MVS®
MULTI VIDEO SYSTEM

SERVICE
MANUAL

25 MV25UP-0

25 MV25TA-0

SNK
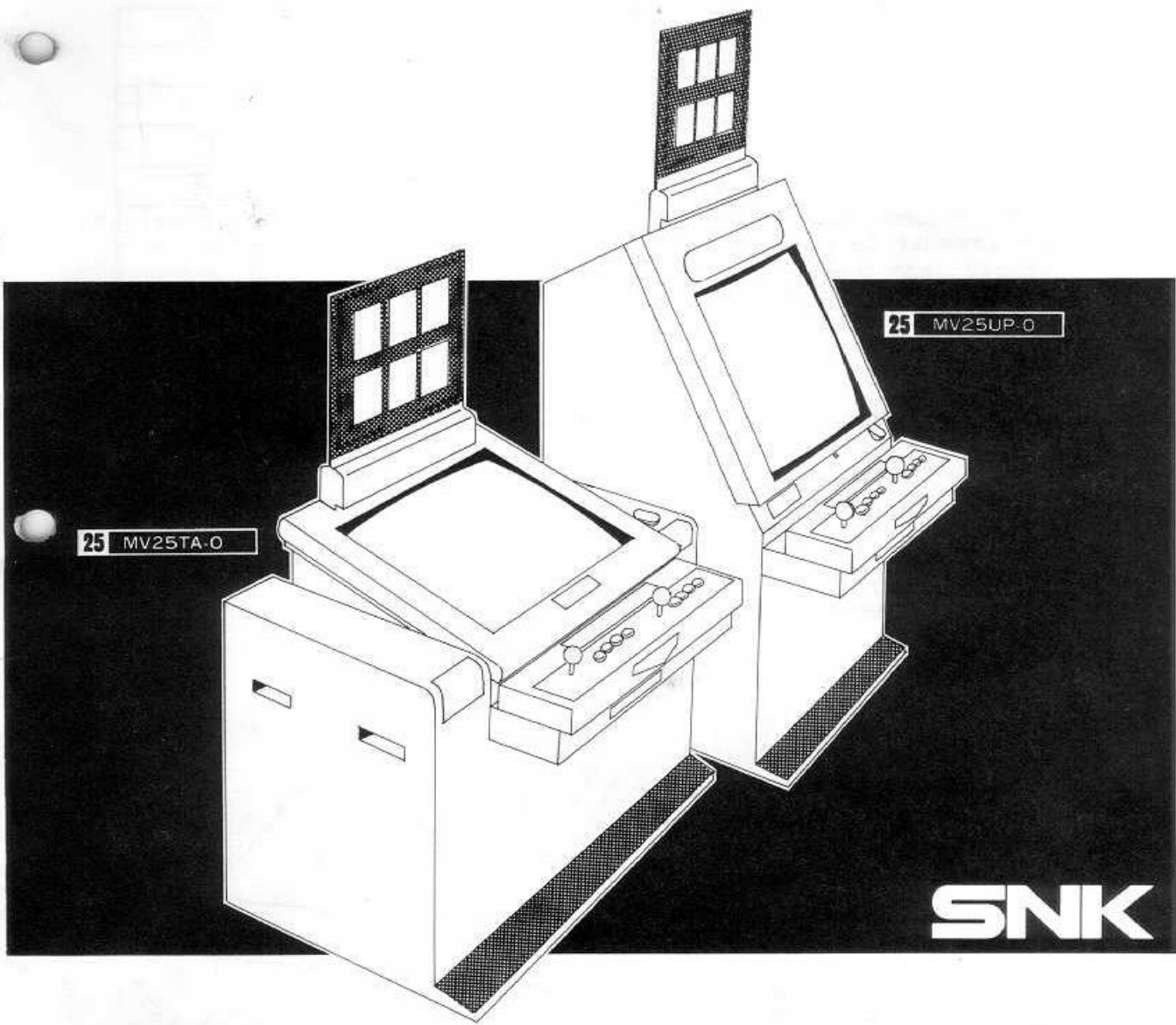
○ WARNING

1) Make sure the game cartridge is installed with the markings matching the main board.

GAME CARTRIDGE MARK

MAIN PCB MARK
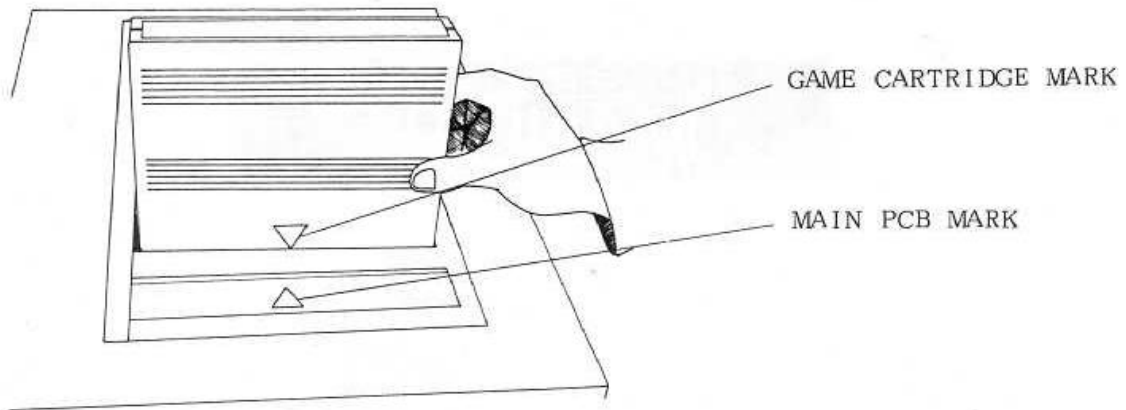
2) Make sure the slot number you install the cartridge in matches the game title card number on the EL panel.

3) Make sure the power is off when you insert or remove the cartridge. Make sure the cartridge is firmly inserted in the slot or it will not work properly.

4) Protect the unused slots with a cover or tape.

PROTECT THE UNUSED SLOTS WITH A COVER OR TAPE
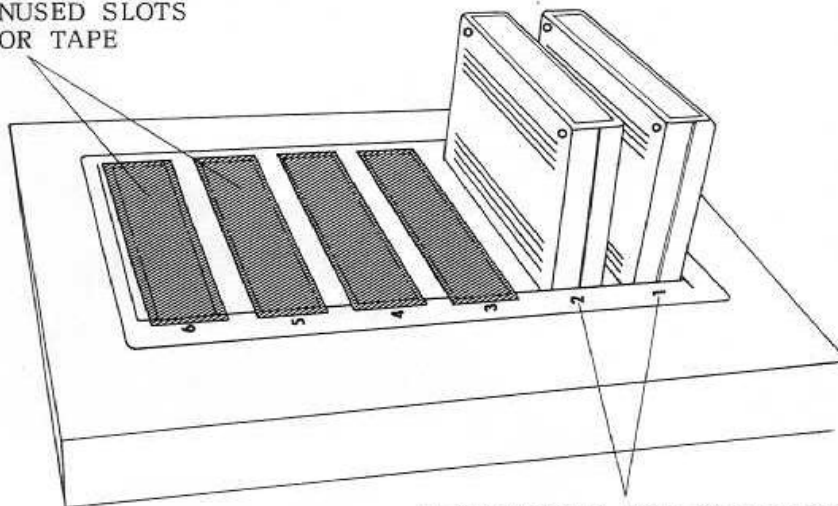
SLOT NUMBER FOR CARTRIDGE SHOULD MATCH THE NUMBER OF THE GAME TITLE CARD

5) Do not put any electric conductive materials on or in the slots.

6) Do not insert any other cartridge than the MVS cartridge with the 240 pin connector.
The NEO GEO Rental System cartridge will not fit on this connector!

7) MVS preserves the income data of max 8 games even the power is off or the game cartridges are removed from PCB.

For example: 6 cartridges are being used, A,B,C,D,E,& F on the MVS. If new game titles G & H are used to replace A & B, the data for A & B will remain.

MEMORY FRAMES

A
B
C
D
E
F

Ⓐ   MVS

⇒

Ⓐ
Ⓑ
C
D
E
F
G
H

Ⓑ
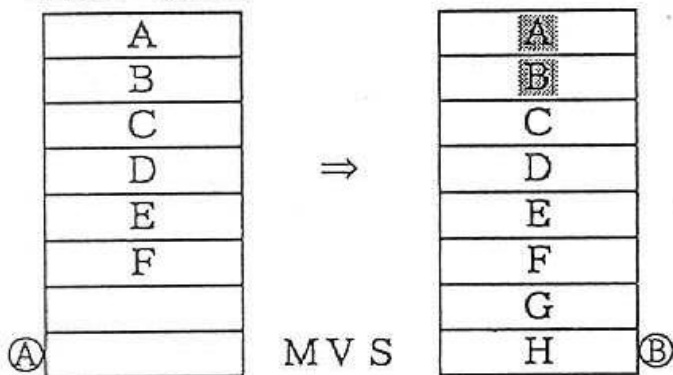
☞ The income data for A & B will remain even if they are pulled out of the cabinet. Even if you move C & D to slot where A & B was, the income data for A & B will still remain.
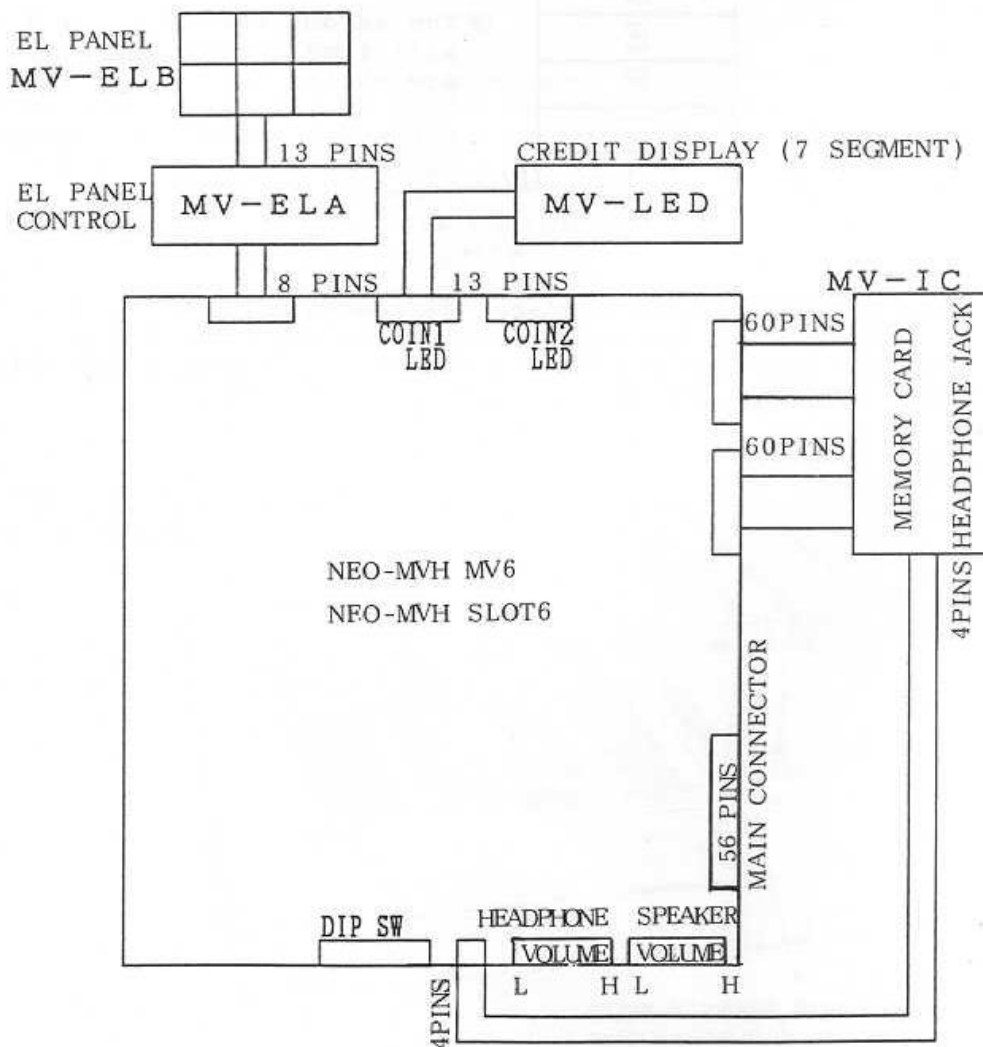
As drawing Ⓑ shows above, when you install new game titles I & J, in the slots that were being used by C & D, the data for A & B will be erased and data for C & D will remain. The reason for this is that the MVS can only retain data for up to 8 titles.

2

○ P.C.B. COMPONENT

① MVS consists of 6 different P.C.Bs.

NEO-MVH MV6 ···· Main programming, characters

NEO-MVH SLOT6 ·· Switching game cartridge

MV-LED ·········· Credit indicator

MV-IC ··········· Reads the data from the memory card
Two headphone jacks are installed here

MV-ELA ·········· Control lighting EL board

MV-ELB ·········· EL board is installed

② MV 6 and SLOT 6 fit together without harnesses.
Connection to other boards is as follows:

EL PANEL
M V − E L B

13 PINS   CREDIT DISPLAY (7 SEGMENT)

EL PANEL
CONTROL   M V − E L A   M V − L E D

8 PINS   13 PINS   MV − I C

                 COIN1   COIN2   60PINS   MEMORY CARD HEADPHONE JACK
                 LED   LED

                                              60PINS

NEO-MVH MV6
NEO-MVH SLOT6

                                          4PINS HEADPHONE JACK

56 PINS MAIN CONNECTOR

DIP SW   HEADPHONE SPEAKER
          VOLUME   VOLUME

4PINS   L   H L   H

CARTRIDGE

PCB COVER

MAIN PCB

EL 8P

CREDIT 1 13P

CREDIT 2 13P

MEMORY CARD 60P

MEMORY CARD 60P

56pin

DIP SW 1

LINE IN

LINE IN

HEADPHONE 4P

HEADPHONE VR

SPEAKER VR

4

O MODE SETTING

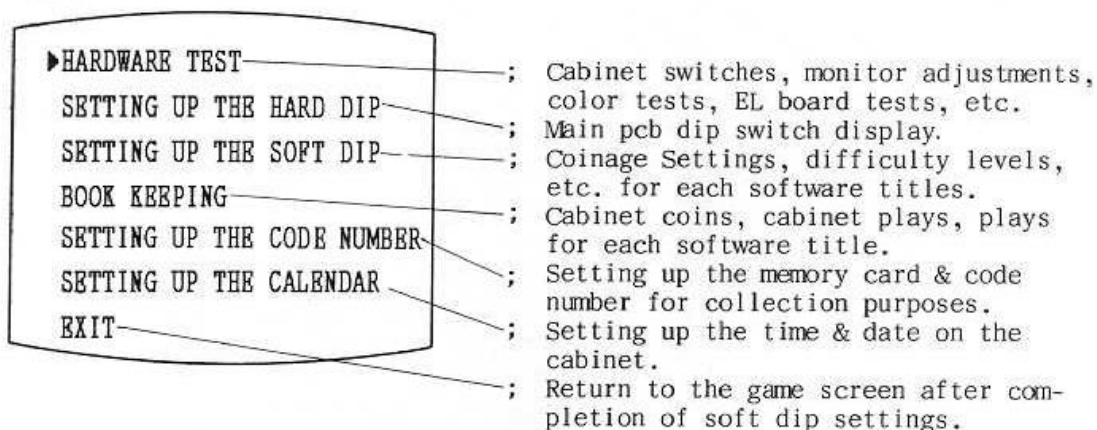The MVS (Multi Video System) enables the dip settings to appear
on the monitor instead of the dipswitch settings on conventional pcbs.
It allows you to obtain collection information, game times, etc.
The following are the directions on how to operate and choose settings:

How to operate: After turning the power on, press the test switch
inside the cabinet.

☞ Move the cursor to your selection
with the joystick and press "A"button.

MAIN MENU

▶HARDWARE TEST ————————————— ; Cabinet switches, monitor adjustments,
color tests, EL board tests, etc.
SETTING UP THE HARD DIP ———— ; Main pcb dip switch display.
SETTING UP THE SOFT DIP ———— ; Coinage Settings, difficulty levels,
etc. for each software titles.
BOOK KEEPING ————————————— ; Cabinet coins, cabinet plays, plays
for each software title.
SETTING UP THE CODE NUMBER — ; Setting up the memory card & code
number for collection purposes.
SETTING UP THE CALENDAR —— ; Setting up the time & date on the
cabinet.
EXIT ————————————— ; Return to the game screen after com-
pletion of soft dip settings.

HARDWARE TEST

; Cross Hatch

↓

☞ Press the 1 player start button

RED GREEN BLUE WHITE

☞ Use this screen to adjust the color
on the monitor

↓

☞ Press the 1 player start button

```
 I/O CHECK
      P1 P2  12345678
UP     0  0  00000000
DOWN   0  0
LEFT   0  0
RIGHT  0  0  COIN1    0
PUSH1  0  0  COIN2    0
PUSH2  0  0  SERVICE  0
PUSH3  0  0
PUSH4  0  0  EL LED1 LED2
START  0  0   0  00   00
SELECT 0  0
```
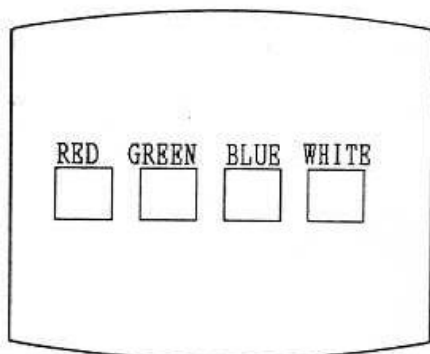
☞ With the dipswitch "on" the number 1 appears on the screen. With the dipswitch "off" the number 0 appears on the screen.

☞ Check if the number for EL on the screen is the same as the EL panel illuminated on the board.

☞ Check if the number of LED 1 is the same as displayed on the LED on the control panel.

↓

☞ Press the 1 player start button

```
SOUND TEST

        SOUND OFF

        RIGHT

        LEFT

        CENTER
```

☞ The area in red on the monitor moves from "sound off" to "center" by moving the joystick up and down.

    RIGHT   Sound comes out the right side speaker

    LEFT   Sound comes out the left side speaker

    CENTER Sound comes out both speakers

↓

☞ Press the 1 player start button

```
MEMORY CARD TEST

INSERT MEMORY CARD
```

☞ You can check if the memory card works properly by inserting it during this screen.
NOTE: Data that was already saved on the memory card will be erased.

↓

☞ Press the 1 player start button

```
BACKUP CLEAR


  OK=PUSH A, B, C BUTTON
```

☞ When you press the A, B, & C buttons simultaneously, you will clear the data.

↓

☞ Press 1P button to start

```
SETTING UP THE CALENDAR
      CURRENT TIME
     17/ 2/90  SAT
       19:30:41
    THE TIME TO BE SET UP
A BUTTON, JOYSTICK=SELECT
      17/ 2/90 19:30:41
```

☞ Red number is changeable. Increase number with "A" button, decrease number with "B" button. Press "D" button when finished with setting.

☞ Press 1P button to start

```
RETURN TO THE CROSS HATCH.
```

HARD DIP SETTING

```
           SETTING UP THE HARD DIP
                12345678
SETTING MODE    1.......    ON
FREE PLAY       .0         OFF
COIN SWITCH     ..0.....    2
STOP MODE       .......0   OFF
                0=OFF 1=ON
```

☞ Shows present state of dipswitch.

SETTING UP THE SOFT DIP

```
▶SETTING UP THE CABINET
 SLOT1 NAM-1975
 SLOT2 BASEBALL STARS
 SLOT3 MAHJONG
 SLOT4 TOP PLAYERS GOLF
 SLOT5 MAGICIAN LORD
```

☞ Cabinet setting

; Each software setting

↓

CABINET/COIN

	P1	P2	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

Cabinet coins
of the year.

↓

CABINET/COIN

	P1	P2	SERVICE
JUL	42244	0	25
AUG	44422	0	36
SEP	56633	0	47
OCT	68844	0	48
NOV	72399	0	129
DEC	55699	0	294

Cabinet coins
of the year.

↓

CABINET/PLAY

CABINET/PLAY

	PLAY	CONT.	AV. TIME
FEB/17	22	33	5:20

↓

CABINET/COIN

	P1	P2	SERVICE
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Cabinet coins for the first 6 months of the year.

↓

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NOV	72399	0	129
DEC	55699	0	294

Cabinet coins for the second 6 months of the year.

☞ After pressing "C" button, move the cursor to "Cabinet Play" and press "A" button.

↓

CABINET/PLAY

CABINET/PLAY

	PLAY	CONT.	AV. TIME
FEB/17	22	33	5:20
FEB/16	44	55	6:20
FEB/15	66	77	7:20
FEB/14	88	99	8:20
FEB/13	23	32	9:20
FEB/12	56	55	4:20
FEB/11	11	88	5:20

↓

CABINET/PLAY

	PLAY	CONT.	AV. TIME
JAN	42244	33363	25:20
FEB	44422	35543	36:20
MAR	56633	37773	47:20
APR	68844	39983	48:20
MAY	72399	33232	129:20
JUN	55699	15519	294:20

↓

☞ Press "A" button

```
┌─────────────────────────────────┐
│       CABINET/PLAY               │
│  ┌─────┬───────┬───────┬────────┐│
│  │     │ PLAY  │ CONT. │ AV.TIME││
│  ├─────┼───────┼───────┼────────┤│
│  │ JUL │ 42244 │ 33363 │ 25:20  ││
│  │ AUG │ 44422 │ 35543 │ 36:20  ││
│  │ SEP │ 56633 │ 37773 │ 47:20  ││
│  │ OCT │ 68844 │ 39983 │ 48:20  ││
│  │ NOV │ 72399 │ 33232 │ 129:20 ││
│  │ DEC │ 55699 │ 15519 │ 294:20 ││
│  └─────┴───────┴───────┴────────┘│
└─────────────────────────────────┘
```

☞ Retrieve bookkeeping information for each
software title the same way as "Cabinet
Coin" & "Cabinet Play".

↓

SETTING UP THE CODE NUMBER

☞ After pressing the "C" button twice,
return to the main menu.
Press "A" button after selection CODE
NUMBER SETTING with the joystick.

```
┌─────────────────────────────────┐
│     CODE NUMBER SETTING          │
│     2408                         │
│     D BUTTON:SET                 │
│  CODE NUMBER WILL BE SET INTO    │
│  MEMORY CARD WHEN INSERTED       │
│  DURING THIS MODE.               │
└─────────────────────────────────┘
```

☞ Increase numbers with the "A" button.
Decrease numbers with the "B" button.
Use the joystick to move left to change
selected numbers.
Set Code Number Setting with the "D"
button.

By using optional cartridge and separate NEO·GEO Rental System
hardware, the total data of book keeping can be collected.
(See the page.11 for further information)

○ MULTI VIDEO INCOME TOTALIZATION SYSTEM
(Book Keeping System)

1) The Muti Video System (MVS) is equipped with back-up ram and calendar IC which allows the daily income data to be saved even when the power is off.

2) After pressing the test button and selecting "Book Keeping" from the menu, you can view the "Income Data" on the screen.

3) One exclusive Memory Card is capable of saving the income data of several cabinets.

4) The collected data from the memory card used in conjection with the exclusive NEO GEO Rental cartridge enables you to check the entire income totals.

The income per cabinet or per game is shown on the screen. It is possible to create graphs showing the income curve and print the data on your printer.

5) The exclusive cartridge is equipped with a modem which can transfer data through the telephone line.

6) It is easy to collect the income data by saving it on the book-keeping memory card. The code number system keeps important data confidential.
(Exclusive cartridge will be sold in the near future)

MEMORY CARD

○ HOW TO CHANGE THE GAME TITLE CARD
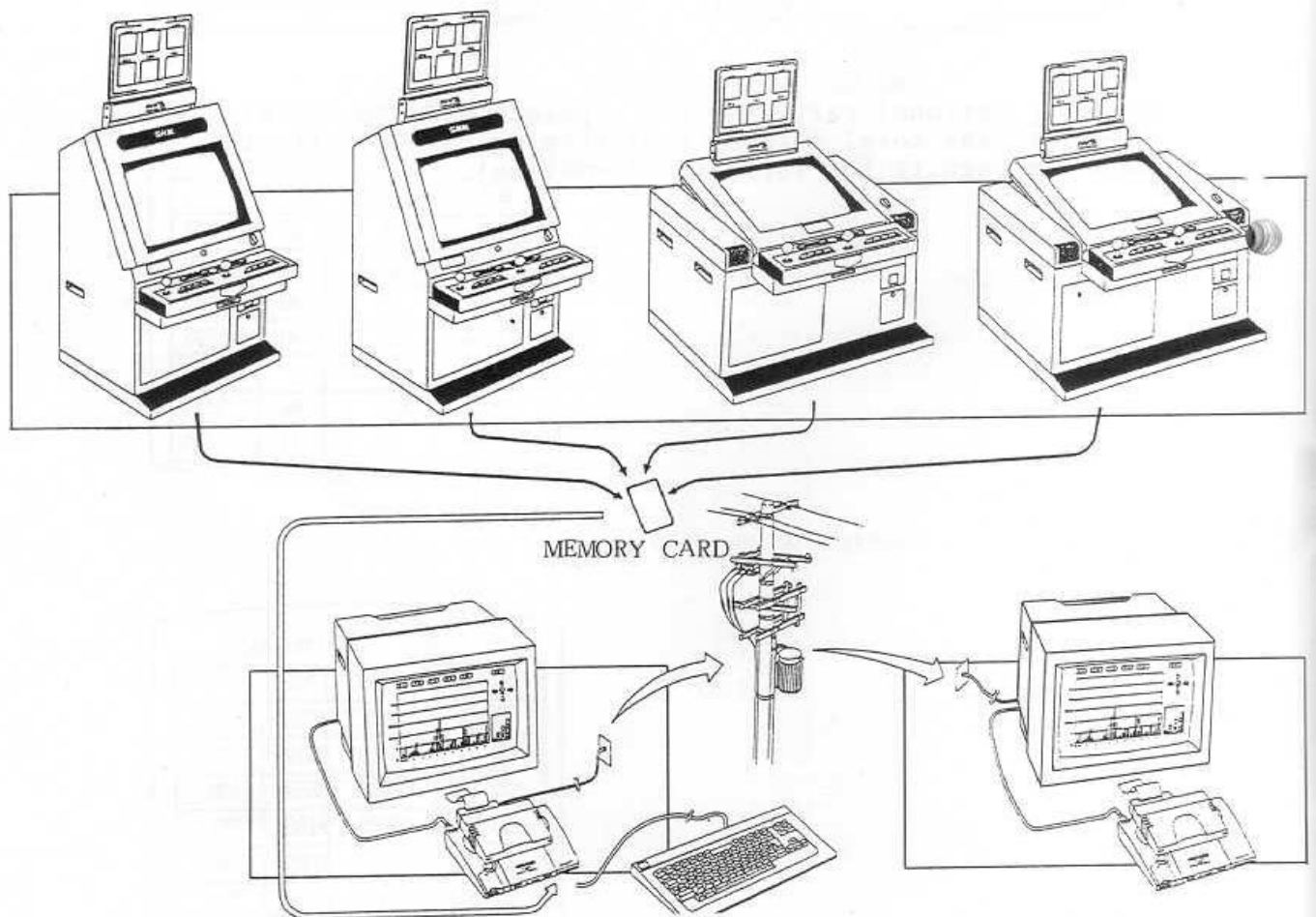
M5 HEX
SCREW

EL BOARD
UNIT

GAME TITLE
CARD NO.
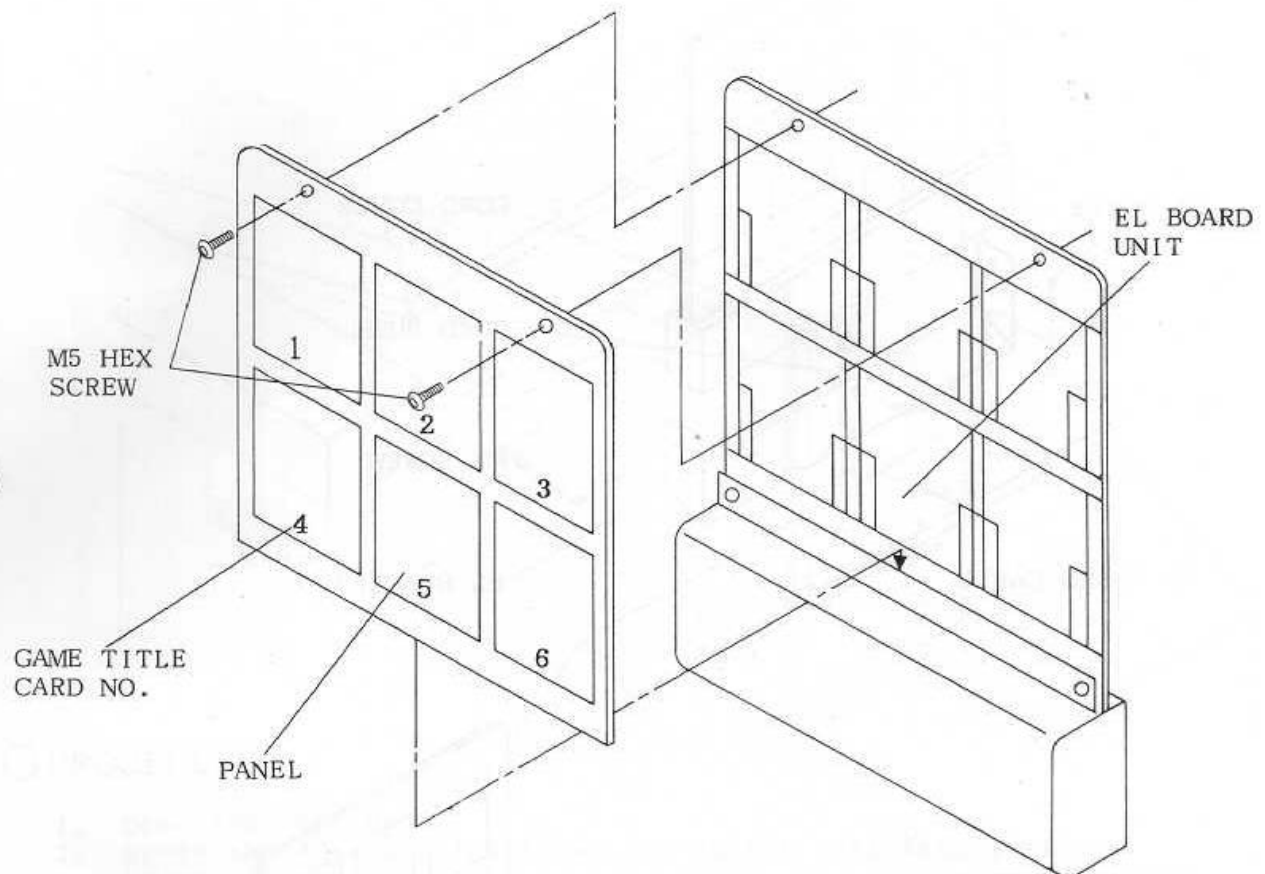
PANEL

Loose two screws on top (M5 HEX SCREW).
Remove the panel from EL board unit (use attached wrench) to change
the game title card.

Make sure to match the number of EL panel and slot number
for each game.

◯ HOW TO INSTALL EL BOARD

UPRIGHT TYPE

M4 SCREW

CORD COVER

CORD BUSH

M5 SCREW

EL BRACKET

EL BOARD CABLE

TABLE TYPE

M4 SCREW

EL BRACKET

CORD COVER
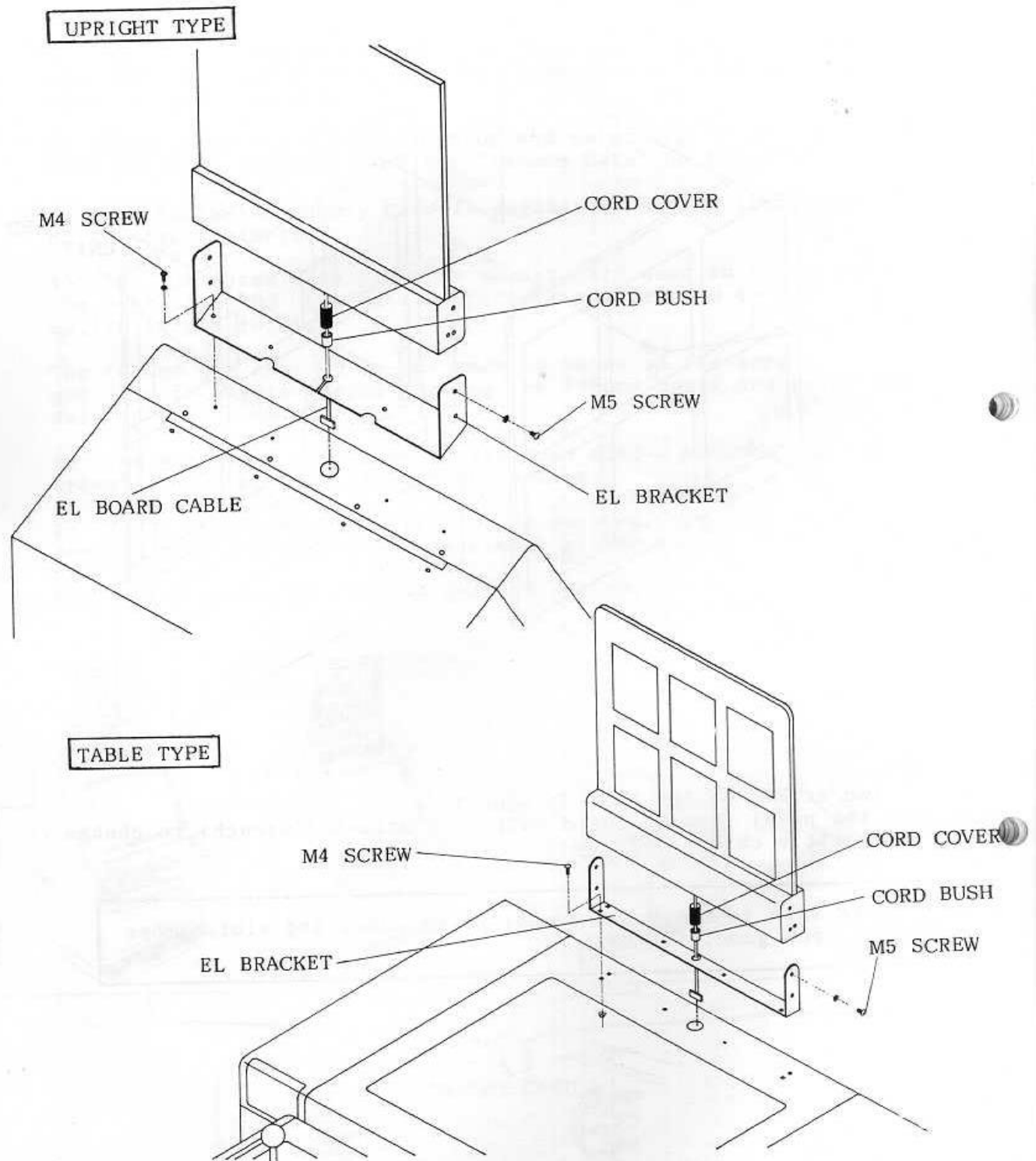
CORD BUSH

M5 SCREW

◯ PROCEDURE

1. Put the EL board cable into the cabinet.
2. Fix the EL bracket to the cabinet with screws.
   (M4 screw X 4 for upright type / M4 screw X 6 for table type)
3. Put cord cover and cord bush through EL board cable.
4. Fix the EL board to the EL bracket. (M5 screw X 4)
5. Connect EL board cable to EL 8P of MAIN PCB.
   (See PCB drawing on page 3)

○ HOW TO RAISE THE SCREEN OF TABLE TYPE CABINET

M6 HEX. SCREW
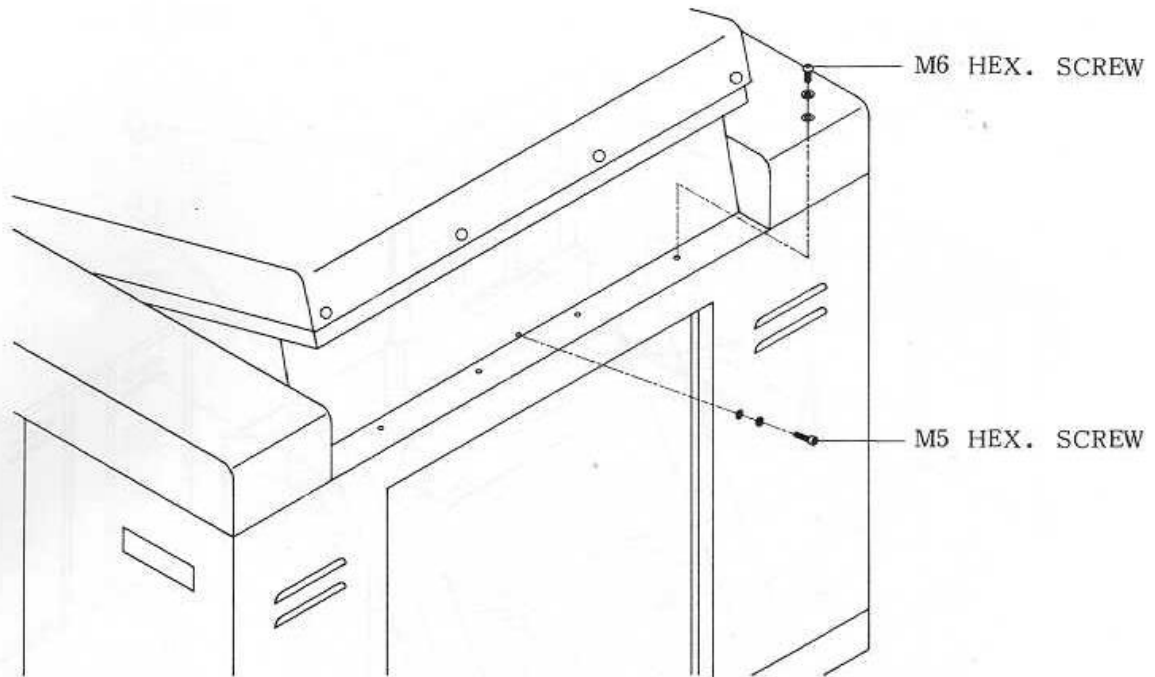
M5 HEX. SCREW

○ PROCEDURE

1. Open the rear door.
2. Loose the screen which fixes the screen part from inside.
3. Raise the part.
4. Screw the center of the part. (M5 HEX. SCREW)
5. Screw 4 places of the part to fix. (M6 HEX. SCREW)
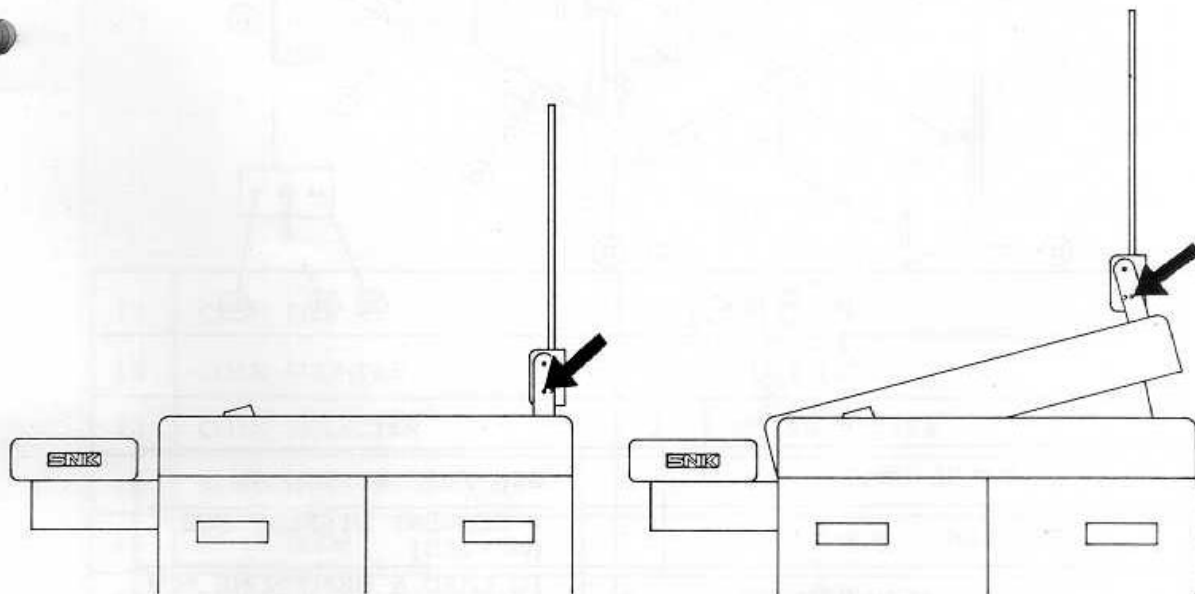
Adjust the angle of EL panel by loosing the screw of EL bracket.

○ COMPONENT LIST

UPRIGHT TYPE
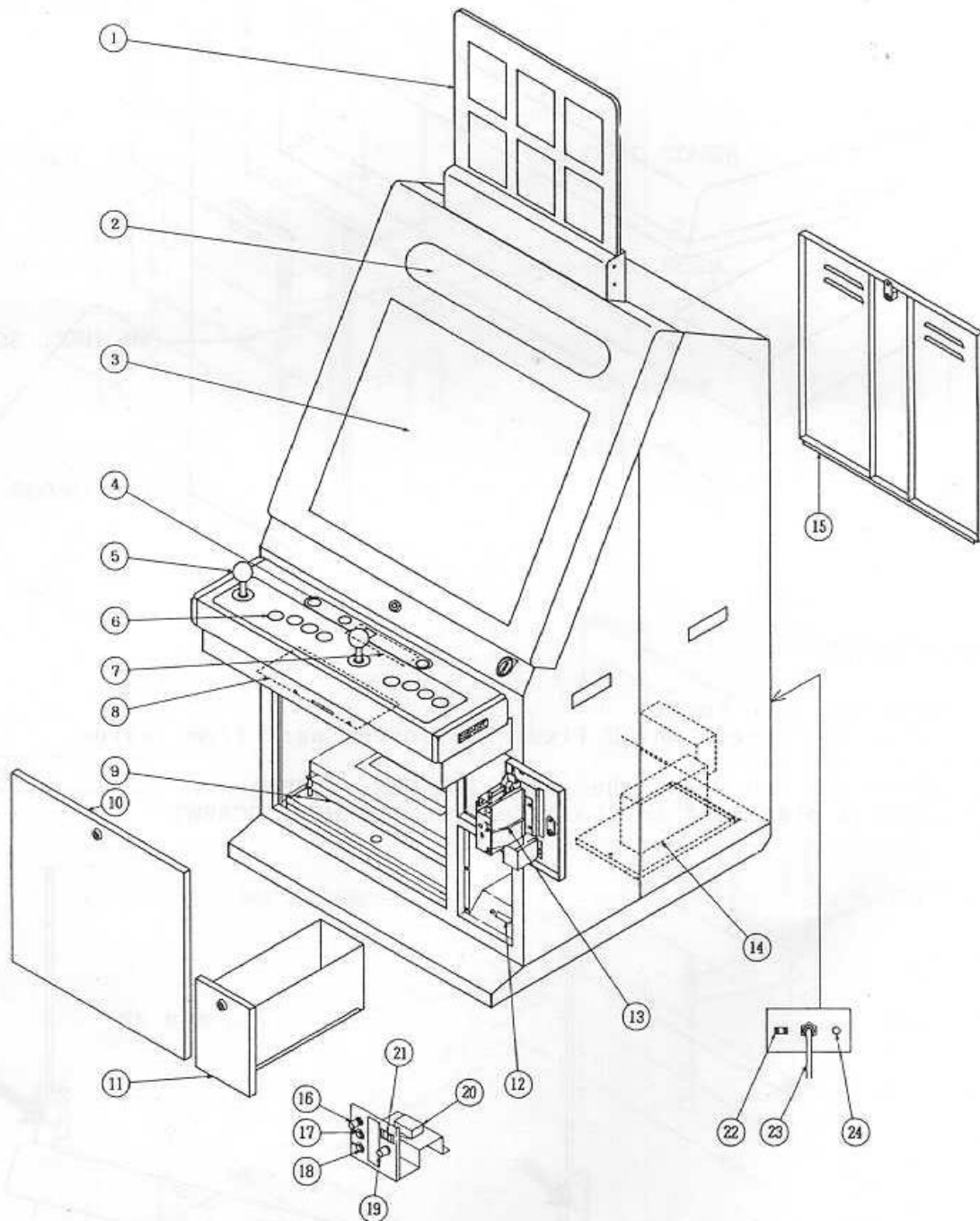
1	EL PANEL UNIT	6	⌀30 PUSH BUTTON SW
2	SPEAKER	7	7 SEGMENT DISPLAY PCB (MV-LED)
3	25" CRT MONITOR	8	IC CARD & HEADPHONE PCB (MV-IC)
4	⌀24 PUSH BUTTON SW	9	MAIN PCB (NEO-MVH MV6, SLOT6)
5	JOYSTICK	10	FRONT DOOR

TABLE TYPE
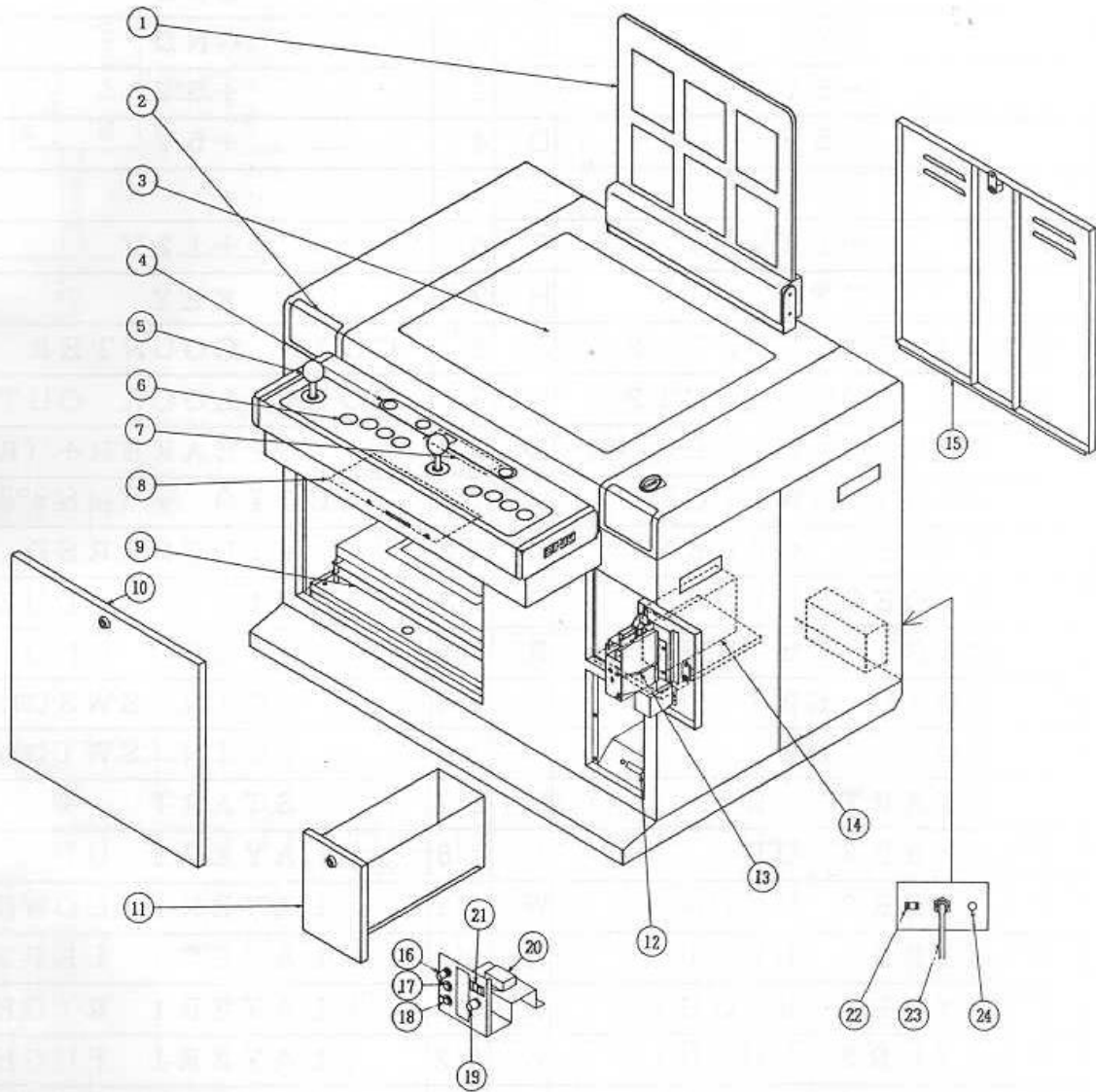
11	CASH BOX	18	TEST SW
12	COIN COUNTER	19	FUSE HOLDER
13	COIN SELECTER	20	NOISE FILTER
14	SWITCHING REGURATOR	21	POWER SW
15	REAR DOOR	22	AC OUTPUT
16	DEMAGNETIZING SW	23	AC CORD
17	SERVICE SW	24	GROUND TERMINAL

SOLDER SIDE	PIN #		PART SIDE
GND	A	1	GND
GND	B	2	GND
+5V	C	3	+5V
+5V	D	4	+5V
	E	5	
+12V	F	6	+12V
KEY	H	7	KEY
COIN COUNTER 2	J	8	COIN COUNTER 1
COIN LOCK OUT2	K	9	COIN LOCK OUT1
SPEAKER+ (L)	L	10	SPEAKER+ (R)
TEST SWITCH	M	11	AUDIO + (mono)
VIDEO GREEN	N	12	VIDEO RED
VIDEO SYNC	P	13	VIDEO BLUE
SERVICE SW	R	14	VIDEO GND
COIN SW4 (P2/2)	S	15	COIN SW3 (P1/2)
COIN SW2 (P2/1)	T	16	COIN SW1 (P1/1)
START 2	U	17	START 1
PLAYER2 UP	V	18	PLAYER1 UP
PLAYER2 DOWN	W	19	PLAYER1 DOWN
PLAYER2 LEFT	X	20	PLAYER1 LEFT
PLAYER2 RIGHT	Y	21	PLAYER1 RIGHT
PLAYER2 PUSH1	Z	22	PLAYER1 PUSH1
PLAYER2 PUSH2	a	23	PLAYER1 PUSH2
PLAYER2 PUSH3	b	24	PLAYER1 PUSH3
PLAYER2 PUSH4	c	25	PLAYER1 PUSH4
SELECT DOWN	d	26	SELECT UP
GND	e	27	GND
GND	f	28	GND

Schematic / Wiring Diagram — MV6 PCB / MV4 PCB

Boards (top):
- MV-ELA PCB — EL DRIVER — 8pin
- EL BOARD
  = (MV-ELB PCB)
  [(MV-ELC1/2 PCB)
  [(MV-ELC2/2 PCB)
  [(MV-ELD1/2 PCB)
  [(MV-ELD2/2 PCB)
- MV-LED PCB
- MV-LED PCB
- MV-IC PCB — IC-CARD — PHONEJACK — PHONEJACK — HEAD PHONES

Connectors:
- EL SELECT CN5
- 7SEG.1 CN4 — 13pin
- 7SEG.2 CN3 — 13pin
- HEAD PHONES J3
- CN6 60pin
- CN7 60pin — IC-CARD

Edge connector pin list:

Pin	Signal
1	GND
2 A	GND
3 B	GND
3 C	+5V
4 D	+5V
5 E	+5V
6	N.C.
6 F	N.C.
7	+12V
8	+12V
9	COIN COUNTER 1
9 K	COIN COUNTER 2
10	COIN LOCK OUT1
11	COIN LOCK OUT2
11 M	SPEAKER+ (R)
12	SPEAKER+ (L)
12 N	AUDIO + (mono)
13	TEST SW
13	VIDEO RED
14	VIDEO GREEN
15	VIDEO BLUE
15	VIDEO SYNC
16	VIDEO GND
16	SERVICE SW
17	COIN SW3
17	COIN SW4
18 V	COIN SW1
19	COIN SW2
19 W	PLAYER1 START
20 X	PLAYER2 START
20	PLAYER1 UP
21 Y	PLAYER2 UP
21	PLAYER1 DOWN
22 Z	PLAYER2 DOWN
22	PLAYER1 LEFT
23	PLAYER2 LEFT
23	PLAYER1 RIGHT
24	PLAYER2 RIGHT
24	PLAYER1 PUSH1
25	PLAYER2 PUSH1
25	PLAYER1 PUSH2
26	PLAYER2 PUSH2
26	PLAYER1 PUSH3
27	PLAYER2 PUSH3
27	PLAYER1 PUSH4
28	PLAYER2 PUSH4
28	SELECT UP
	SELECT DOWN
	GND / GND / GND / GND

Power / left side:
- SERVICE OUTLET
- POWER SW
- FUSE
- NOISE FILTER
- AC 100V POWER SUPPLY — GND, +5V, +12V
- AC 100V, 100V, EARTH
- COUNTER 1, COUNTER 2
- COLOR MONITOR: RED, GREEN, BLUE, SYNC, GND
- DEMAGNETIZING
- Speakers: R, L

Control inputs:
- TEST, SERVICE, GND
- COIN SW1, COIN SW2, GND
- 1P UP, 1P DOWN, 1P LEFT, 1P RIGHT, 1P PUSH1, 1P PUSH2, 1P PUSH3, 1P PUSH4, GND
- 2P UP, 2P DOWN, 2P LEFT, 2P RIGHT, 2P PUSH1, 2P PUSH2, 2P PUSH3, 2P PUSH4, GND
- 1P START, SELECT, 2P START, GND