

# NEO·GEO<sup>®</sup>

## MULTI VIDEO SYSTEM

### MVS-4-25

## OPERATION MANUAL

VERSION 2, JULY 1991



## **FCC WARNING**

This equipment has been tested and found to comply with the limits set forth for a Class A computing device pursuant to Subpart J of Part 15 of FCC Regulations, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference in which the user, at his expense, will be required to correct.

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## **REPLACEMENT PARTS AND SERVICE**

To obtain replacement parts and technical assistance, contact the Authorized Distributor from whom you purchased this product. For further technical assistance or referral, you may contact SNK Corporation of America's Customer Service department between the hours of 7:00 a.m. to 5:00 p.m. Pacific Time at (408) 736-8844.

## **STABILITY WARNING**

If the sides and rear of this appliance are not within 11 inches of an adjacent wall or another similar appliance following installation, the appliance shall be secured to a wall of the floor.

# NEO·GEO

# MVS

MULTI VIDEO SYSTEM

## OPERATION MANUAL

MODEL NUMBER: MVS-4-25

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# 1. SYSTEM OVERVIEW

## A. GENERAL SYSTEM INFORMATION

Thank you for purchasing the Neo-Geo Multi Video System. We are confident that you will be pleased by its performance. The Neo-Geo MVS system combines the latest in hi-tech electronics, the convenience of a cartridge based game system, and the earning power of four games in one cabinet! Once you have placed the cabinet on location, you can install and rotate game software without having to move the cabinet. This should make your life a little easier...

Neo-Geo retains helpful Bookkeeping statistics in memory. The system remembers Coin drops, Plays, Continues, and Average Game Times. To facilitate this feature, the system contains a Clock/Calendar with battery back-up memory.

*IMPORTANT: Chapter 2 discusses the Bookkeeping mode in detail, however you should check the CLOCK/CALENDAR setting and CLEAR THE BACKUP MEMORY during the initial set-up before you begin operating the machine. This will ensure the storage of proper Bookkeeping statistics.*

Let's take a quick tour of the Neo-Geo Multi Video System....

Marquee Plex-Cardholder assembly, removable for access to the Game Title Cards. Simply unlock the top lock and lift up the hinged Plex Retainer bracket. The numbers on the Marquee Plex correspond to the Game Cartridge slots on the Main PCB to help match the Title Card to the proper Game Cartridge.

Electro-luminescence (EL) Flat Panel Lamp PCBs are utilized for back-lighting the game Title Cards. The ELA Driver PCB is mounted on the back side of the EL Panel. Stereo speakers provide incredible sound quality.

Hinged Control Panel, for access to the Main PCB and Cartridge Slots. This also provides access to the Monitor adjustment controls and the Player Controls if service is required. This panel is retained by two (2) latches. Access the latches by reaching through the Coin Mech door and locating them up near the Start Buttons on the Control Panel.

The Memory Card slot in the Control Panel may be used by the player to retain game level information so that they can continue where they left off. This slot will also allow the transfer of all Bookkeeping data for viewing on your office computer system with the use of a special Memory Card. See Chapter 2, Section E for additional information on this feature.

Dual LED display PCBs, enhances the modern appearance of the Control Panel, displays Left and Right Player coin credits.

The Service Panel, shown in Figure 1, is mounted on top of the Cashbox Vault just inside the Coin Entry door. This panel provides a mechanical Coin Counter, the Main A.C. Fuse (5 ampere), Service switch, Test Mode switch, and the Main Power On/Off switch.

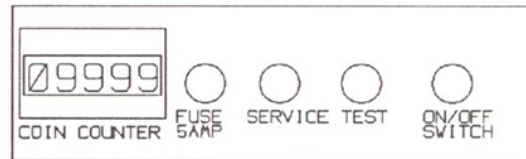


Figure 1, Service Panel

Slide-type volume controls for the Speakers and the Headphone Jacks. These are mounted along the front left corner of the Main PCB, and can be easily accessed while the Control Panel is open, or through the Coin Mech door. See Page 10 for the exact location of these controls.

The cabinet has been designed for complete front access for general maintenance. The Monitor, Coin Door, and Main PCB may be removed for service from the front of the cabinet. In the event you need access to the rear of monitor or power supply, rear access panels are provided.

## B. INSTALLING A GAME CARTRIDGE

The Neo-Geo system utilizes cartridges to store the individual game program. These cartridges contain a pair of Rom PCBs that plug into the Main PCB. With no cartridge installed, the system will only come up in the Hardware Test Mode.

**IMPORTANT: Do not ship or move the cabinet with game program cartridges installed. This can damage the system PCB and game program cartridges.**

### Cartridge Installation procedure:

1. **REMOVE POWER TO THE GAME!** Open the Coin Mech door and turn the Main Power switch to the OFF position. This is the switch mounted on the right side of the Service Panel.
2. Reach up through the Coin Mech door and unlatch the clamps retaining the Control Panel to access the Main PCB and the Game Cartridge slots.
3. Locate a unused slot in the Main PCB and carefully install the Game Cartridge into it, noting the position as shown in Figure 2. **DO NOT FORCE THE CARTRIDGE INTO THE SLOT.** If positioned correctly, it will slide in and fit snugly in place. The slots are numbered to match the Marquee Title Card slots.
4. Remove the Marquee Plexiglass to access the Title Card Holder pockets.
5. Replace the existing game Title Card in the position that corresponds to the slot

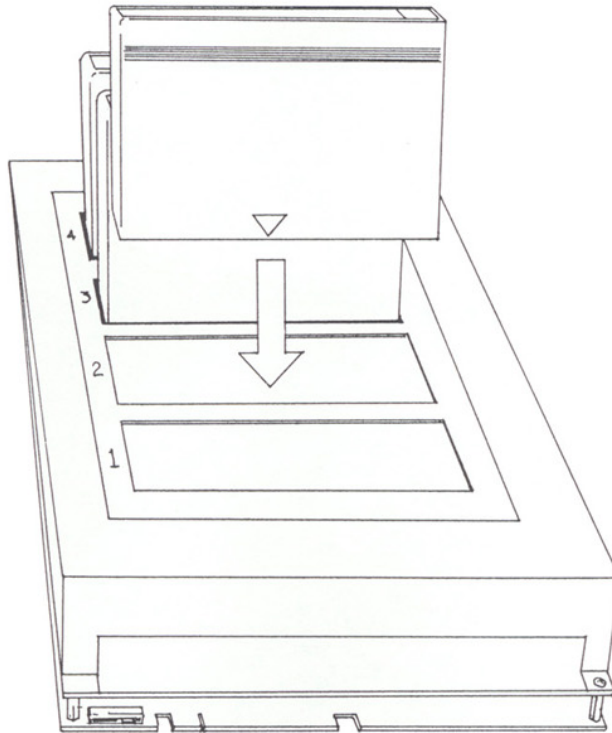


Figure 2, Cartridge Direction

the new game cartridge was installed in.

6. Re-install the Marquee Plexiglass.

Turn the game power on and check the new game for proper operation. Be certain that the Title Card and the Cartridge positions match. If all is well, close and latch the Control Panel. Be certain to cover any unused Cartridge Slot to prevent foreign objects from dropping into the connector. Use the cardboard covers provided, or tape to cover the slots.

**IMPORTANT: Check the Game Options at this time, adjust as necessary to suit the location. Refer to Chapter 2; Section C, for the specific Game option adjustment procedures.**

## 2. TEST MODE

### A. ACCESSING THE TEST MODE

The Test Mode allows the Operator to service the game, track its performance through internal bookkeeping, and set up the various cabinet and game options. To access the Test Mode, push the TEST MODE button on the Service Panel. You will see the following Main Menu screen:

```
HARDWARE TEST MODE
SETTING UP THE HARD DIP
SETTING UP THE SOFT DIP
BOOKKEEPING
SETTING UP THE CODE NUMBER
SETTING UP THE CALENDAR
EXIT
```

Move Pointer = Left Joystick Up/Down  
Select from Menu = Left Player [A] Button  
Return to previous menu = Left Player [C] Button.

Move the pointer to **HARDWARE TEST MODE** and press the [A] button. This will display the first test screen. To continue to the next test screen, press the Left Start button. To exit this mode, you must turn the game off. The test screens are listed below:

**Monitor Cross Hatch**, Displays a grid pattern useful for checking and adjusting the overall screen size and linearity.

**Monitor Color Test**, Displays a White, Red, Green, and Blue colored square on the screen for testing color function.

**I/O Function Test**, Allows for testing of all control switches, the LED displays on the Control Panel, and the EL Lamp panels behind the Title Cards.

**Sound Test**, Allows for testing each speaker individually and simultaneously.

**Memory Card Test**, Allows for testing a Neo-Geo Memory Card. *NOTE: All data on the card will be erased!*

**Back-up Clear**, Pressing the A,B, and C button simultaneously will clear the Battery Back-up memory. *WARNING: This will erase all Bookkeeping data and reset options to original Factory Settings!*

**Setting Up The Calendar**, Allows adjustments to the Time and Date setting, may also be accessed from the Main menu, see section F in this chapter.

## B. SETTING UP THE HARD DIP

On the Main Menu for the Test Mode, move the pointer to the SETTING UP THE HARD DIP selection on the menu using the Left joystick up/down and press the Left [A] button on the Control Panel. The following screen will be displayed:

```
12345678
SETTING MODE      0 . . . . . OFF [game mode or test mode]
COIN SWITCH       . 0 . . . . . OFF [number of coin chutes]
FREE PLAY         . . . . . 0 . OFF [special free play mode]
STOP MODE         . . . . . 0 OFF [freeze display mode]
```

0 = OFF      1 = ON

This screen displays the current settings of the Hardware Dip Switch on the MV-Main PCB. These should all be OFF for normal game operation. NOTE: This is only provided to *VIEW* the hardware dipswitch settings. Any required adjustments must be made physically on the MV-MAIN PCB, see Figure 2 for the location of the Dipswitch.

## C. SETTING UP THE SOFT DIP

This mode is used to adjust the Cabinet and individual game options. On the Main Menu for the Test Mode, move the pointer to the SETTING UP THE SOFT DIP selection on the menu using the Left joystick up/down and press the Left [A] button on the Control Panel. The following screen will be displayed:

```
CABINET SET UP
SLOT 1 (GAME TITLE)
SLOT 2 (GAME TITLE)
SLOT 3 (GAME TITLE)
SLOT 4 (GAME TITLE)
```

Note: The (GAME TITLE) will display the actual title of the game installed in that slot. If a cartridge is removed or replaced with another title, the selected options will remain in memory. They can only be viewed or changed if the original title is re-installed. A total of eight (8) different game's data can be stored in the system. When the ninth (9th) different title is installed in the system, only the most current of the previous data tables will be retained.

To view and/or change the overall cabinet options, move the pointer to CABINET SET UP and press the Left [A] button. The following screen will be displayed:

```
PRICING:           [1] COIN = [1] CREDIT
CONTINUE PRICE     [1] COIN = [1] CREDIT
GAME SELECT        [ANYTIME] or [ONLY WHEN CREDITED]
GAME START COMPULSION [WITHOUT] or set a [TIME LIMIT] for selecting game
DEMO SOUND         [SET UP IN EACH GAME] or [WITHOUT]
```



The items in brackets [] are the adjustable options. The cursor position is displayed in Red. Cycle through the available options by pressing the Left [A] or [B] buttons, use the Left joystick to move the cursor to the next selection. Press the Left [C] button to return to the SETTING UP menu. *NOTE: If you have changed any options, you must return to the Demo Mode by selecting EXIT from the Main Menu. This action causes your changes to be loaded into back-up memory.*

To view and/or change an individual game options, move the pointer to the desired game title and press the Left [A] button, the following screen will be displayed (Nam '75 used for example):

SLOT 1 NAM '75	
DEMO SOUND	[WITH]
HOW TO PLAY	[WITH]
DIFFICULTY	[LEVEL 4]
HERO	[3]
BONUS RATE	[SECOND BONUS]
BONUS SETTING	[100000/200000]

The items in brackets [] are the adjustable options. The option currently selected by the cursor is displayed in Red. Cycle through the available options by pressing the Left [A] or [B] buttons, and use the Left joystick to move the cursor to the next desired selection. Press the Left [C] button to return to the SETTING UP menu.

Repeat the above procedure for any slot you wish to view and/or change. When finished, press the [C] button to return to the Main Menu.

#### **D. BOOKKEEPING MODE**

On the Main Menu for the Test Mode, move the pointer to the BOOKKEEPING selection on the menu using the Left joystick up/down and press the Left [A] button on the Control Panel. The following menu will be displayed:

CABINET/COIN
CABINET/PLAY
SLOT 1 (GAME NAME)
SLOT 2 (GAME NAME)
SLOT 3 (GAME NAME)
SLOT 4 (GAME NAME)

Note: The (GAME NAME) will display the actual title of the game installed in that slot. If a cartridge is removed or replaced with another title, the Bookkeeping statistics will remain in memory. They can only be viewed if the original title is re-installed. A total of eight (8) different game's data can be stored in the system. When the ninth (9th) different title is installed in the system, only the most current of the previous data tables will be preserved.

## CABINET/COIN REPORT

DATE	PLAY 1	PLAY 2	SERVICE
3/22	0	0	0
3/21	85	26	0
3/20	90	56	0
3/19	97	67	0
3/18	125	87	0
3/17	134	100	0
3/16	92	560	0

This report displays the total Coins detected by the Coin 1 switch, Coin 2 switch, and Service switch for the past seven (7) days. Note that Sunday's date is displayed with Red characters. Press the Left [A] button to view monthly totals. Press the Left [C] button to return to the Bookkeeping Menu. *NOTE: Leaving the game for periods greater than 24 hours will cause the system to combine all data into the previous day.*

## CABINET/PLAY REPORT

DATE	PLAY	CONT	AV TIME
3/22	0	0	0:00
3/21	111	55	2:15
3/20	146	46	2:23
3/19	164	69	3:02
3/18	218	97	2:45
3/17	234	100	2:32
3/16	148	56	2:20

This report displays the summed total of Plays, how many were continuation plays, and the Average Game Times for the entire cabinet for the past seven (7) days. Note that Sunday's date is displayed with Red characters. Press the Left [A] button to view monthly totals. Press the Left [C] button to return to the Bookkeeping Menu. *NOTE: Leaving the game for periods greater than 24 hours will cause the system to combine all data into the previous day.*

## SLOT 1 PLAY REPORT

NAM '75

DATE	PLAY	CONT	AV TIME
3/22	0	0	0:00
3/21	51	55	2:25
3/20	46	46	2:33
3/19	64	69	3:12
3/18	28	97	2:25
3/17	34	10	2:32
3/16	48	56	2:30

The Slot Play report displays the summed total of Plays, how many were Continuation Plays, and the Average Game Times for Slot 1 (Nam '75 used as example) for

the past seven (7) days. Note that Sunday's date is displayed in Red. Press the Left [A] button to view monthly totals. Press the Left [C] button to return to the Bookkeeping Menu. *NOTE: Leaving the game for periods greater than 24 hours will cause the system to combine all data into the previous day.*

## **E. SETTING UP THE CODE NUMBER**

On the Main Menu for the Test Mode, move the pointer to the SETTING UP THE CODE NUMBER selection on the menu using the Left joystick up/down and press the Left [A] button on the Control Panel. The following screen will be displayed:

```
CODE NUMBER SETTING
      0000
D BUTTON = SET
```

```
CODE NUMBER WILL BE SET INTO
MEMORY CARD WHEN INSERTED
DURING THIS MODE
```

This is intended to be used for a Bookkeeping feature that allows you to load the statistical data from this cabinet onto a special Memory Card for access in your office. You will be able to view and print the Bookkeeping data from all of your Neo-Geo Systems by using this feature. The required hardware for utilizing this feature is still being developed at this time. When the supporting hardware is completed, we will advertise it's availability.

## **F. SETTING UP THE CALENDAR**

On the Main Menu for the Test Mode, move the pointer to the SETTING UP THE CALENDAR selection on the menu using the Left joystick up/down and press the Left [A] button on the Control Panel. The following screen will be displayed:

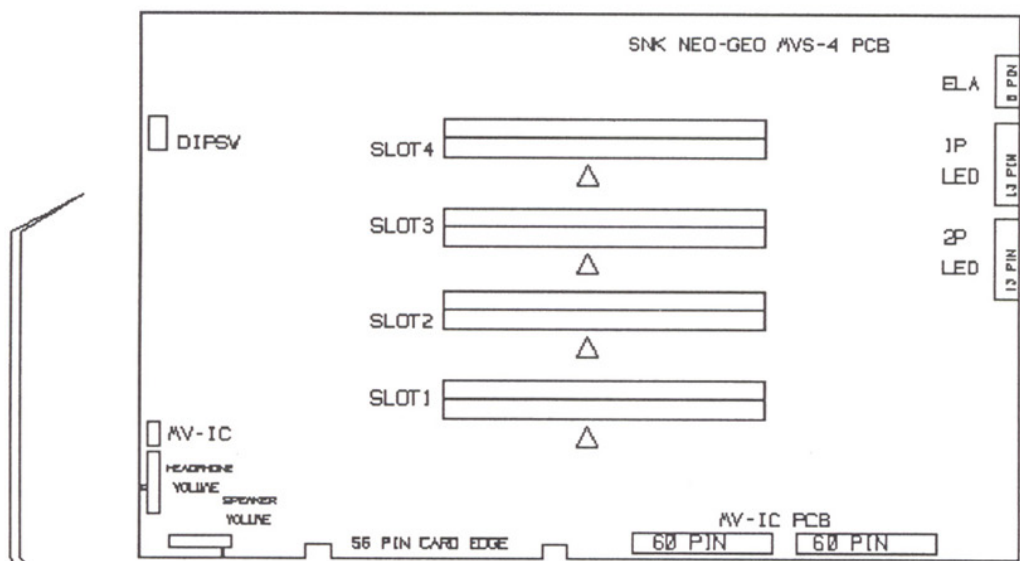
```
CURRENT TIME
11 MONTH/21 DAY/90 YEAR
14 HOUR/10 MINUTE/32 SECONDS
```

```
THE TIME TO BE SET UP
A BUTTON, JOYSTICK = SELECT           D BUTTON = SET
?? MONTH/?? DAY/?? YEAR
?? HOUR/?? MINUTE/?? SECONDS
```

The items in ?? are where the new settings may be entered. The cursor is displayed in Red. Increase the value displayed by pressing the Left [A] button, decrease the value displayed by pressing the Left [B] button, and use the Left joystick to move the cursor to the next desired selection. Press the Left [D] button to lock in the new settings.

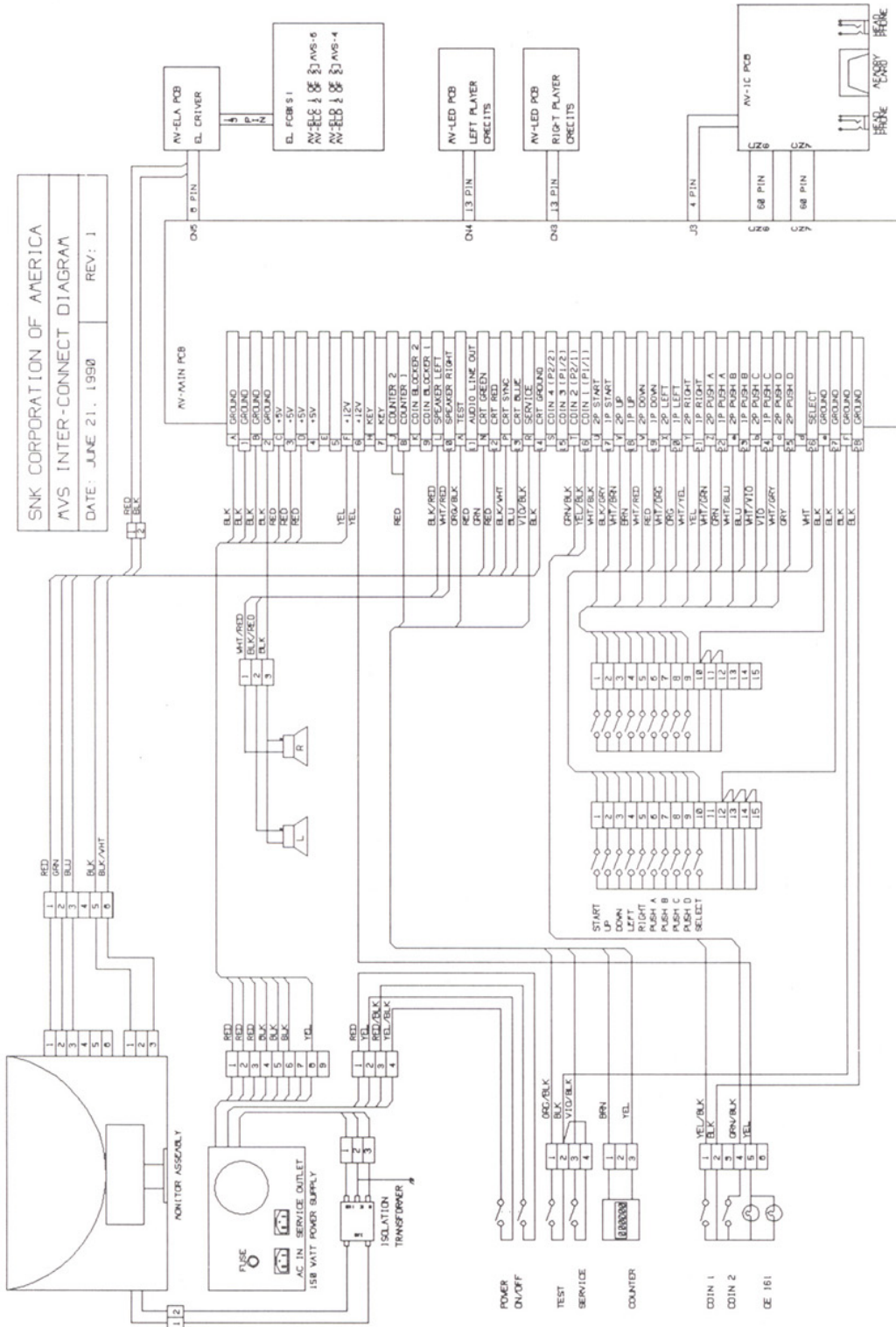
### 3. TECHNICAL INFORMATION

#### A. MAIN PCB DIAGRAM



FUNTION	1	2	3	4	5	6	7	8
NORMAL PLAY MODE:	OFF							
TEST MODE:	ON							
NUMBER OF COIN NOTES 2:		OFF						
NUMBER OF COIN NOTES 4:		ON						
LINK MODE CABINET NUMBER 1:				OFF	OFF			
LINK MODE CABINET NUMBER 3:				ON	ON			
LINK MODE CABINET NUMBER 4:				ON	ON			
LINK MODE ENABLE NO:						OFF		
LINK MODE ENABLE YES:						ON		
NORMAL PLAY MODE: FREE PLAY MODE:							OFF	
NORMAL PLAY MODE: FREEZE SCREEN:								OFF

## B. SYSTEM WIRING DIAGRAM



## INTERCONNECT HARNESS PIN-OUT DIAGRAMS

MV-ELA TO MV-ELB HARNESS

PIN	FUNCTION	WIRE COLOR
1	EL1 PVR	BROWN
2	EL2 PVR	RED/BLACK
3	EL3 PVR	ORANGE
4	EL4 PVR	YELLOW
5	EL5 PVR	GREEN
6	EL6 PVR	BLUE
7	NOT USED	VIOLET
8	NOT USED	GREY
9	NOT USED	WHITE
10	GROUND	BLACK
11	GROUND	BLACK
12	GROUND	BLACK
13	GROUND	BLACK

MV-MAIN TO MV-ELA HARNESS

PIN	FUNCTION	WIRE COLOR
1	+ 5 VDC	RED
2	EL CLOCK	BROWN
3	ELA D0	RED/BLACK
4	ELA D1	ORANGE
5	ELA D2	YELLOW
6	ELA D3	GREEN
7	ELA D4	BLUE
8	GROUND	BLACK

MV-ELB 1/2 TO MV-ELB 2/2 HARNESS

PIN	FUNCTION	WIRE COLOR
1	NOT USED	BROWN
2	NOT USED	RED/BLACK
3	NOT USED	ORANGE
4	EL4 PVR	YELLOW
5	EL5 PVR	GREEN
6	EL6 PVR	BLUE
7	NOT USED	VIOLET
8	NOT USED	GREY
9	NOT USED	WHITE
10	GROUND	BLACK
11	GROUND	BLACK
12	GROUND	BLACK
13	GROUND	BLACK

MV-MAIN TO MV-LED HARNESS

PIN	FUNCTION	WIRE COLOR
1	+5VDC	RED
2	+5VDC	RED
3	CLOCK	BROWN
4	LED D1	RED/BLACK
5	LED D2	ORANGE
6	LED D3	YELLOW
7	LED D4	GREEN
8	LED D5	BLUE
9	LED D6	VIOLET
10	LED D7	GREY
11	LED D8	WHITE
12	GROUND	BLACK
13	GROUND	BLACK

## B. REPLACEMENT PARTS LIST

In the event that replacement parts are required for the Neo-Geo system, they may be obtained through your local authorized SNK distributor. When ordering parts, be certain that you indicate the model number of the game, and the complete description as listed in this section. This will help ensure that the proper part is supplied.

### Final Assembly, MVS-4-25

A	Cabinet assembly, empty, MVS4(s)
B	Marquee Plex, Neo-Geo, MVS-4(s)
C	Speaker, 4" Dia., 8 Ohm 5 Watt
D	PCB, MV-ELA
E	PCB, MV-ELD 1 of 2 & 2 of 2
F	Monitor Glass, 23 5/8 x 21 7/8 x 3/16
G	Monitor, Wells-Gardner 19K7101 25"
H	PCB, MV-MAIN-4 assembly
I	Coin Door assembly, mini over/under
J	Corner Protect bracket
K	Upper Logo bracket w/lock
L	Lower Logo bracket

### Control Panel Assembly, MVS-4-25

A	Control Panel, Bare, MVS-4
B	Lexan, Overlay, MVS-4
C	Joystick, microswitch, 8-way
D	Pushbutton, microswitch, Red
E	Pushbutton, microswitch, Yel
F	Pushbutton, microswitch, Grn
G	Pushbutton, microswitch, Blu
H	Pushbutton, microswitch, Wht
I	PCB, MV-LED
J	PCB, MV-IC

### Power Supply Assembly

A	Switching Regulator, 150 Watt
B	Isolation Transformer, 1A
C	Line Cord, 10 ft, modular

### Service Panel Assembly

A	Switch, DPDT Toggle
B	Pushbutton, SPST M.O.M.
C	Decal, Service
D	Coin Counter, 12 vdc
E	Fuse Holder, panel mount

### Harness Assemblies

A	Harness, Main
B	Harness, Speaker Pigtail
C	Harness, Monitor RGB
D	Harness, Service Panel Pigtail
E	Harness, AC Switch Pigtail
F	Harness, 8P, MV-ELA
G	Harness, 13P, MV-ELB
H	Harness, 13P, MV-ELC
I	Harness, 13P, MV-LED
J	Harness, 1P Control Pigtail
K	Harness, 2P Control Pigtail

## NEO-GEO WARRANTY POLICY

SNK Corporation of America (Seller) warrants to the original purchaser (Buyer) that the components listed below are free from defects in manufacturing and materials for the period of time specified in the list below. The Warranty period is effective from the date of original shipment from Seller's factory.

ITEM	PERIOD
MV-MAIN CPU PCB	12 MONTHS
MV-LED PCB	12 MONTHS
MV-IC CARD PCB	12 MONTHS
MV-EL A PCB	12 MONTHS
MV-EL D (R) PCB	12 MONTHS
MV-EL D (L) PCB	12 MONTHS
MONITOR ASSEMBLY	12 MONTHS
DC POWER SUPPLY	12 MONTHS

No other parts of Seller's product are covered by this warranty.

The Seller's sole responsibility shall be, at its option, to repair or replace any item covered by this warranty that is found to be defective during the warranty period. The Buyer's responsibility shall be to notify the Seller of the defective material, and return it, freight pre-paid, to the location specified by the Seller.

The Seller shall not be responsible for the cost of unauthorized repairs, loss of income, or any charges or losses incurred as a result of the use of this product.

### DISCLAIMER

This Warranty is not applicable for normal wear and tear and shall be void if inspection of the returned product indicates the defect was caused by misuse, or if unauthorized repairs were attempted, or if the item was damaged due to improper handling, shipping, or customer negligence.



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