooding; do not allow the place objects containing liquid (like drinks) or metal objects on the cabinet.**
  Should liquids or metallic objects fall into the cabinet, it may cause fire or electric shock.
- **Be sure to tightly join all connectors.**
  Loose connections may cause fire or shock.
- **Before changing game PCBs and conducting cabinet checks, turn the power switch off and unplug the cabinet.**
  Changing PCBs with the switch on and the cabinet plugged in may cause fire or electric shock.
- **Do not conduct repairs or modifications.**
  These may cause fire or electric shock.
- **This PCB is designed for use with an AC 100 V ± 10 V current; be sure to connect its power plug to a specialized outlet.**
  Connecting a number of appliances that consume a lot of power to the same electric outlet (like air conditioners and other cabinets) may cause fire or electric shock.

MV-1B PCB

- **Guard against dust and conductive materials entering into the slot.**
  This may cause fire or electric shock.



- **Do not mount the cabinet containing the MV-1B or place heavy objects on it.**
  This will not only cause injury should it become unbalanced and tip over or fall, but it may cause damage to the cabinet.

- **Under no circumstances place the cabinet with the MV-1B outside.**
  This will cause damage or breakdowns.

- **Never place the cabinet with the MV-1B in the following locations as it may cause breakdowns.**
  - Indoor pools or areas near a shower where humidity is high and there is a danger of internal condensation.
  - In areas exposed to direct sunlight.
  - Near areas of excessive heat, like next to a heater, and around dangerous materials.
  - In places that are excessively dusty.

- **When unused for long periods, turn the cabinet with the MV-1B off and unplug it for safe storage.**

- **Place the cabinet where room temperature is between 5˚C and 40˚C.**
  Breakdowns may result with operation outside the given temperature range.

- **During shipping or moving, avoid serious jolts to the MV-1B.**
  This may cause damage or breakdown.

- **Always use a Logic tester when checking IC port circuitry.**
  Using a normal tester may cause damage or breakdown.

- **When installing the PCB, be sure to calibrate the 4 lower adjusters to bring the cabinet with the MV-1B level.**
  Should the cabinet tip over or fall, it may cause injury.

- **Be sure to connect a ground cable to the ground terminal.**

MV-1B PCB tips

- **When inserting game cartridges, always turn the power OFF.**
  Inserting cartridges with the power on may cause breakdowns.

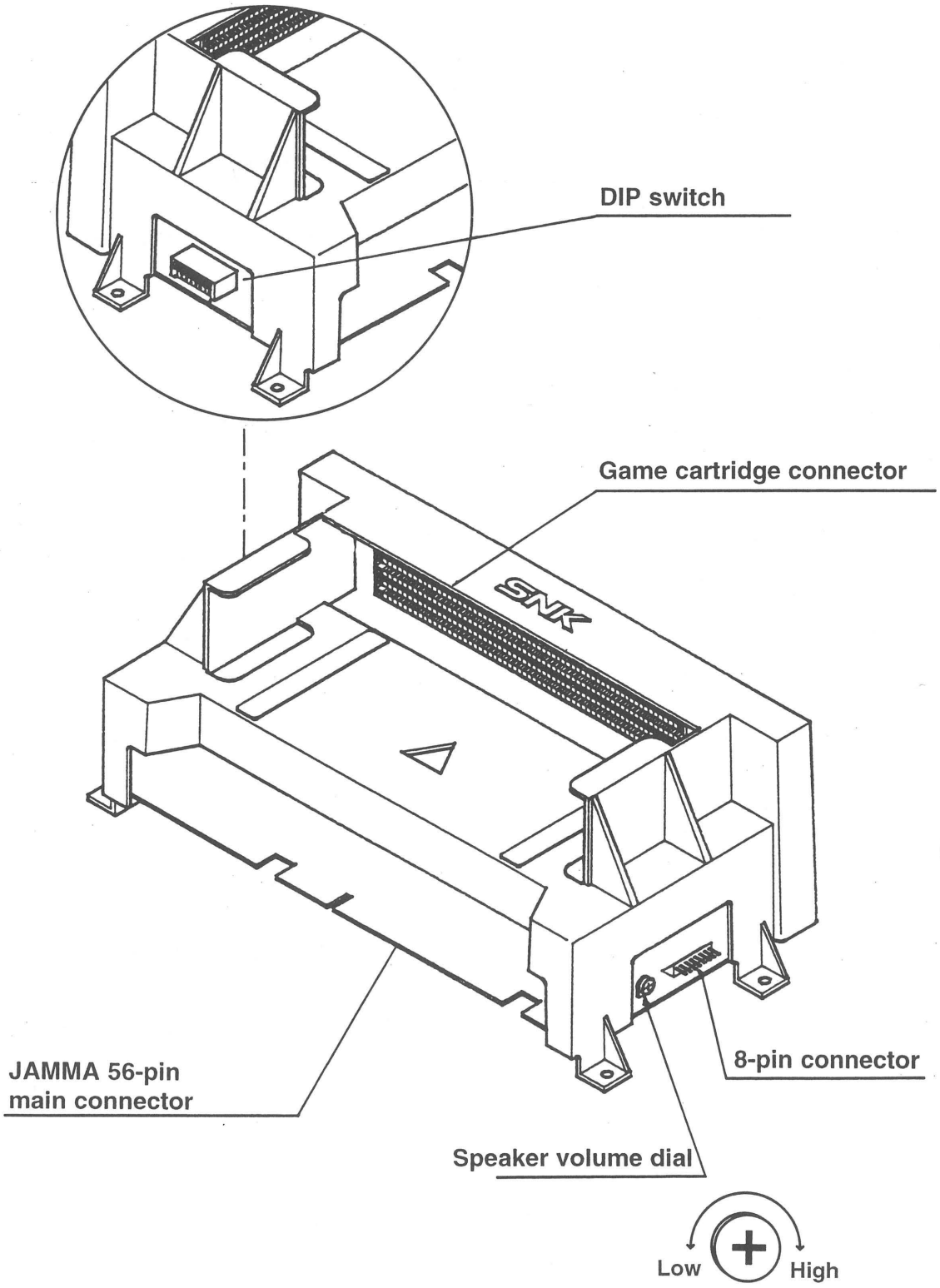
- **Do not insert non-MVS game cartridges or NEO GEO home use cartridges into the slot.**
  This may cause breakdowns.

- **Insert game cartridges securely into the slot.**
  This may cause breakdowns if not properly inserted.

- **After inserting game cartridges, be sure to check operations.**

- **Using the unit near televisions, radios, or portable communications devices may interfere with their signals. If so, place these devices away from the unit.**

■ Parts names


DIP switch
Game cartridge connector
SNK
JAMMA 56-pin
main connector
8-pin connector
Speaker volume dial
Low
High

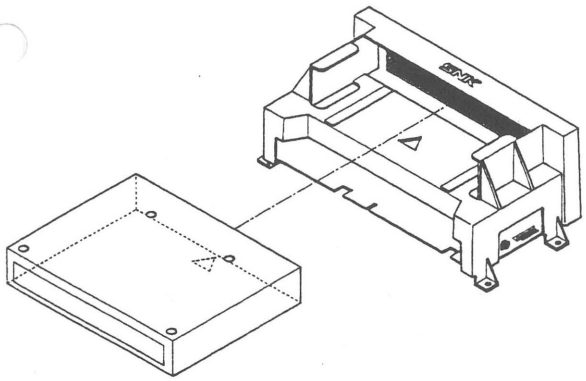
■ Game cartridge settings

Danger

- **Do not place conductive material into the slot. It may result in fire or electric shock.**

Warning

- **Carefully change cartridges after the power has been switched off. If the cartridge is not inserted securely or is inserted with the power already turned on, cartridges will not function properly.**
- **Be sure to match up the △ indicator mark on the cartridge with the △ indicator mark on the PCB. Inserting a cartridge the wrong way**



① Turning on the power

Before inserting a game cartridge into the main board (MV-1B), be sure to see the power is turned off.

② Inserting the game cartridge

Make sure the △ indicator mark of the cartridge is facing downward and insert the cartridge into the slot.

③ Turning on the power

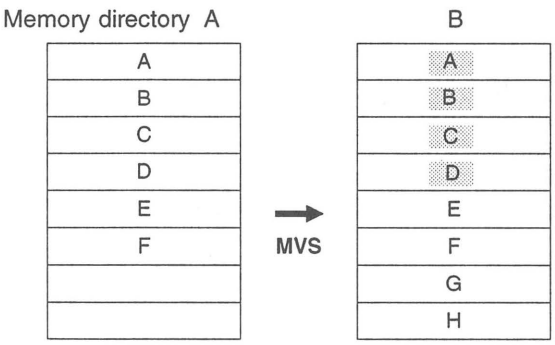
Check that the game cartridge is securely inserted and turn the power on. At this time, if unusual images or noises are produced, or there is no picture on the screen, turn off the power and reinsert the game cartridge.

This PCB is designed for the sole use of NEO GEO Multi Video System cartridges; NEO GEO Home System is incompatible with these slots. Use only NEO GEO MVS cartridges!

Failing to follow the steps above may cause faulty operation or damage to both cartridge and PCB parts.

* The MV-1B stores 7 types of game income totals even when the power is turned off or when the cartridge is removed from the PCB.

For example, suppose you have been using cartridges A~F with the MV-1B and then replace game F with game G...



⇨ The data for cartridges A~F is not erased.

In diagram B, if cartridge H is used in place of G, because only 7 types of data can be saved, G game data remains in memory, but A data is erased.

☞ Even after removing cartridges A~F, their data remains in memory. If cartridge G replaces A, B, C, D, E or F, operating the cabinet will still permit cumulative data calculation for A~G in subsequent use.

■ Using the setting modes

Unlike previous PCBs, for which settings were made using DIP switches on the PCB, with the Multi Video System (MVS) these settings are made using the control panel and the monitor screen. Income statistics for the various games can also be kept. The following is an explanation of modes and how settings are made.

1. Entering the setting modes

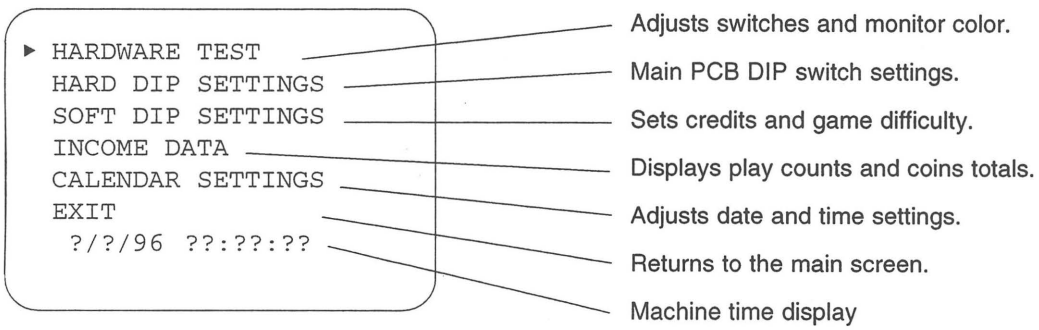
- After turning the cabinet on, press the test switch to call up the main menu.
- Switch DIP switch 1 on top of the PCB is turned ON, the main menu will also appear the next time the power is turned on.

2. Main menu

Use the control panel (Player 1 side) to set the various modes.

- Move the joystick up and down to move the cursor. Match the cursor to the item you wish to set and press the A button to set it.

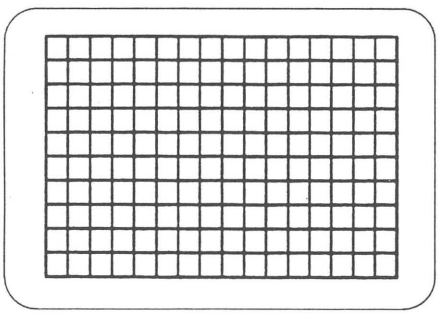
* Use the control panel (Player 1 side) to make all mode settings.



3. Hardware test **(If software is not loaded, only the HARDWARE TEST mode can be used.)**

Carries out the various cabinet checks.

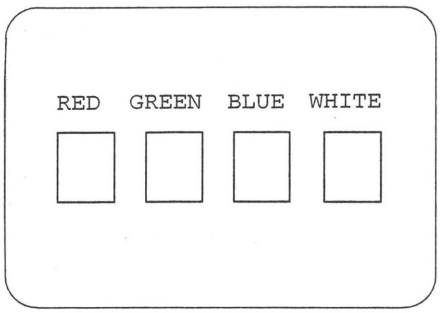
Crosshatch



After choosing the HARDWARE TEST mode, press button A.

A crosshatch pattern will appear on the screen.

Screen color adjustment

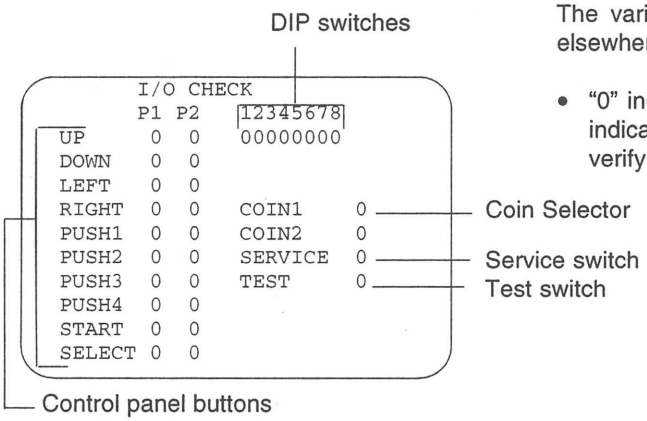


- Press the start button on the Player 1 side of the control panel to bring up the screen below.

The RGB colors will be displayed.

- Use this display to adjust screen color.

I/O CHECK

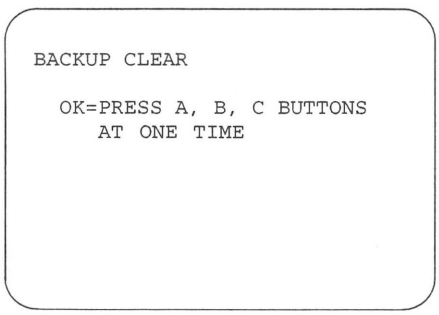


- Press the start button on the Player 1 side of the control panel.

The various switches on the control panel and elsewhere can be checked.

- "0" indicates that the switch is OFF, while "1" indicates ON. Operate the various switches to verify that they are displaying correctly.

Backup clear



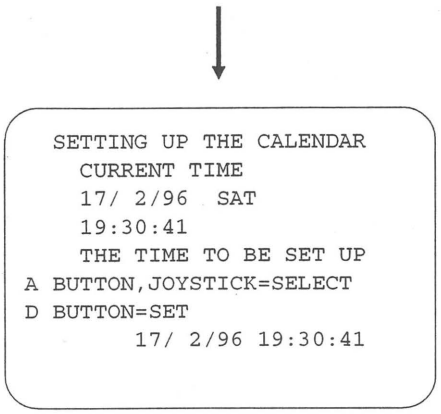
- Press the start button on the Player 1 side of the control panel.

Press buttons A, B, and C simultaneously on the Player 1 side to clear data like income totals, etc. (memory is returned to its status upon shipment from the factory).

Erased data includes:

- Income totals (play and coin counts)
- Software DIP settings (play counts, coin counts, game difficulty)

■ Using the setting modes

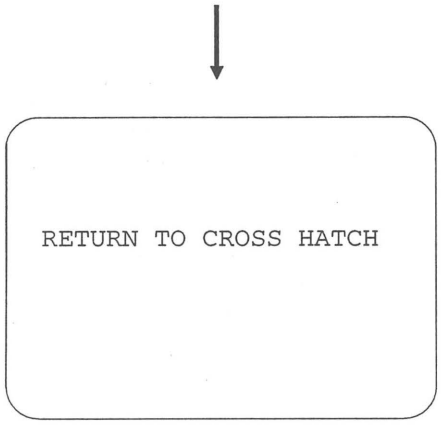


- Press the start button on the Player 1 side of the control panel.

To set the calendar

- Use the joystick to highlight in red the number you wish to change. Press button A to go to a higher number and button B to go to a lower one. After you are finished making these settings, be sure to save them with button D.

* The date and time are already set at the factory. There is usually no need to set them.

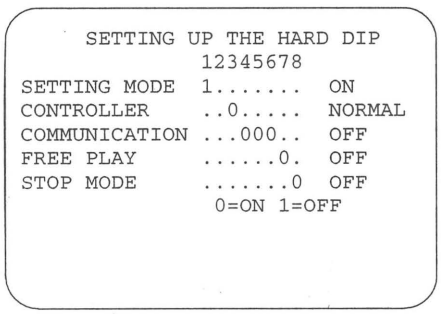


- Press the start button on the Player 1 side of the control panel.

* To return from the hardware test mode to the main menu or game screen, turn the power off and back on again. (You cannot return using the buttons.)

4. HARD DIP SETTINGS

The PCB DIP switch settings are displayed on screen.

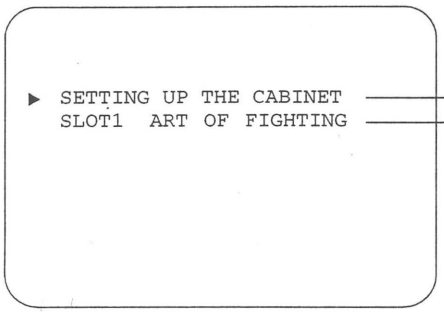


After making hard DIP switch settings with the joystick, save the settings by pressing button A.

Press button C to return to the main menu.

5. SOFT DIP SETTINGS

Adjusts various game settings.



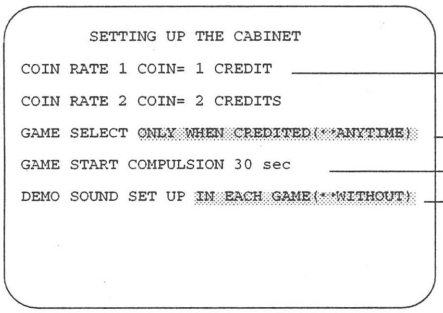
After making soft DIP switch settings with the joystick, save the settings by pressing button A.

For setting credits, etc.

For setting difficulty levels, etc.

- Move the cursor and press button A.

CABINET SETTINGS



Sets number of coins required and number of plays. (Increase with button A, decrease with button B.)

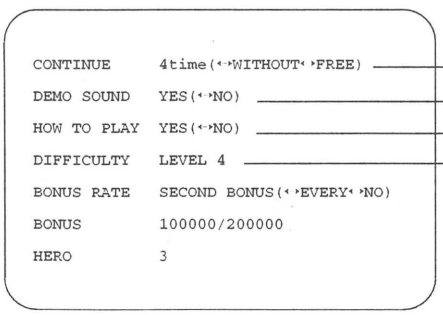
For free play, even with credits at 0, you can use the select button. (Increase with button A, decrease with button B.)

To determine the interval between insertion of coins and the beginning of the game. (Increase with button A, decrease with button B.)

To turn demo sound on or off. (Use button A.)

- Press button C once to return to soft DIP setting menu. Move the cursor to the desired item and press button A.

SOFT DIP SETTINGS



To limit the number of plays in continuous play. (Use button A to change settings.)

To turn demo sound on or off. (Use button A.)
* Settings made in cabinet setting mode have priority.

Select whether or not playing instructions appear at the beginning of a game. (Use button A.)

Level of difficulty (Increase with button A, decrease with button B.)
* The higher the number, the more difficult the game and the shorter the playing time.

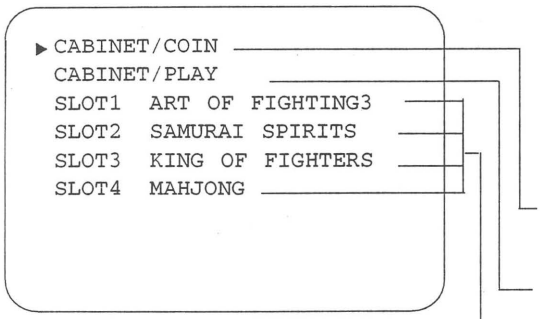
* Items will vary slightly based on game titles.

- Press button C once to return to soft DIP setting menu. Press button C again to return to the main menu.
* Be sure to press button C after making game selection.

■ Using the setting modes

6. INCOME DATA

To display the number of plays, number of coins, etc.



- Move the cursor to the desired item and press button A.

Total number of coins inserted
(1 week/1st half of year/2nd half of year)

Total number of plays, number of continue plays, average playing time (1 week/1st half of year/2nd half of year)

Income data by game

CABINET/COIN

CABINET/COIN

	COIN1	COIN2	SERVICE
FEB/17	02244	0	25
FEB/16	04422	0	36
FEB/15	06633	0	47
FEB/14	08844	0	48
FEB/13	02399	0	29
FEB/12	05699	0	94

- Move the cursor to the desired item and press button A.

The weekly figure for the number of coins inserted into the machine is broken down by day in the COIN 1 column.

* Disregard the COIN 2 column. The SERVICE column indicates the number of credits when the service switch is set.

- Press button A.

CABINET/COIN

	COIN1	COIN2	SERVICE
JAN	42244	0	25
FEB	44422	0	36
MAR	56633	0	47
APR	68844	0	48
MAY	72399	0	129
JUN	55699	9	294

The figure for the number of coins inserted into the machine in the first half of the year is broken down by month (January to June) in the COIN 1 column.

- Press button A.

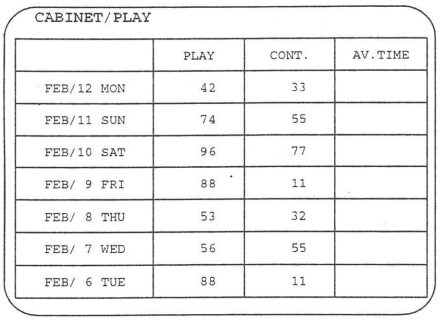
CABINET/COIN

	COIN1	COIN2	SERVICE
JUL	42244	0	25
AUG	44422	0	36
SEP	56633	0	47
OCT	68844	0	48
NOV	72399	0	129
DEC	55699	9	294

The figure for the number of coins inserted into the machine in the second half of the year is broken down by month (July to December) in the COIN 1 column.

- Press button A to display original weekly figures for number of coins. Press button C to return to the INCOME DATA menu. Press button C once more to return to the main menu.

CABINET/PLAY



CABINET/PLAY

	PLAY	CONT.	AV.TIME
FEB/12 MON	42	33	
FEB/11 SUN	74	55	
FEB/10 SAT	96	77	
FEB/ 9 FRI	88	11	
FEB/ 8 THU	53	32	
FEB/ 7 WED	56	55	
FEB/ 6 TUE	88	11	

Displays the weekly figures (broken down on a daily basis) for number of plays, number of continued plays, and average playing time.

- Press button A.

CABINET/PLAY

	PLAY	CONT.	AV.TIME
JAN	42244	33363	
FEB	44422	35543	
MAR	56633	37773	
APR	68844	39983	
MAY	72399	33232	
JUN	55699	15519	

Displays the figures for number of plays, number of continued plays, and average playing time for the first half of the year (January to June) broken down by month.

- Press button A.

CABINET/PLAY

	PLAY	CONT.	AV.TIME
JUL	42244	33363	25
AUG	44422	35543	36
SEP	56633		47
OCT	68844	0	48
NOV	72399	0	129
DEC	55699	9	294

Displays the figures for number of plays, number of continued plays, and average playing time for the second half of the year (July to December) broken down by month.

- Press button A to display the original weekly figures for number of plays. Press button C to return to the INCOME DATA menu. Press button C once more to return to the main menu.

7. CALENDAR SETTINGS

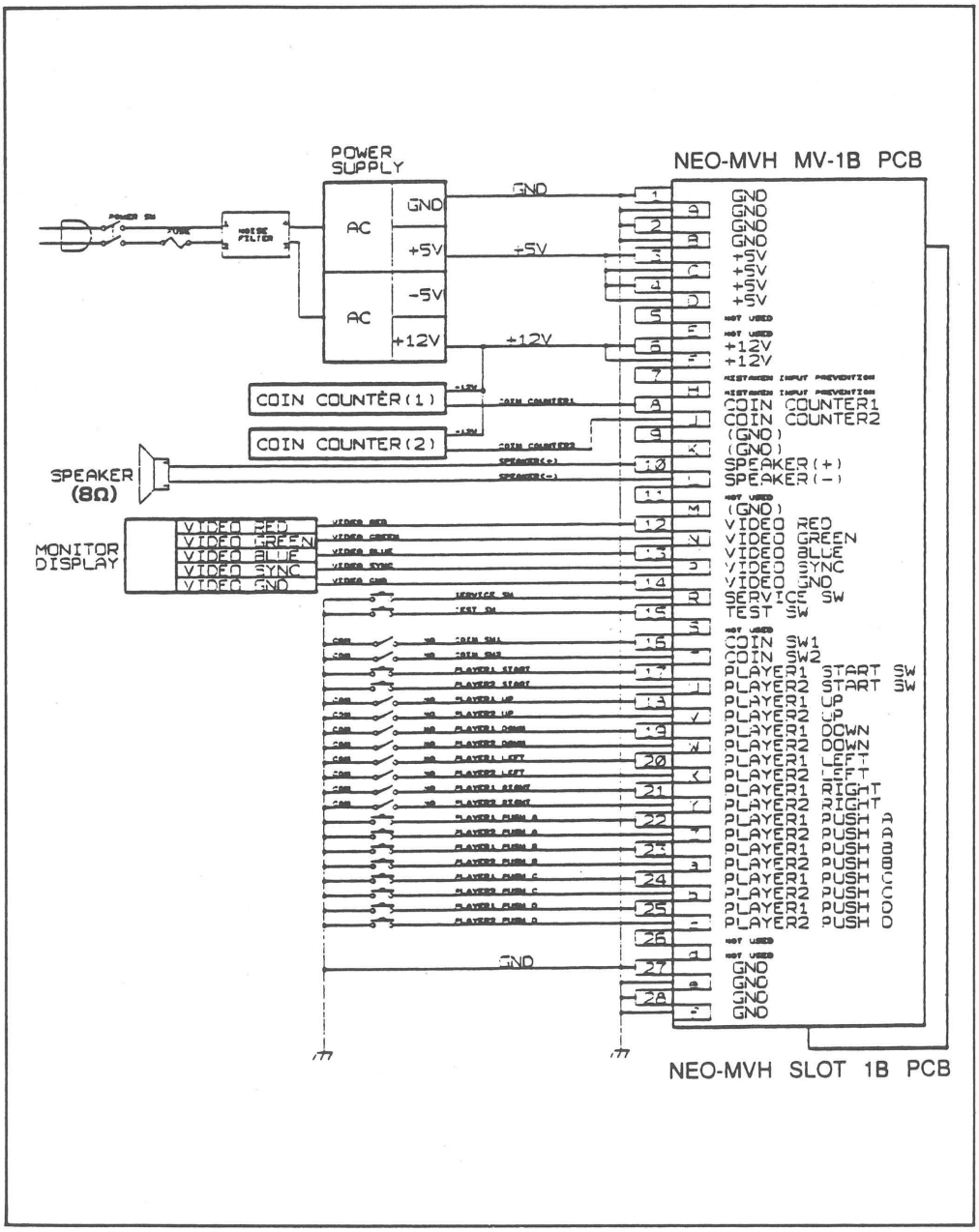
This function and manner of setting are the same as CALENDAR SETTINGS in the HARDWARE TEST. However, you can return to the main menu by pressing button C.

- Use the joystick to exit the main menu.
  Press button A to return to the game screen.

■ Main Harness

Solder points	Terminal number		Part name
GND	A	1	GND
GND	B	2	GND
+5 V	C	3	+5 V
+5 V	D	4	+5 V
	E	5	
+12 V	F	6	+12 V
(Key to prevent incorrect insertion)	H	7	(Key to prevent incorrect insertion)
(COIN COUNTER 2)	J	8	COIN COUNTER 1
	K	9	
SPEAKER (–)	L	10	SPEAKER (+)
	M	11	
VIDEO GREEN	N	12	VIDEO RED
VIDEO SYNC	P	13	VIDEO BLUE
SERVICE SW	R	14	VIDEO GND
	S	15	TEST SW
COIN SW 2	T	16	COIN SW 1
START SW 2	U	17	START SW 1
2P UP	V	18	1P UP
2P DOWN	W	19	1P DOWN
2P LEFT	X	20	1P LEFT
2P RIGHT	Y	21	1P RIGHT
2P PUSH 1	Z	22	1P PUSH 1
2P PUSH 2	a	23	1P PUSH 2
2P PUSH 3	b	24	1P PUSH 3
2P PUSH 4	c	25	1P PUSH 4
	d	26	
GND	e	27	GND
GND	f	28	GND

■ Wiring diagram



S-9607

The Future Is Now
SNK

SNK CORPORATION
SNK BLDG., 18-12 TOYOTSU-CHO, SUITA-SHI, OSAKA, 564, JAPAN TELEPHONE: (81) 6-339-5577 FAX: (81) 6-338-7175

SNK CORPORATION OF AMERICA
20603 EARL STREET, TORRANCE, CA 90503, U.S.A. TELEPHONE: (1) 310-371-7100 FAX: (1) 310-371-0969

SNK ASIA LIMITED
SUITE 807, TOWER 1. THE GATEWAY, 25 CANTON ROAD, TSIM SHA TSUI, KOWLOON, HONG KONG TELEPHONE: (852) 2-730-0420 FAX: (852) 2-375-3203

SNK EUROPE LIMITED
11 ALBEMARLE STREET, LONDON WIX 3HE, ENGLAND TELEPHONE: (44) 171-629-0472 FAX: (44) 171-629-0474

NEO GEO DO BRASIL LTDA.
AV. EUCLIDES, 56-JABAQUARA CEP; 04326-080-SÃO PAULO-SP BRAZIL TELEPHONE: (55) 11-588-2300 FAX: (55) 11-588-2790

Printed in Japan