SIGMA

THE DERBY MARK-VI
V8
8 HORSE SPEC.

Maintenance Manual

CODE NO. 8800-00183

INTRODUCTION

This MAINTENANCE MANUAL is intended for qualified maintenance personnel, and provides the important information about Sigma Horse Racing Machine, THE DERBY MARK-VI V8, focusing on the area where <u>the access can be gained by the use of an access key</u>.

It is strongly recommended to thoroughly read and understand this manual in conjunction with our Operation Manual before starting the machine. Please always keep this manual at hand, so that you can quickly refer to it whenever necessary.

TECHNICAL SUPPORT

If you have any question or request, or when you want our technical support, please contact your nearest distributor.

```
            HANDLE THIS MACHINE SAFELY AND CORRECTLY
```

SAFETY INSTRUCTIONS

1. Definition of Safety Words

The following safety words (DANGER, WARNING, and CAUTION) are used in this manual to indicate hazard levels. Please understand each meaning to handle the machine safely.

DANGER

It warns of the immediate hazards which WILL result in severe personnel injury or death.

WARNING

It warns of the hazards or unsafe practices which COULD result in severe personal injury or death.

CAUTION

It warns of the hazards or unsafe practices which COULD result in minor personal injury or product or property damage.

CHECK

It indicates a check or reference item for preventing hazards and malfunctions.

2. Specifications

- Exclusive power source of 30A must be necessary.

- Rated voltage:
  - a) Europe   230VAC, 50Hz
  - b) Korea   220VAC, 60Hz
  - b) Other areas   220/230/240VAC, 50/60Hz
                       110/120VAC, 50/60Hz

- Maximum current draw:
                       45A (60Hz) at 120VAC
                       21A (50Hz) at 220, 230, 240VAC

- Power cable: Three-core cable
- Temperature: 5 to 35 degrees C
- Humidity: 30 to 60%, Free from dew condensation

⚠ WARNING !

To prevent an accident or a fire;

- Do not install this machine on unstable floor (ex. slope or difference in level).

- Keep this machine away from the direct ray of the sun.

- Keep this machine away from a dusty place.

- Keep this machine away from water.

- Keep this machine away from disaster preventive facilities

  (ex. emergency exit, emergency stairs, fire hydrant, fire extinguisher).

- Install this machine on well-constructed floor.

- Do not install this machine outdoors.

- Keep this machine away from vibration.

- Keep this machine away from dangerous articles.

3. Handling of Monitors

Although the given monitors are protected from the danger of electric shock, please call qualified service personnel whenever adjustment is necessary. Refer to our Service Manual.

If a problem persists even after adjustment, please contact to your nearest distributor.
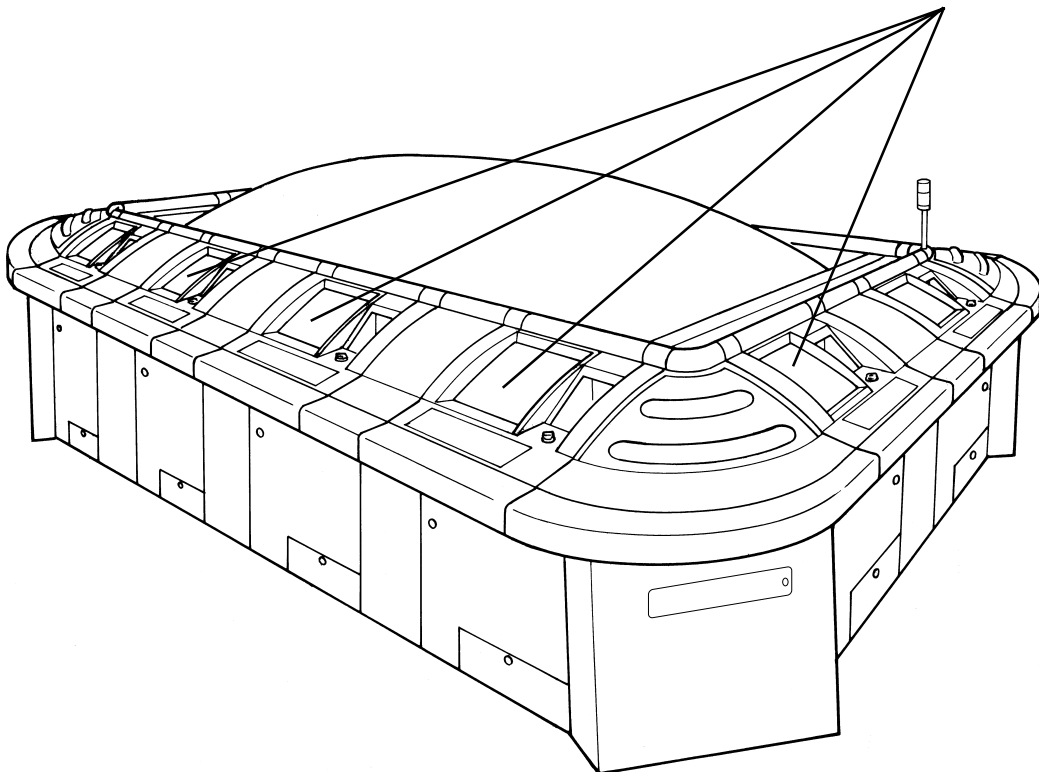
⚠ **DANGER !**

HIGH VOLTAGE

Risk of Electric Shock

Never retrofit.

Never retrofit the monitors.

4. Grounding

Be sure to GROUND this machine to prevent a current leak.

⚠️ **WARNING !**

Risk of Electric Shock.

SIGMA makes no warranty as to the accidents (including failures) caused by improper grounding.

5. Others

Please observe the following for your safety.

⚠️ **WARNING !**

NEVER retrofit the machine. Retrofitting the machine could cause an accident or a failure.

SIGMA makes no warranty as to the accidents (including failures) caused by retrofit.

- Only qualified personnel can assemble, install, maintain, inspect, and troubleshoot the machine.

- Do not mount or sit on the machine. Or, do not put a heavy object on the machine. The dented machine could cause a trouble.

- As soon as smoke, a stink and/or an unknown trouble is detected, turn off the POWER switch and the power source breakers.

- Do not touch the hopper just after running the hopper motor. The shield of the hopper motor may be hot. When it is necessary to detach the hopper, please wait until the shield cools down.

- Do not remove a heavy hopper. Take out the coins from the hopper before removing.

- Do not touch the coin diverter. It may be hot.

- Never use chemical duster, thinner, benzine, or alcohol for cleaning the machine. They will damage the surface of the machine. Diluted synthetic detergent can be used if necessary, but completely wipe it up with dry cloth thereafter.

- Use this machine in commercial area. The use in other area is prohibited.

TABLE OF CONTENTS

1. MAJOR COMPONENTS

1.1 Configuration

Track unit

Signal tower   Main control unit

Station unit

Bill acceptor unit

Volume control unit

Top View

Main control unit

| # 9 | # 10 | # 11 | # 12 |

8

1

7

2

| # 6 | # 5 | # 4 | # 3 |

Station unit

Bill acceptor unit

Volume control unit
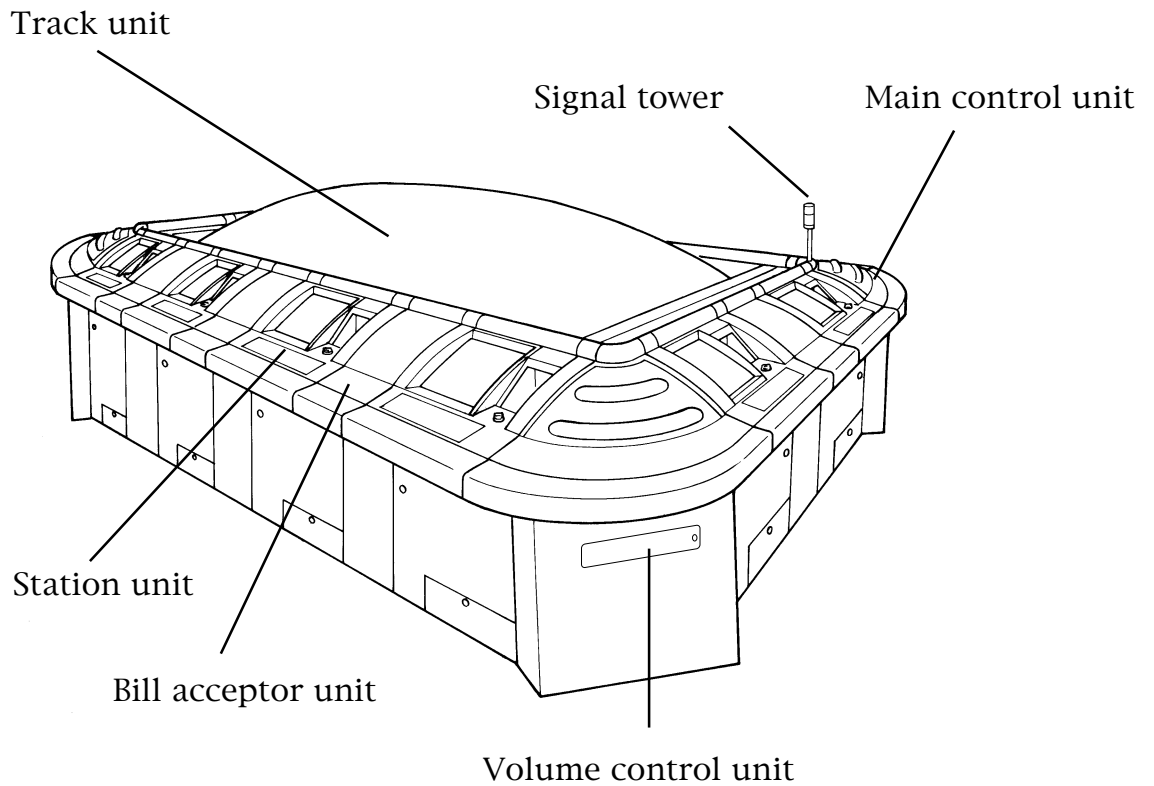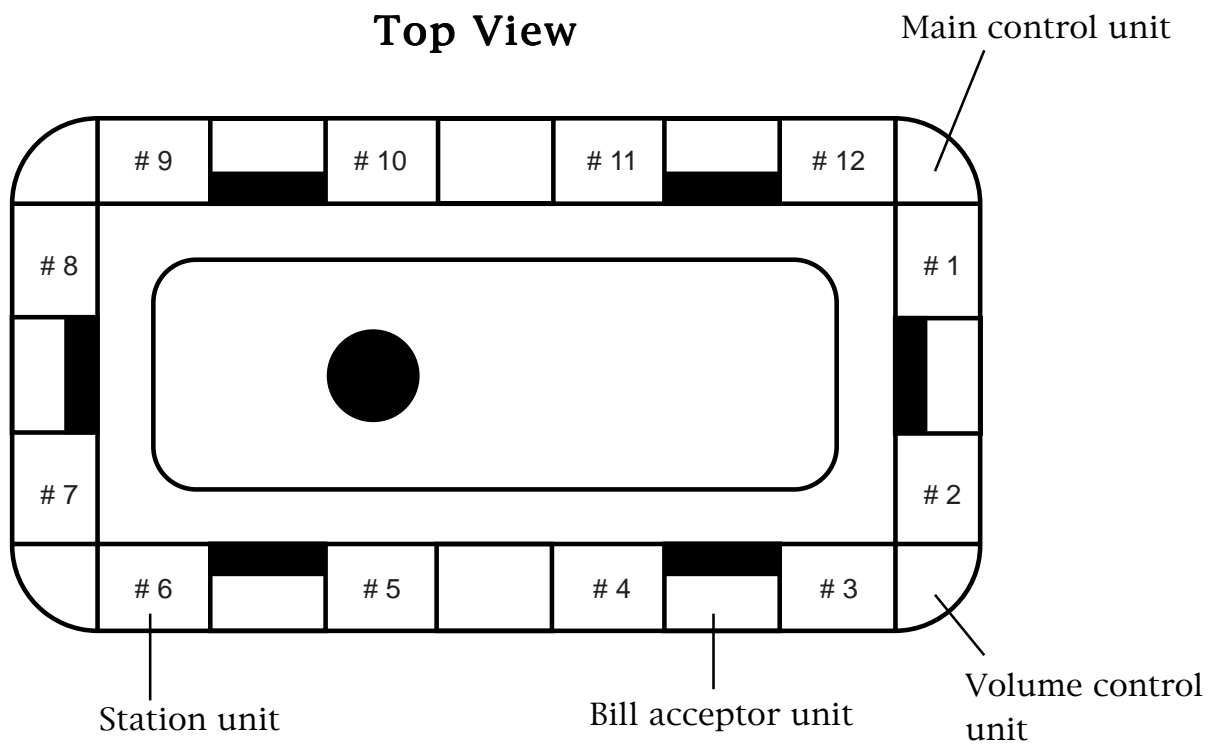
1.2 Track Unit
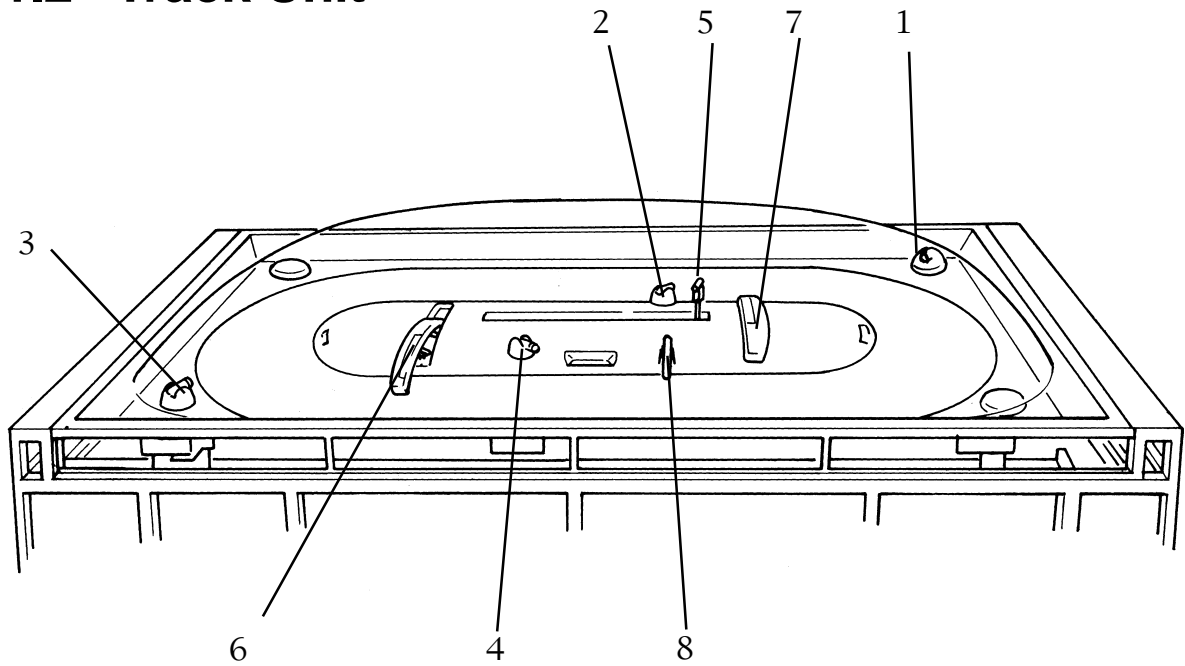
1.   CCD Camera #1   2.   CCD Camera #2   3.   CCD Camera #3
4.   CCD Camera #4   5.   CCD Camera # 5
6.   Starting gate for long-distance race
7.   Starting gate for short-distance race
8.   Goal Gate

1.3 Main Control Unit
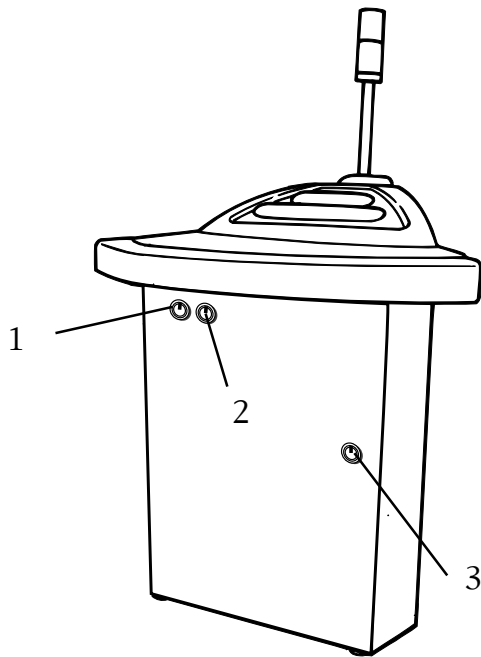
1. RESET key switch
2. METER key switch
3. Door lock
4. Setting buttons
5. Main PCB box
6. Power breakers
7. Dome/field elevating switches
8. Main monitor

1.4 Volume Control Unit

Satellite speaker   5&6   3&4   1&2   main   woofer

Satellite speaker #5   Satellite speaker #4

9   # 10   # 11   # 12

8   # 1

Satellite
speaker #6   Woofer   Satellite
speaker #3

7   # 2

6   # 5   # 4   # 3

Satellite speaker #1   Satellite speaker #2
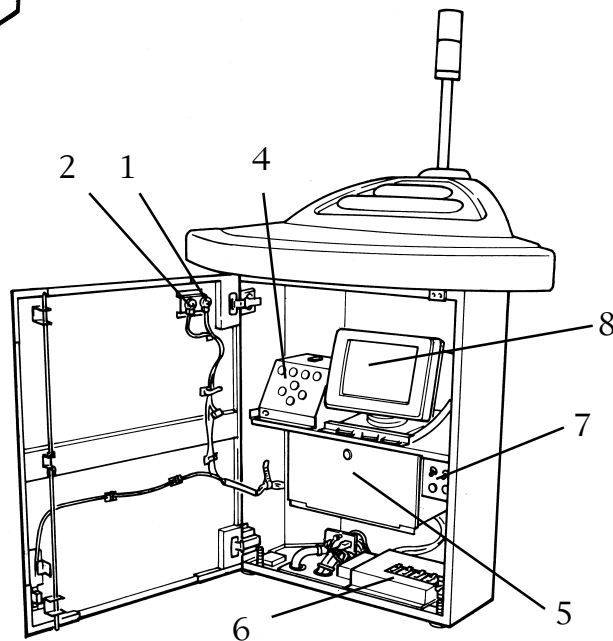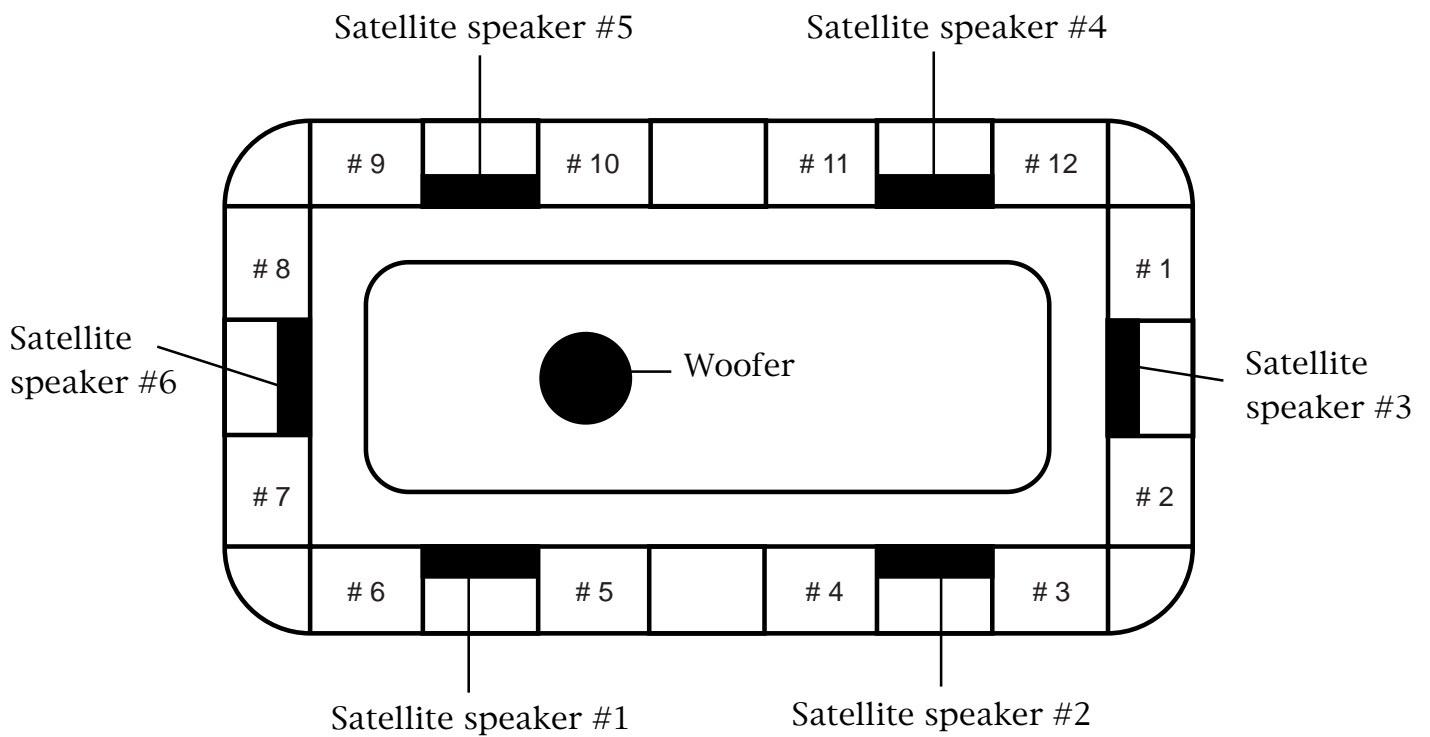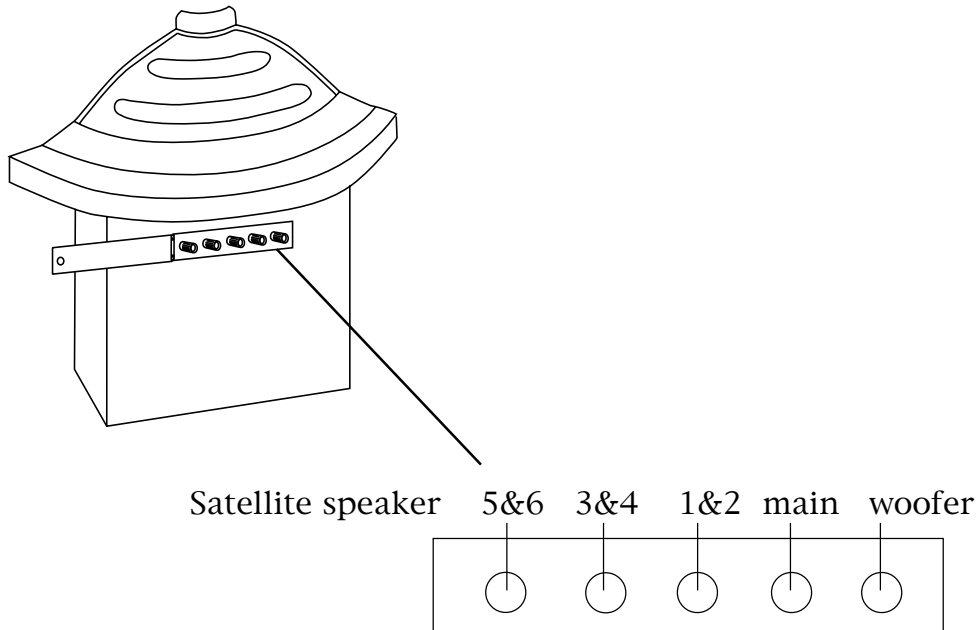
1.5 Station Unit
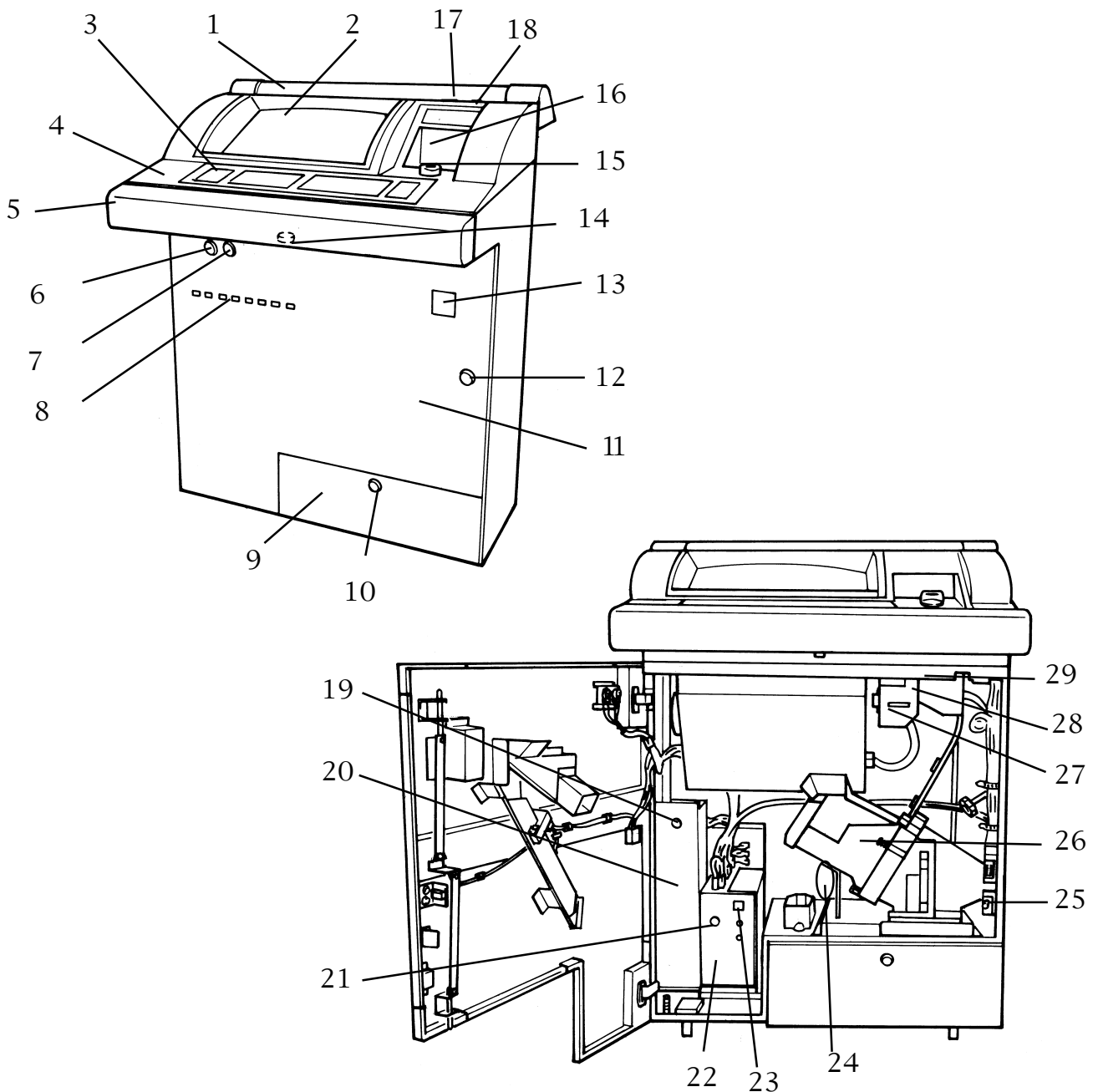
1. WIN lamp	2. Monitor	3. Betting buttons
4. Upper door	5. Arm rest	6. RESET key switch
7. METER key switch	8. Mechanical meters	9. Cash box
10. Cash box door lock	11. Front door	12. Front door lock
13. Coin return tray	14. Upper door lock	15. Coin entry
16. Coin cup	17. CALL ATTENDANT button	
18. CREDIT-UP key switch	19. PCB box door lock	20. PCB box
21. REFILL button	22. Power box	23. Power switch
24. Spill bottle	25. Front door interlock switch.	
26. Hopper	27. Coin diverter	28. COIN-IN sensor
29. Coin acceptor		

1.6 Bill Acceptor Unit

WBA bill acceptor   GPT/SBB bill acceptor

1. Bill validator   2.   Bill stacker container
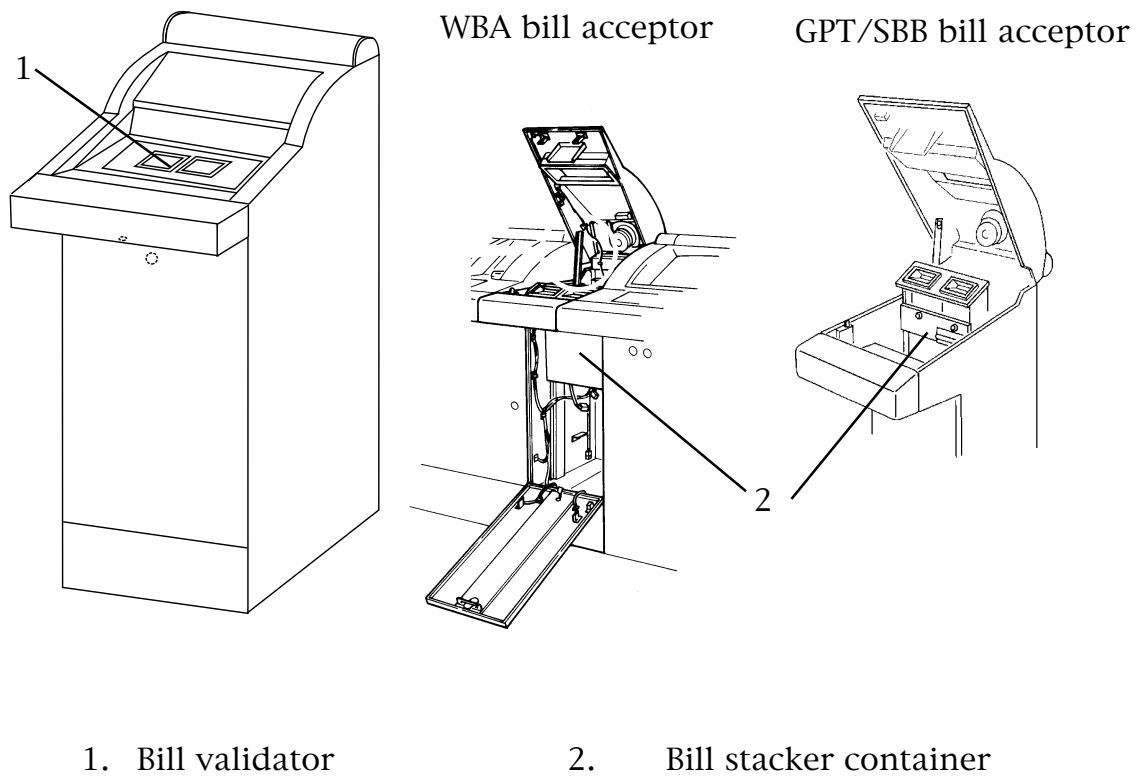
1.7 Projector Unit (Upright Unit)

1. Speaker   2.   Projector screen
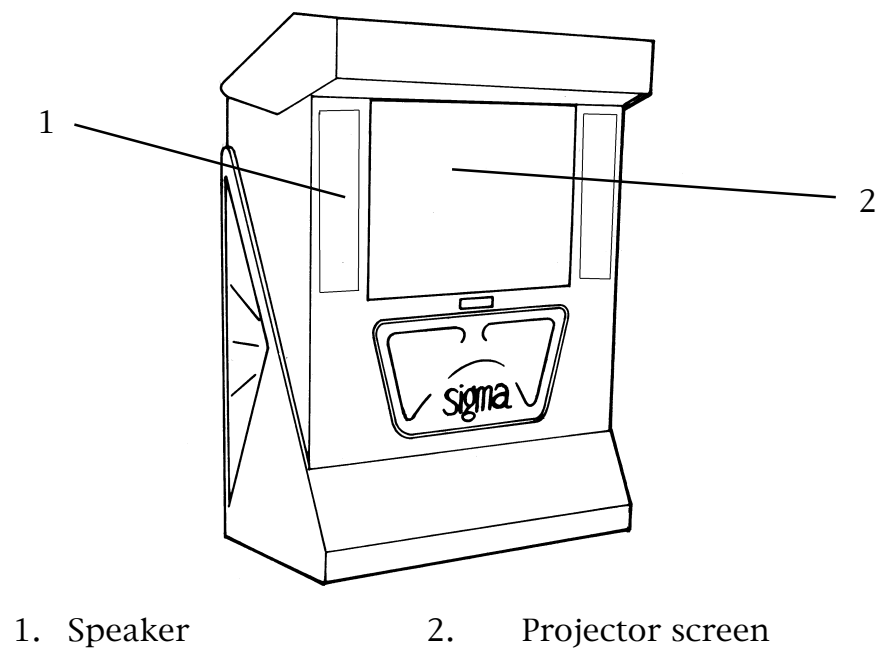
2 PREPARATION AND POWER-UP

2.1 Checking Machine

Before Power-ON, check the exterior of the machine. If any damage or cable disconnection is found, take the necessary action.

2.2 Setting Coin Acceptor

Set the coin acceptor in the following procedure.

⚠ **WARNING**

RISK OF HURT

As soon as opening the upper door, check the stay is securely locked.

2.2.1 When CC-16 coin acceptor is used

Procedure

1. Open the front and upper doors of a station unit to locate the coin acceptor just below the coin entry.

2. Remove the dummy coin from the sample coin holder.

3. Insert a sample coin into the coin holder so that the center of the sample coin is on the extended center line of the coin sensor.

Sample coin

Center line of coin sensor

Coin sensor
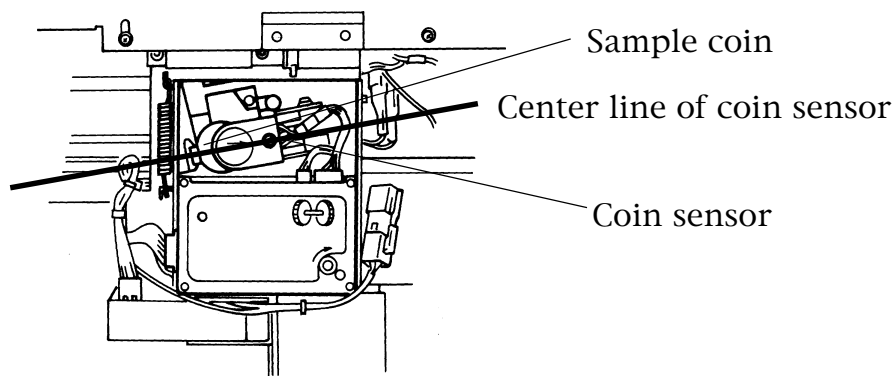
4. Close the front and upper doors.

2.2.2   When CONDOR coin acceptor is used

NOTE

Use this procedure after turning the power ON as described in Paragraph 2.3.

The following procedure may not be used under your legislation.

Procedure

1. Open the front and upper doors of a station unit to locate the coin acceptor just below the coin entry.
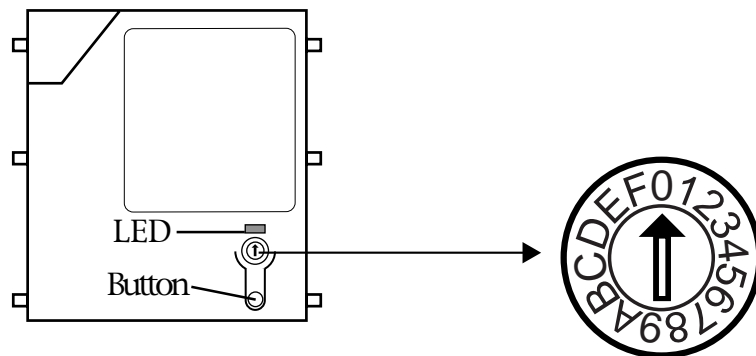
2. Check the coin acceptor is powered up . (The LED is ON.)

3. Turn the arrow indicator to 1.

4. Press the button just below the arrow indicator. (The LED turns red.)

5. Feed conis into the coin acceptor until the LED blinks in green.

NOTE
The thickness of these coins should slightly vary to prevent too strict rejectivity.

6. Press the button again. (The LED lights up in green).

7. Return the arrow indicator to zero.

8. Close the front and upper doors.

2.3   Turning ON Machine

Turn ON the machine in the following procedure.

Procedure

1.   First, turn ON the main control and track units as below.

1)   Open the front door of the main control unit.

2)   Turn ON the four breakers at the lower right position. The three breakers from the left are for the station units, and the rightmost one is for the track unit, the projector unit, the AT box, and the main control unit.

Breakers (4)

For the station unit Nos. 1 to 4

For the station unit Nos. 5 to 8

For the station unit Nos. 9 to 12

For the track, projector, AT box, and main control units
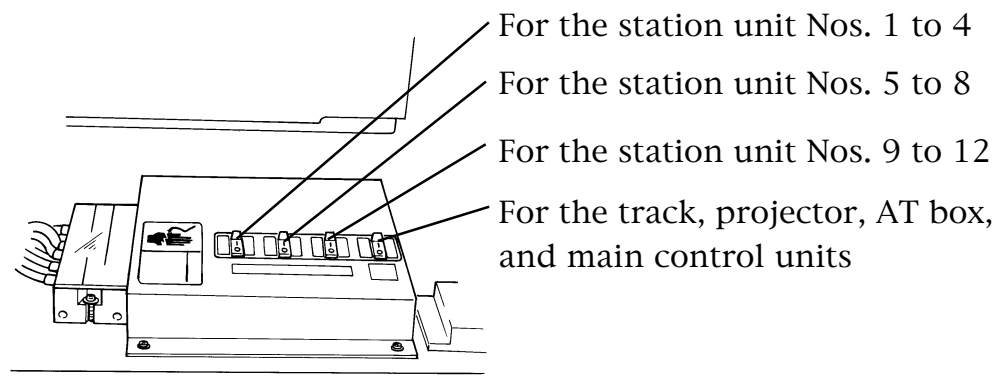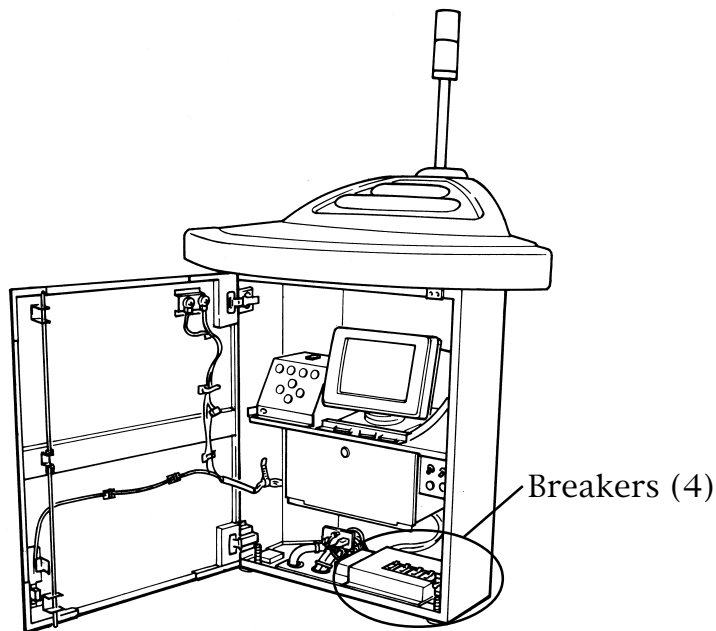
3) Close the front door.

2.   Next, turn ON each station unit as below.

> *NOTE*
> *If the control unit is not ON, the station units*
> *will not be turned ON.*

1)   Open the front door.

2)   Turn ON the power switch at the lower right position in the cabinet.

3)   Close the front door.

> *NOTE*
> *Because the front door has an interlock function*
> *for the hopper, make sure to close the door.*

2.4   Supplying Coins into Hopper

Supply coins to the hopper of every station unit in the following procedure.

Procedure

1.   Open the front door of a station unit.

2.   Check the coin amount in the hopper.

3.   Supply coins from the opening of the hopper as needed.

4.   The HOPPER REFILL window can be invoked and set in the following procedure to control the number of coins.

1)   Press the REFILL switch beside the power switch to display the pop-up window of HOPPER REFILL on the monitor screen.

```
HOPPER REFILL
         0 COINS
100 UP      - REFILL SW.
  CANCEL - METER KEY
  EXIT    - RESET KEY
```

2)   Every time pressing the REFILL switch, the coin count increases in a unit of 100 coins (Settable range: 0-9900).

To clear the coin count to 0, turn ON the METER key switch.

To exit from the HOPPER REFILL window, turn OFF the RESET key switch.

5.   Close the front door.

2.5 Adjusting Sound Volume of Satellite Speakers

Adjust the sound volume of the satellite speakers in the following procedure.

Procedure

1. Open the small door of the volume control unit.

2. Adjust the sound voulume by turning the controls depicted below.

Satellite speaker   5&6   3&4   1&2   main   woofer

Satellite speaker #5   Satellite speaker #4

| # 9 | | # 10 | | # 11 | | # 12 |

| # 8 | | | # 1 |

Satellite
speaker #6   Woofer   Satellite
speaker #3

| # 7 | | | # 2 |

| # 6 | | # 5 | | # 4 | | # 3 |

Satellite speaker #1   Satellite speaker #2
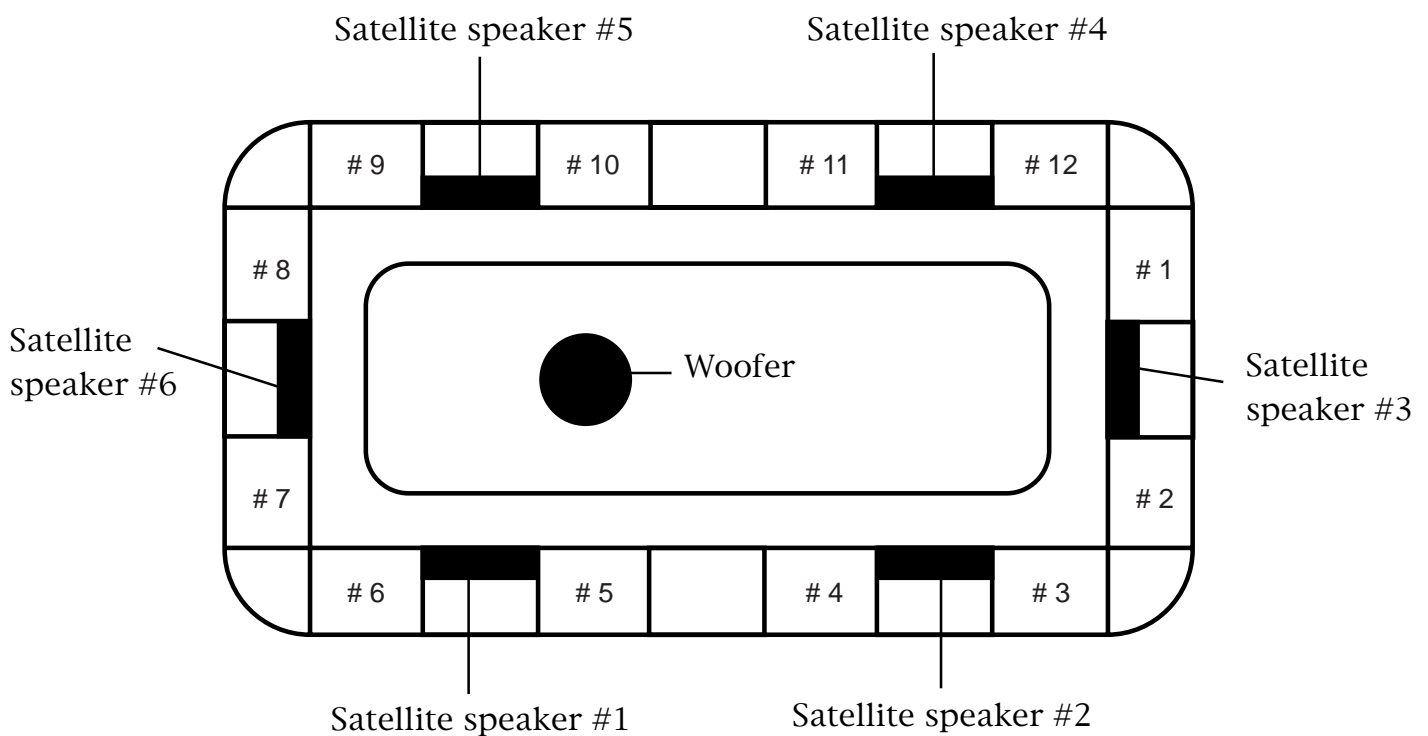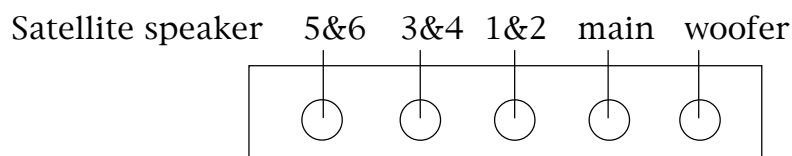
POWER-ON CHECK LIST

Check the following after turning ON the machine.

1.   Verify no error occurred during the self test.

2.   Verify the illumination and indicator lamps are ON.

3.   Verify the inserted coins are correctly counted.

4.   Verify the game buttons and the keyswitches are properly actuated.

5.   Verify the monitor screen properly displays the image.

6.   Verify the sound speakers properly output sounds.

7.   Verify the hopper properly pays out coins.

3 MAIN CONTROL UNIT

The operation of the track unit can be controlled by calling the Control Mode on the monitor screen inside the main control unit.

3.1   Calling Main Menu (Main Routine)

Call the Main Menu in the following procedure.

Procedure

1.   Open the front door of the main control unit.

2.   Turn ON and OFF the METER key switch on the front door to display the Main Menu.
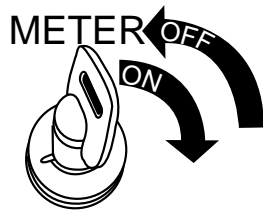

```
        PROGRAM ROM NO. 2412103x

        I/O TEST
        SETUP
        REPLAY RACE
        METER
        MACHINE IDENTIFICATION
```

3.2   Calling Sub-Routines

Call the sub-routines by using the following 6 buttons.

Used to go back to the previous item or to the game mode.

NOTE
To return to the game mode, press this button repeatedly.
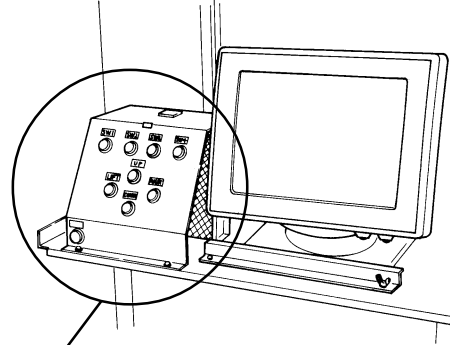
Used to open the selected item or to enter the setting.

Used to move the cursor up.
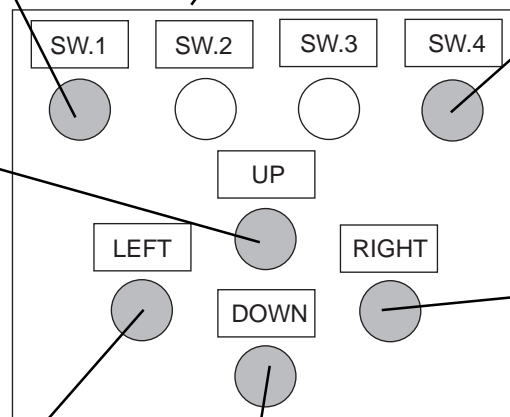
Used to move the cursor right.

Used to move the cursor left.

Used to move the cursor down.

Tree Structure of Control and Track Units

LEVEL 1   LEVEL 2   LEVEL 3

- I/O TEST
  - CRT TEST
  - SWITCH TEST
  - AT-BOX UNIT TEST
  - TRACK UNIT TEST
  - AT-BOX/STATION STATUS

- SETUP
  - DATE & TIME SETUP
  - MAIN GAME SETUP
    - BET TIME
    - POWER SAVE MODE
    - AT-BOX WAIT TIME
    - SHORT/LONG RACE CONFIGURATION
  - AT-BOX SETUP
    - LISTEN TO ...SOUND TEST
      - WAVE
      - MIDI
    - BALANCE CONFIGURATION
      - MASTER
      - MIDI
      - WAVE
      - GALLOP
      - ANNOUNCE
      - AUX#1
      - AUX#2
      - AUX#3
      - SATELLITE
      - AUX CONNECT

- REPLAY RACE

- METER
  - MAIN (CORNER) ERROR COUNT
    - Power Down Times
    - Corner Door Open Times
    - Corner Unit PCB Door Open Times
    - Error Reset Times
    - Total Race Time
    - Total Game Times
    - Game Times (after Power ON)
    - Game Times (after Door Close)
    - Game Times (after Error Reset)
  - TRACK UNIT ERROR COUNT
    - Track Communication TimeOut
    - Jack Up Track field
    - Miss Place Games
    - Fall Racer Games
    - Short S Sensor Comm. TimeOut
    - Long S Sensor Comm. TimeOut
    - Goal Sensor Comm. TimeOut
    - Carrier Error
    - Carrier Comm. TimeOut
    - PPMC (Chain) Control Error
    - Wire Control Error
    - Unusual Race Data
    - Track Unknown Error
    - Wire CTL Error
    - Fall Race
    - 1st Miss Place, 2nd Miss Place
    - Miss Place (1st), Miss Place (2nd)
    - Unusal Race Data
  - TRACK WARNING COUNTS
    - Undercarrier detection error
    - Short Start Gate JAM
    - Long Start Gate JAM
    - CCD #2, 4 JAM

- MACHINE IDENTIFICATION
  - Firmaware ID
  - Minimum Payout Ratio
  - Target Pay Out Ratio

NOTE
Some routines may not be used according to your specifications.

3.3   I/O TEST

The I/O TEST is used to check the major functions of the machine excluding the station units.

As soon as opening the I/O TEST from the Main Menu, the following screen appears.

```
┌─────────────────────────────────┐
│                                  │
│        I/O TEST MENU             │
│                                  │
│          CRT TEST                │
│                                  │
│         SWITCH TEST              │
│                                  │
│       AT-BOX UNIT TEST           │
│                                  │
│        TRACK UNIT TEST           │
│                                  │
│      AT-BOX/STATION STATUS       │
│                                  │
│                                  │
└─────────────────────────────────┘
```
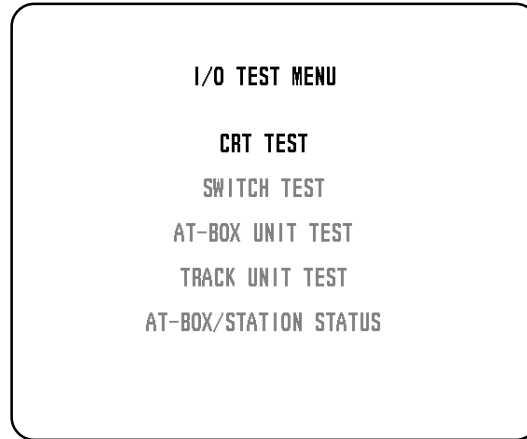
3.3.1   CRT TEST

Open the CRT TEST to test the monitor screen in the main control unit.

The adjustment is available using the brightness and contrast controls located at the lower right of the monitor.

3.3.2   SWITCH TEST

Open the SWITCH TEST from the I/O TEST MENU to test the major switches.

```
┌─────────────────────────────────┐
│           PANEL SW. TEST         │
│                                  │
│  RESET KEY SW.                   │
│  METER KEY SW.                   │
│  MAIN DOOR O/C SW.               │
│  PCB DOOR O/C SW.                │
│                                  │
│  SW -- 1.          SW -- 2.      │
│  SW -- 3.          SW -- 4.      │
│           UP    SW.              │
│  LEFT SW.          RIGHT SW.     │
│           DOWN SW.               │
│                                  │
│   DIP SW. SETTING 1 2 3 4 5 6 7 8│
│                   0 0 0 0 0 0 0 0│
│  LAMP ON/OFF: TOP LAMP - SW-2T, UP    SW.│
│            CENTER LAMP - LEFT,  RIGHT SW.│
│            BOTTOM LAMP - SW-4,  DOWN  SW.│
└─────────────────────────────────┘
```
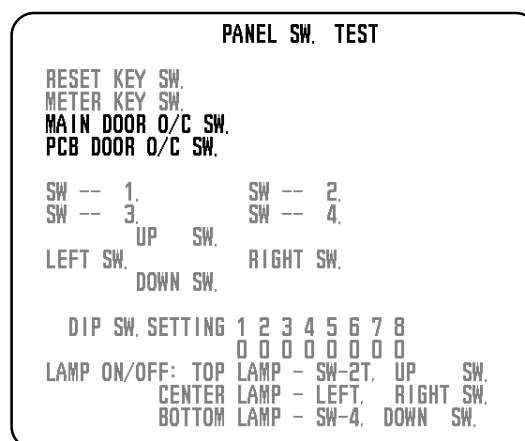
Procedure

1. Actuate the switch to be tested.

2. Check that the displayed character of the switch is highlighted.

NOTE

The MAIN DOOR O/C SW. and PCB DOOR O/C SW. are unhighlighted when opened.

The DIP SW. SETTING is just for viewing.

3.3.3   AT-BOX UNIT TEST

Open the AT-BOX UNIT TEST from the I/O TEST MENU to check the function of AT-box unit.
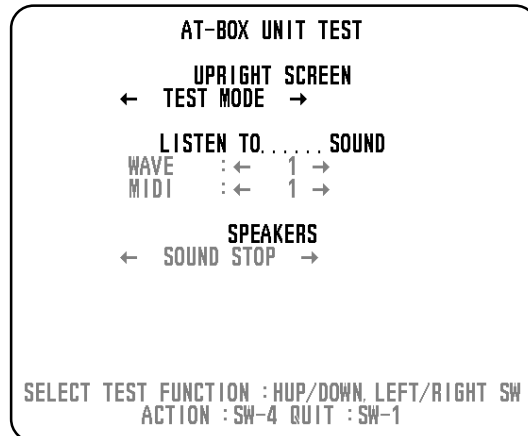
```
              AT-BOX UNIT TEST

                UPRIGHT SCREEN
          ←   TEST MODE   →

              LISTEN TO......SOUND
           WAVE    :←    1 →
           MIDI    :←    1 →

                  SPEAKERS
          ←   SOUND STOP   →



     SELECT TEST FUNCTION :HUP/DOWN. LEFT/RIGHT SW
             ACTION :SW-4 QUIT :SW-1
```

Procedure

1.   Select the test item using the UP and DOWN buttons.

2.   Press the SW.4 to test.

3.   Use the SW.1 to quit the test.

3.3.4   TRACK UNIT TEST

Open the TRACK UNIT TEST from the I/O TEST MENU to check the operation on the track unit.

```
              TRACK UNIT TEST

     LAMP ON/OFF    : OFF
     GATE OPEN/CLOSE: CLOSE


     RUNNING PATTERN :←    1 →
       S ---------- G
       1 0..........
       2 .0.........
       3 ..0........
       4 ...0.......
       5 ....0......
       6 .....0.....
       7 ......0....
       8 .......0...
       9 ........0..
      10 .........0
```
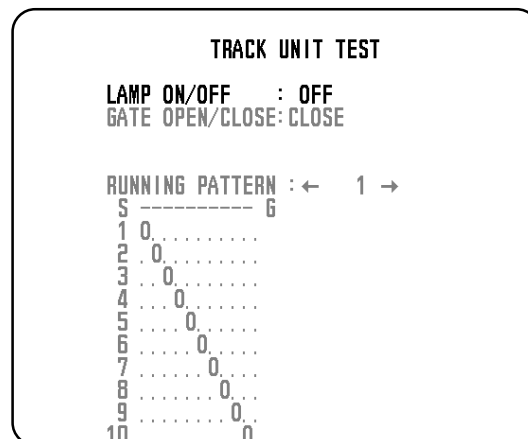
Procedure

1.   Select the test item using the UP and DOWN buttons.

> *NOTE*
> *There are 13 running patterns. Select your desired pattern number by UP and DOWN buttons.*

2.   Press the SW.4 to test.

3.   Use the SW.1 to quit the test.

3.3.5   AT-BOX/STATION STATUS

Open the AT-BOX/STATION STATUS from the I/O TEST MENU to view the status of each station.

```
              AT-BOX/STATION STATUS

         AT-BOX:Disconnection

                  STATION STATUS
                  1 2 3 4 5 6 7 8 9 10
            1-10  . . . . . . . . . .
           11-20  . . . . . . . . . .
           21-30  . . . . . . . . . .
           31-40  . . . . . . . . . .

         . = Disconnection    O = Connection
         A = Call Attendant   E = Same Error
         D = Door Open        B = Bet
         C = Credit
        Display priority . < O < C < B < D < E < A
```

3.4   SETUP

The SETUP is used to set the major options of the main control and track units.

As soon as opening the SETUP from the Main Menu, the following screen appears.

```
        SETUP MENU


        DATE&TIME SETUP

        MAIN GAME SETUP

        AT-BOX SETUP
```

Open your desired item by using the setting buttons described in Paragraph 3.2.

After setting, the following message is displayed as soon as exiting the SETUP mode.   Select YES to enter the new setting.

```
    !!!!!!!!!  CAUTION  !!!!!!!!!!!!!!
        SETTING DATA CHANGED.

        WILL YOU SAVE DATA ?

      YES   SAVE NOW!    -- SW-4
      NO    WITHOUT SAVE -- SW-1

    !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```
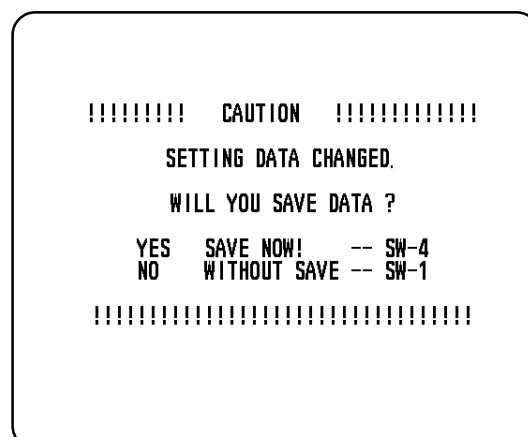
3.4.1   DATE & TIME SETUP

Set the current date and time.

3.4.2   MAIN GAME SETUP

Set the following items.

BET TIME: Set the betting time within the range from 50 to 90 sec-
                 onds in a unit of 10 seconds.

POWER SAVE MODE:
                 Set if the power save mode is used or not. (Yes/No)

AT-BOX WAIT TIME:
                 Set how long the machine waits for the AT box to initialize
                 within the range from 5 to 120 seconds in a unit of 5
                 seconds.

SHORT/LONG RACE CONFIGURATION:
                 Set the race configuration for Block Nos.1 and 2 by select-
                 ing from SHORT and LONG.

```
        MAIN GAME SETUP  PAGE 2
      SHORT/LONG RACE CONFIGURATION

      BLOCK #1  BLOCK #2
    # 1 SHORT # 1 LONG
    # 2 LONG  # 2 SHORT
    # 3 SHORT # 3 LONG
    # 4 LONG  # 4 SHORT
    # 5 SHORT # 5 LONG
    # 6 LONG  # 6 SHORT
    # 7 SHORT # 7 LONG
    # 8 LONG  # 8 SHORT



        RETRUN TO PAGE 1
```

3.4.3   AT-BOX SETUP

Set the following items.

LISTEN TO .... SOUND TEST

    WAVE: Set the volume of WAVE sound within the range from 1 to 37.

    MIDI: Set the volume of MIDI sound within the range from 1 to 17.

BALANCE CONFIGURATION

    MASTER: Set the balance within the range from 0 to 51.

    MIDI: Set the balance within the range from 0 to 51.

    WAVE: Set the balance within the range from 0 to 51.

    GALLOP: Set the balance within the range from 0 to 51.

    ANNOUNCE: Set the balance within the range from 0 to 51.

    AUX #1:   Set the balance within the range from 0 to 51.

    AUX #2:   Set the balance within the range from 0 to 51.

    AUX #3:   Set the balance within the range from 0 to 51.

    SATELLITE: Set the balance within the range from 0 to 51.

    AUX CONNECT: Set the balance within the range from 0 to 51.

3.5   REPLAY RACE

The REPLAY RACE shows the results of the past 50 games.

3.6   METER

The METER shows the soft meter counts of the main control and track units.

3.6.1   MAIN (CORNER) ERROR COUNT

Open the MAIN(CORNER) ERRIR COUNT from METER to display the following meter counts.

Power Down Times:

> Indicates how many times the power to the main control unit was turned OFF.

Corner Door Open Times:

> Indicates how many times the door of the main control unit was opened.

Corner Unit PCB Door Open Times:

> Indicates how many times the PCB box door was opened.

Error Reset Times:

> Indicates the number of main control and track unit errors cleared.

Total Race Times:

> Indicates the number of games played on the machine.

Total Game Times:

> Indicates the number of games actually bet on.

Game Times (after Power ON):

> Indicates the number of games since the most recent POWER-ON.

Game Times (after Door Close):

> Indicates the number of games since the main control unit door was most recently closed.

Game Times (after Error Reset):

> Indicates the number of games since a main control unit error or a track unit error was most recently cleared.

3.6.2   TRACK UNIT ERROR COUNT

Open the TRACK UNIT ERROR COUNT from METER to display the following meter counts.

Track Communication TimeOut:
> Indicates how many times the communication with the track unit could not be established.

Jack Up Track field:
> Indicates how many times the track field was up.

Miss Place Games:
> Indicates how many times the finishing order was different from the computer-specified one.

Fall Race Games:
> Indicates the number of games in which a horse came off the carrier.

Short S Sensor Comm. TimeOut:
> Indicates how many times the communication with the short-distance start line sensor could not be established.

Long S Sensor Comm. TimeOut:
> Indicates how many times the communication with the long-distance start line sensor could not be established.

Goal Sensor Comm. TimeOut:
> Indicates how many times the communication with the goal line sensor could not be established.

Carrier Error: Indicates the number of carrier unit errors.

Carrier Comm. TimeOut:
> Indicates how many times the communication with the carrier unit could not be established.

PPMC(Chain) Control Error:
> Indicates the number of peripheral chain errors.

Wire Control Error:
> Indicates the number of wire control errors.

Unusual Race Data:
> Indicates how many times abnormal race data was sent to the track unit.

Track Unknown Error:
> Indicates how many times an unknown error code was received from the track unit.

Wire CTL Error:
>
> Indicates the number of wire controller errors.

Fall Race: Indicates the number of Fall Race errors.

1st Miss Place, 2nd Miss Place:
>
> Indicates how many times the computer-specified 1st-place horse could not win, and the 2nd-place horse could not place.

Miss Place (1st), Miss place (2nd):
>
> Indicates how many times an unexpected horse won or placed.

Unusal Race Data:
>
> Indicates the number of unusal races.

3.6.3   TRACK WARNING COUNTS

Open the TRACK WARNING COUNTS from METER to display the following meter count.

Under carrier detection error:
>
> Indicates the number of undercarrier detection errors.

Short Start Gate JAM:
>
> Indicates the number of motion jams of the short start gate.

Long Start Gate JAM:
>
> Indicates the number of motion jams of the long start gate.

CCD #2, 4 JAM:
>
> Indicates the number of motion jams of the CCD#2 and CCD#4.

3.7   MACHINE IDENTIFICATION

Open the MACHINE IDENTIFICATION from the Main Menu to display the following identification of the machine.

Firmaware ID:

Indicates the version NO. of the game ROM.

Minimum Payout Ratio:

Indicates the minimum payout percentage.

Target Pay Out Raito:

Indicates the software-set payout percentage.

4 ERRORS ON MAIN CONTROL/ TRACK UNIT

If an error occurs on the control/track unit, the error message is displayed on the monitor screen inside the main control unit and on the projector screen. At the same time, the signal tower on the main control unit flashes to call an attendant.   The machine is locked before the error is cleared.

> ⚠ **WARNING!**
>
> To clear a track unit error, it may be necessary to remove a few station units. In such case, call qualified service personnel.

4. 1   Power-Up Error Messages

At the power-up, the main control unit performs several self tests. If an error occurred, the error message is displayed.

Message: DATA IN STOCK IS WRONG
                CHECK RAM AND CIRCUIT

Cause: The data stored in the RAM is not correct.

Action: Turn ON and OFF the RESET keyswitch to clear the RAM data. Refer to Paragraph 4.1.1.

— —

Message: ROM TYPE IS DIFFERENT
                PREVIOUS ROM VERSION = (XXXXXXX)
                THIS ROM   VERSION = (????????)
                PUSH RAM RESET S/W
                FOR CLEARING ALL DATA IN STOCK

Cause: The ROM version has been changed after the most recent power OFF.

Action: Turn ON and OFF the RESET keyswitch to clear the RAM data. Refer to Paragraph 4.1.1.

— —

Message: PASSWORD INFORMATION
                  0000-00000000
                  KEYWORD: ???????
                  EFFECTIVE REMAINING:0
                  Not used.

4.1.1   Default setting

When clearing a power-up error by turning the RESET keyswitch (RAM claer), the following options are initialized to the default values (factory setting).

Bet Time: 50 sec.

Power Save Mode: Yes

AT-Box Wait Time: 5 sec.

Short/Long Race Configuration:

1	Short	1	Long
2	Long	2	Short
3	Short	3	Long
4	Long	4	Short
5	Short	5	Long
6	Long	6	Short
7	Short	7	Long
8	Long	8	Short

AT-Box Set Up, Balance Configuration:

Master	51
Midi	51
Wave	51
Galop	51
Annnounce	51
Aux #1	51
Aux #2	51
Aux #3	51
Satellite	51

4.2 Error Messages During Game

The following error messages are displayed when an error occurred during game time.

Message: WIRE OF METERS IS DISCONNECTED

Not used.

———————————————————————————————————————

Message: CASH BOX DOOR OPENED.

Not used.

———————————————————————————————————————

Message: P.C.B. Door Opened
(Lost data Logic seal #1)

Not used.

———————————————————————————————————————

Message: Track PCB Door Opened
(Lost data Logic seal #2)

Not used.

———————————————————————————————————————

Message: Logic Seal #4 Error
(Lost data Logic seal #4)

Not used.

———————————————————————————————————————

Message: Track Unit Communication Time Out

Cause: The comunication with the track unit could not be established.

Action: Call qualified service personel to check the communication cable to the track unit.

Tuirn ON and OFF the RESET keyswitch.

———————————————————————————————————————

Message: Jack up Track Field

Cause: The track field is up.

Lower the track field completely.

Action: Call qualified service personel to check the track unit.

Tuirn ON and OFF the RESET keyswitch.

———————————————————————————————————————

Message:	Miss Place Game
Cause:	The finishing order is different from the computer- specified one.
Action:	Call qualified service personel to check the carrier unit.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————————

Message:	Fall racer
Cause:	A horse came off the carrier.
Action:	Call qualified service personel to check if there is foreign objects on the track field.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————————

Message:	Short Start (Line) Sensor Communication Time Out
Cause:	The communication with the short-distance start line sensor could not be established.
Action:	Call qulified service personel to check the communication connector and cable.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————————

Message:	Long Start (Line) Sensor Communication Time Out
Cause:	The communication with the long-distance start line sensor could not be established.
Action:	Call qulified service personel to check the communication connector and cable.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————————

Message:	Goal (Line) Sensor Communication Time Out
Cause:	The communication with the goal line sensor could not be established.
Action:	Call qulified service personel to check the communication connector and cable.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————————

Message:	Carrier Error
Cause:	An error occurred on the carrier unit.
Action:	Call qualified service personel to check the carrier unit.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————————

Message:	**Carrier Communication Time Out or Servomotor Error**
Cause:	The communication with the carrier unit or the peripheral chain servomotor controller could not be established.
Action:	Call qualified service personel to check the communication connector/cable, and the servocontroller.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————

Message:	**PPMC (Chain Control) Error**
Cause:	An error occurred on the peripheral chain motor.
Action:	Call qualified service personel to check the peripheral chain motor and the carrier position sensor.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————

Message:	**Wire Control Error**
Cause:	An error occurred on the carrier unit wire controller.
Action:	Call qualified service personel to check the carrier unit.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————

Message:	**Unusual Race Data to Track**
Cause:	Abnormal race data was sent to the track unit.
Action:	Call qualified service personel to check the track unit PCB and the controller unit PCB.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————

Message:	**Unknown Track Unit Error**
Cause:	An unknown error code was received from the track unit.
Action:	Call qualified service personel to check the track unit.
	Tuirn ON and OFF the RESET keyswitch.

—————————————————————————————

Message:	**WARNING** **CANNOT CONNECT AT-BOX UNIT**
Cause:	The communication with AT box could not be established.
Action:	Call qualified service personel to check the communication cable.
	Truning the RESET keyswitch is not ncessary.

4.3   DOOR OPEN Messages

If a door is opened during the operating time, the following messages appear on the monitor screen.

Message:	M-DOOR OPEN
Cause:	The door of the main control unit is open.
Action:	Close the door.
	Check the door lock.

————————————————————————————————————

Message:	PCB-DOOR OPEN
Cause:	The PCB box door is open.
Action:	Close the door.
	Check the door lock.

————————————————————————————————————

Message:	M and PCB DOOR OPEN
Cause:	Both doors of the main control unit and PCB box are open.
Action:	Close the both doors.
	Check the door locks.

5 SETTING ON STATION UNIT

5.1   Setting Software Machine Options (SETTING)

The following software machine options can be configured on each station unit.

⚠ **CAUTION!**

The software setting must be performed by authorized personnel because it affects the machine operation.
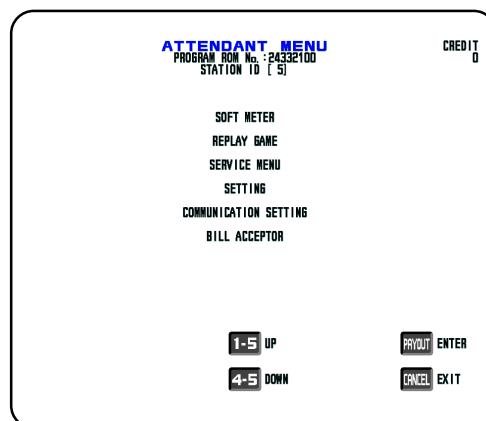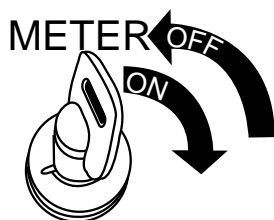
NOTE

Because the software options of the station units have been set at the shipment, the field setting is not necessary basically.
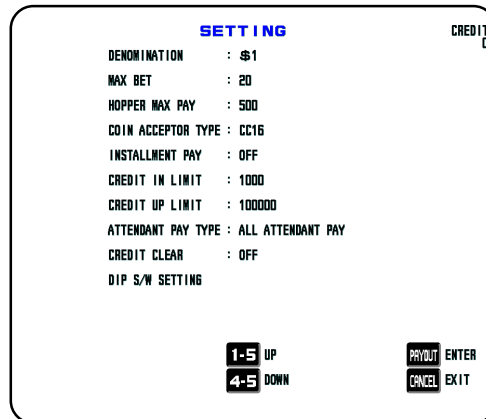
The software setting can be protected by the DIP switch post 8. Refer to Paragarph 5.3.

Procedure

1.   Call the ATTENDANT MENU by turning the ME TER keyswitch on the station unit.
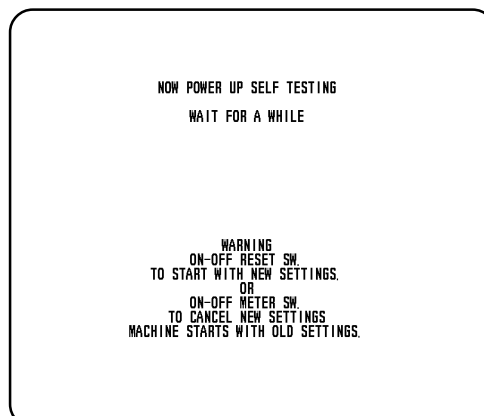
2.   Open the SETTING from the ATTENDANT MENU by using the bet buttons indicated on the screen.

```
                    SETTING                        CREDIT
                                                        0
        DENOMINATION      : $1
        MAX BET           : 20
        HOPPER MAX PAY    : 500
        COIN ACCEPTOR TYPE : CC16
        INSTALLMENT PAY   : OFF
        CREDIT IN LIMIT   : 1000
        CREDIT UP LIMIT   : 100000
        ATTENDANT PAY TYPE : ALL ATTENDANT PAY
        CREDIT CLEAR      : OFF
        DIP S/W SETTING


                            1-5  UP          PAYOUT ENTER
                            4-5  DOWN        CANCEL EXIT
```

NOTE
When the setting is protected by the DIP switch post 8, the message of **"NOW SETTING PRO-TECT MODE   SO DISABLE SETTING MENU"** *is displayed.   In this case, changing the DIP switch setting is necessary.*

3.   Open your desired item, and make the setting.   For the details, refer to Paragraphs 5.1.1 through 5.1.9.

4.   To go back to the ATTENDANT MENU, press the CANCEL button. In ATTENDANT MENU, the message of **"POWER OFF-ON TO USE NEW SETTING"** is displayed.

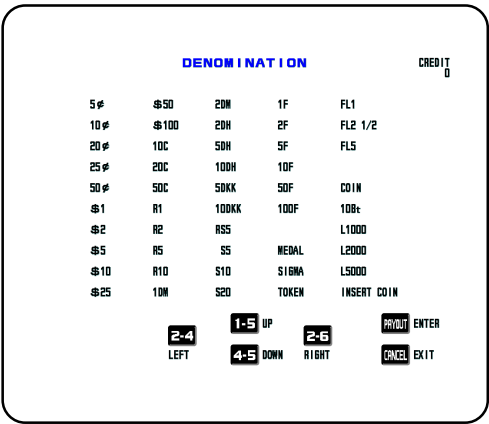5.   Turn OFF and ON the station unit to display the following message.

```
            NOW POWER UP SELF TESTING
                WAIT FOR A WHILE




                    WARNING
                ON-OFF RESET SW.
           TO START WITH NEW SETTINGS.
                      OR
               ON-OFF METER SW.
            TO CANCEL NEW SETTINGS
        MACHINE STARTS WITH OLD SETTINGS.
```

6. Turn the RESET key switch to use the new setting.
    Turn the METER key switch to cancel the new setting.

> ### *NOTE*
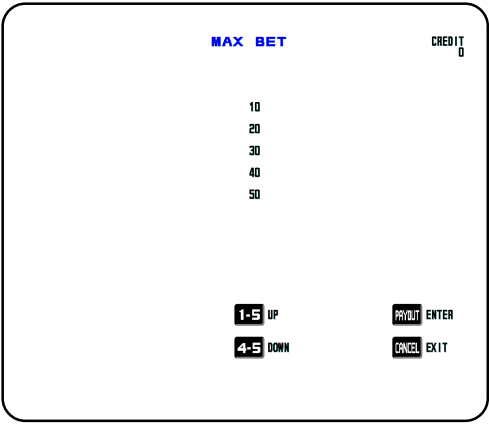> *When turning the RESET key switch, the game data including the last game data will be cleared.*

5.1.1   DENOMINATION

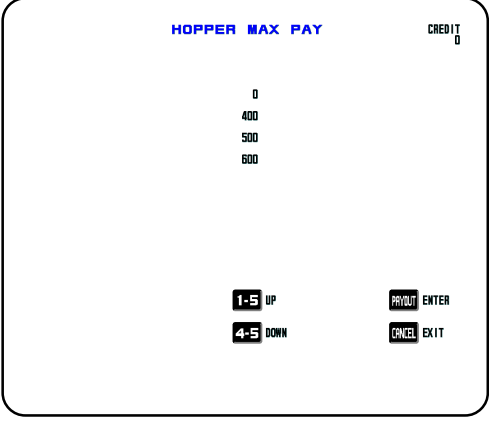Set the denomination by using the indicated buttons.

```
              DENOMINATION                        CREDIT
                                                     0

      5¢     $50    20M    1F     FL1
     10¢    $100    20H    2F     FL2 1/2
     20¢     10C    50H    5F     FL5
     25¢     20C   100H   10F
     50¢     50C   50KK   50F     COIN
      $1      R1  100KK  100F     10Bε
      $2      R2    RS5          L1000
      $5      R5     S5   MEDAL  L2000
     $10     R10    S10   SIGMA  L5000
     $25     10M    S20   TOKEN  INSERT COIN

                      1-5 UP            PAYOUT ENTER
            2-4                2-6
            LEFT      4-5 DOWN  RIGHT    CANCEL EXIT
```

5.1.2   MAX BET

Set how many times a player can bet at most on each horse/combination.

```
              MAX  BET                           CREDIT
                                                     0

                      10
                      20
                      30
                      40
                      50



                1-5 UP            PAYOUT ENTER

                4-5 DOWN          CANCEL EXIT
```
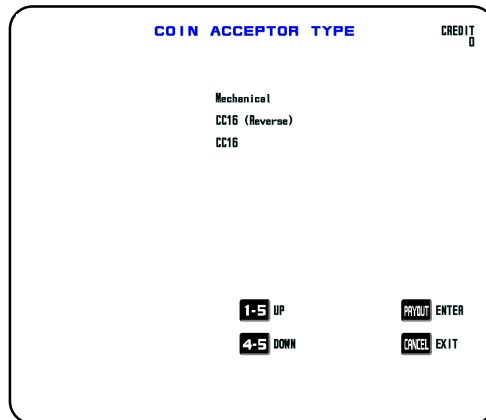
5.1.3   HOPPER MAX PAY

Set how many coins can be paid out at most by pressing the PAYOUT button once. (To pay out coins over this limit, attendant pay is necessary.)
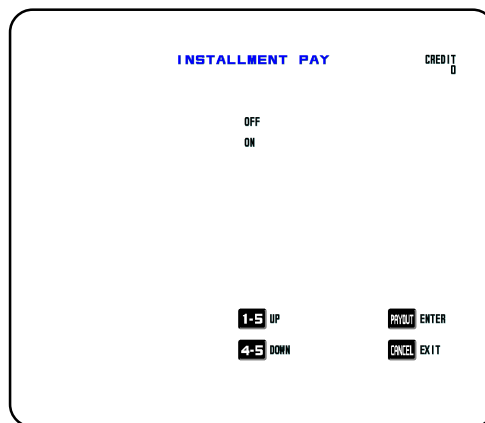
```
           HOPPER MAX PAY                         CREDIT
                                                     0

                      0
                     400
                     500
                     600



                1-5 UP            PAYOUT ENTER

                4-5 DOWN          CANCEL EXIT
```

5.1.4 COIN ACCEPTOR TYPE

Set the type of your coin acceptor.

```
         COIN ACCEPTOR TYPE          CREDIT
                                        0


                Mechanical
                CC16 (Reverse)
                CC16




           1-5  UP            PAYOUT  ENTER
           4-5  DOWN          CANCEL  EXIT
```

5.1.5 INSTALLMENT PAY

Set if the payout operation from the hopper can be aborted or not.

```
         INSTALLMENT PAY             CREDIT
                                        0


                OFF
                ON





           1-5  UP            PAYOUT  ENTER
           4-5  DOWN          CANCEL  EXIT
```

When ON, pressing the PAYOUT button again aborts the payout operation as soon as the number of units of the credit meter hits zero. (This function is invalid for the payout beyond HOPPER MAX PAY.)

\<Example of INSTALLMENT PAY ON\>

After pressing the PAYOUT button to cash the current 59 credits, the button was pressed again when the credit meter read 57. The paying operation does not stop before the meter reads 50.

5.1.6　CREDIT IN LIMIT

Set how many credits can be posted at most to the credit meter by inserting coins.　Once the credit meter reads this limit, inserting a coin is not available.

```
                CREDIT IN LIMIT              CREDIT
                                                  0


                       100
                       500
                      1000
                      5000




               1-5 UP              PAYOUT ENTER
               4-5 DOWN            CANCEL EXIT
```

<Example>
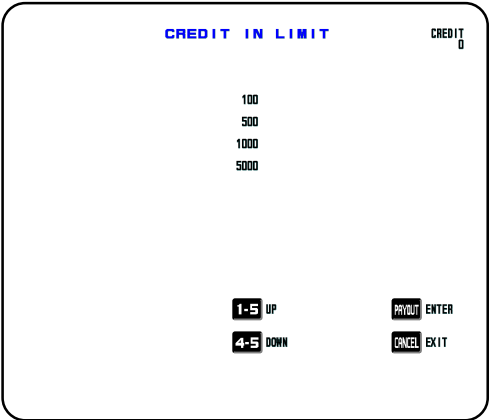
In the condition of "1COIN=2 CREDITS" and "CREDIT IN LIMIT=1,000", a coin cannot be inserted when the credit meter is reading 999.

5.1.7　CREDIT UP LIMIT

Set how many credits can be posted at most to the credit meter. If the credit meter exceeds this limit, coins are forcibly paid out just like pressing the PAYOUT button.

```
                CREDIT UP LIMIT              CREDIT
                                                  0


                     100000
                     200000
                     500000




               1-5 UP              PAYOUT ENTER
               4-5 DOWN            CANCEL EXIT
```
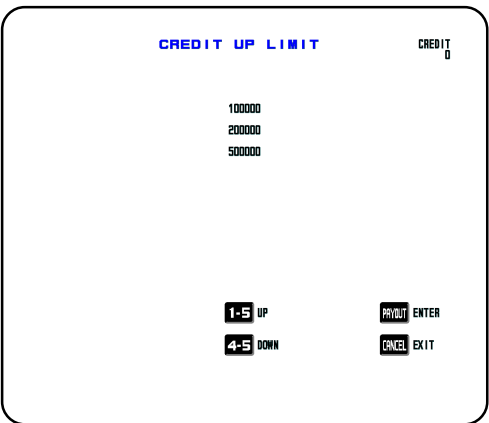
5.1.8   ATTENDANT PAY TYPE

Select your desired attendant pay type.

```
        ATTENDANT PAY TYPE              CREDIT
                                             0


        BALANCE PAY
        ALL ATTENDANT PAY
        ALL ATTENDANT PAY/RETURN TO GAME
        BALANCE PAY * 100
        BALANCE PAY *10




            1-5 UP              PAYOUT ENTER

            4-5 DOWN            CANCEL EXIT
```
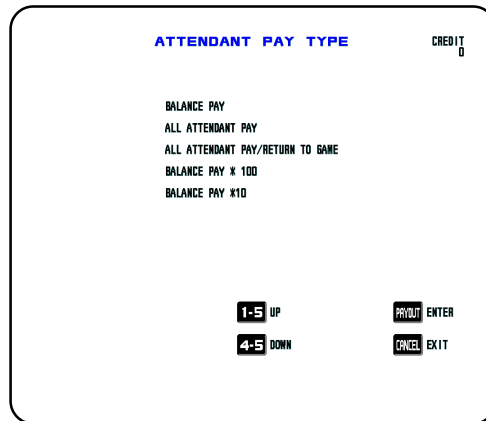
BALANCE PAY:

> Up to the same number of coins as HOPPER MAX PAY are paid out from the hopper, and the balance by an attendant.

ALL ATTENDANT PAY:

> An attendant pays for all the credits. (No coin is paid from the hopper.)

BALANCE PAY*10:

> The hopper pays coins within the range of HOPPER MAX PAY so that an attendant can pay the balance in a unit of 10 coins.

BALANCE PAY*100:

> The hopper pays coins within the range of HOPPER MAX PAY so that an attendant can pay the balance in a unit of 100 coins.

ALL ATTENDANT PAY/RETURN TO GAME:

> An attendant pays coins for all the credits. (No coin is paid out from the hopper.)   However, the regular game mode will be back by pressing the PAYOUT button rather than turning ON the RESET key switch.

5.1.9 CREDIT CLEAR

Set if the CREDIT CLEAR function can be used or not. When used, the credit meter can be cleared by keeping ON the RESET key switch.

```
                    CREDIT CLEAR              CREDIT
                                                 0


                         OFF
                         ON




                      1-5 UP          PAYOUT ENTER
                      4-5 DOWN         CANCEL EXIT
```
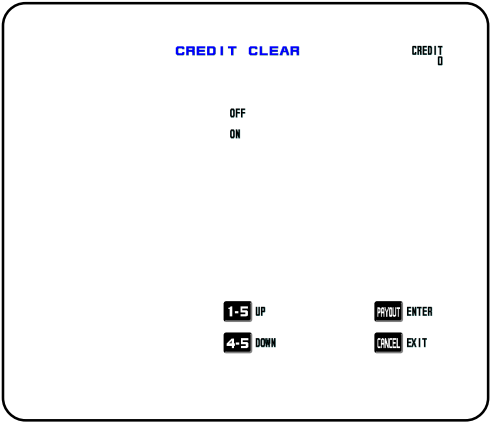
5.1.10 DIP S/W SETTING

The DIP switch setting of the station PCB can be viewed. Refer to Paragraph 5.3 for the DIP switch setting.

```
                    DIP S/W SETTING            CREDIT
                                                  0

   NOT USEUP              USE  ON  1  OFF  NOT USE
   HOPPER TEST            USE  ON  2  OFF  NOT USE
   CREDIT PER 1 COIN          3  4  5
                             OFF OFF OFF   1 CREDIT
                             ON  OFF OFF   2 CREDIT
                             OFF ON  OFF   4 CREDIT
                             ON  ON  OFF   5 CREDIT
                             OFF OFF ON   10 CREDIT
                             ON  OFF ON    1 CREDIT
                             OFF ON  ON    1 CREDIT
                             ON  ON  ON    1 CREDIT
   BILL ACCEPTOR         NOT USE  ON  6  OFF  USE
   NOT USE                    ON  7  OFF
   SETTING PROTECT        ON  ON  8  OFF  OFF

           TURN POWER OFF-ON
           TO USE NEW SETTING
                                    : SETTING AT LAST POWER-ON
                               RED CHARACTER : NEW SETTING

                               CANCEL EXIT
```

5.2   Setting Communication with External Equipment

NOTE

Because the COMMUNICATION SETTING has been set at the shipment, the field setting is not necessary basically.

COMMUNICATION SETTING can be protected by the DIP switch post 8. Refer to Paragarph 5.3.

Procedure

1.   Open the COMMUNICATION SETTING from the ATTENDANT MENU. Accoding to your current setting, one of the following screens appears.
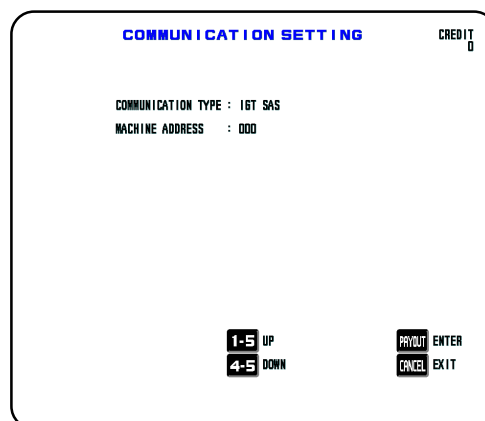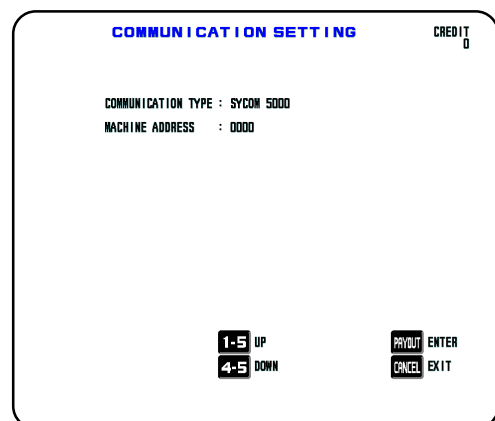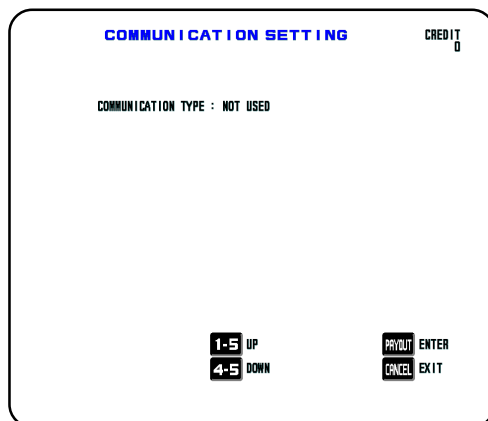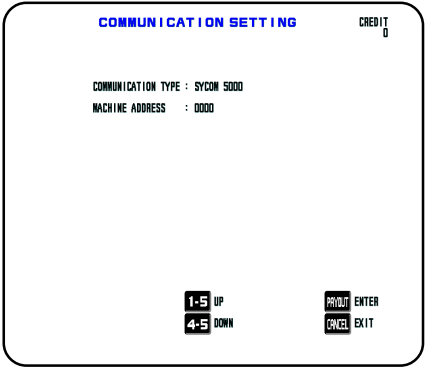
NOTE

When the setting is protected by the DIP switch post 8, the message of "NOW SETTING PRO-TECT MODE SO DISABLE SETTING MENU" is displayed.   In this case, changing the DIP switch setting is necessary.

2. Press the PAYOUT (ENTER) button to call the folowing screen COMMUNICATION TYPE.

```
COMMUNICATION TYPE          CREDIT
                               0


          NOT USED
          SYCOM 5000
          IGT SAS




                1-5 UP      PAYOUT ENTER
                4-5 DOWN    CANCEL EXIT
```
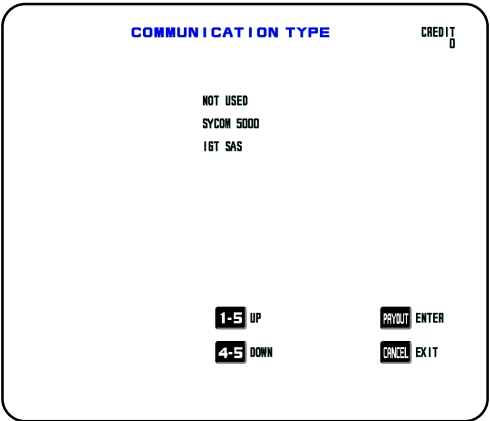
3. Select and set your desired item by using the indicated bet buttons.

<SYCOM 5000>

```
COMMUNICATION SETTING    CREDIT
                            0

COMMUNICATION TYPE : SYCOM 5000
MACHINE ADDRESS    : 0000




           1-5 UP    PAYOUT ENTER
           4-5 DOWN  CANCEL EXIT
```

```
MACHINE ADDRESS    CREDIT
                      0

        0 0 0 0




            UP
            1-5
        2-4     2-6    PAYOUT ENTER
        LEFT 4-5 RIGHT CANCEL EXIT
            DOWN
```

<IGT SAS>

```
COMMUNICATION SETTING    CREDIT
                            0

COMMUNICATION TYPE : IGT SAS
MACHINE ADDRESS    : 000




           1-5 UP    PAYOUT ENTER
           4-5 DOWN  CANCEL EXIT
```

```
SERIAL NUMBER    CREDIT
                    0

        0 0 0




            UP
            1-5
        2-4     2-6    PAYOUT ENTER
        LEFT 4-5 RIGHT CANCEL EXIT
            DOWN
```

4.   When the ATTENDANT MENU is back, the message of **"POWER OFF-ON TO USE NEW SETTING"** is displayed.

5.   Turn OFF and ON the station unit to display the following message.

```
        NOW POWER UP SELF TESTING

             WAIT FOR A WHILE




                   WARNING
              ON-OFF RESET SW.
         TO START WITH NEW SETTINGS.
                     OR
              ON-OFF METER SW.
           TO CANCEL NEW SETTINGS
         MACHINE STARTS WITH OLD SETTINGS.
```
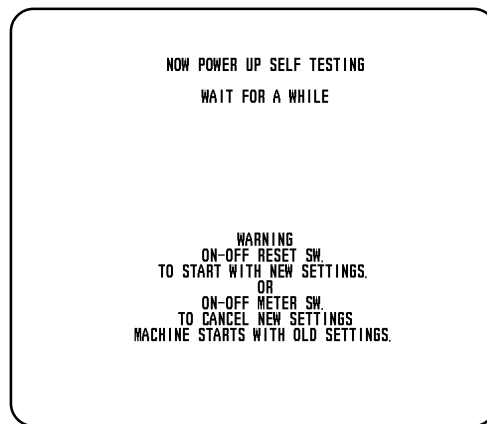
6.   Turn the RESET key switch to use the new setting.
      Turn the METER key switch to cancel the new setting.

NOTE

When turning the RESET key switch, the game data including the last game data will be cleared

5.3   Setting DIP Switches on Station PCB

The machine options can be set by the DIP switch on the station PCB.

⚠ CAUTION !

Changing the DIP switch setting affects the machine operation. Only qualified personnel should change the setting.

Procedure

1.   Open the front door of the station unit.

2.   Unlock the PCB box door.

Voltage checking pins

Station ROM
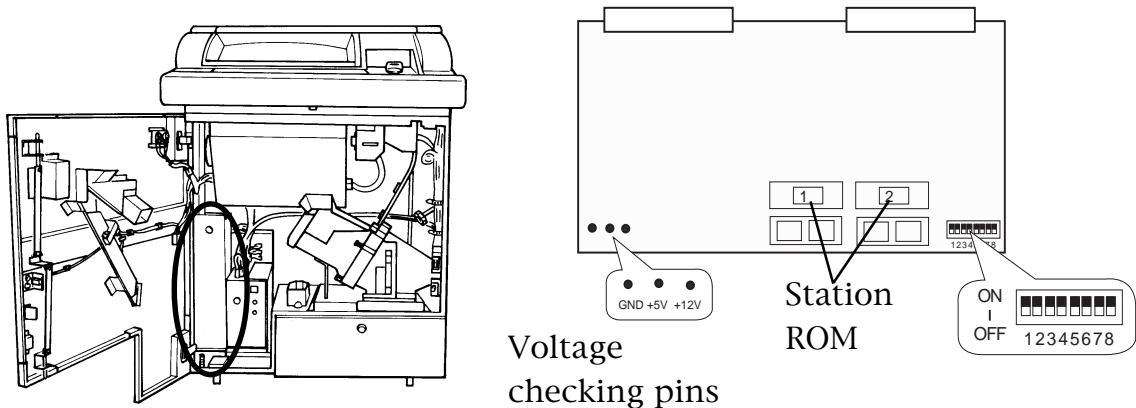
3.   Withdraw the station PCB to find the DIP switch.

4.   Set the DIP switch by using the following list.

Switch Posts #1
   ON: Manual posting of credits (credit-up)is available.
   OFF: Manual posting of credits (credit-up) is not available.

Switch Posts #2
   ON: Testing the hopper is available.
   OFF: Testing the hopper is not available.

Switch Posts #3 to #5
Used to change the number of credits to one coin.

#3	#4	#5	
OFF	OFF	OFF	1 credit
ON	OFF	OFF	2 credits
OFF	ON	OFF	4 credits
ON	ON	OFF	5 credits
OFF	OFF	ON	10 creidts
ON	OFF	ON	1 credit
OFF	ON	ON	1 credit
ON	ON	ON	1 credit

Switch Post #6:
ON:　A bill acceptor is not used.
OFF:　A bill acceptor is used.

Switch Post #7: Not used

Switch Post #8 (SETTING PROTECT)
ON:　The software setting cannot be changed.
OFF:　The software setting can be changed.

> ### *NOTE*
> *Just after updating the software setting, be sure to turn ON the post #8.*

4. After changing the DIP switch setting, turn OFF-ON the power to restart the station unit.

5. At initializing, the message of **"WARNING, DIP SW. OR JUMPER SETTING STATUS IS CHANGED. TURN ON-OFF RESET SW. FOR USING NEW SETTING. GAME DATA EXCEPT METERS ARE CLEARED"** is displayed on the monitor screen.

6. Turn the RESET keyswitch to go back to the game mode.

6. TEST ON STATION UNIT (SERVICE MENU)

The diagnostic tests on a station unit are outlined below.

Procedure

1. Call the ATTENDANT MENU by turning the METER keyswitch on the station unit.
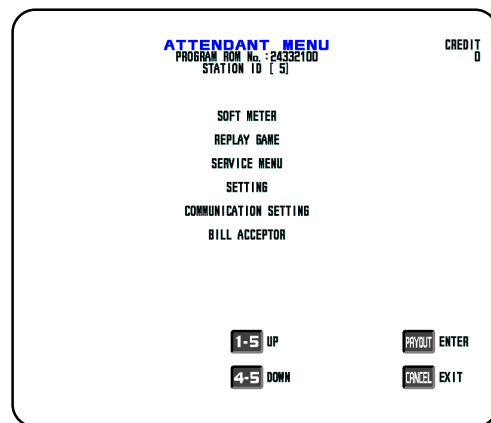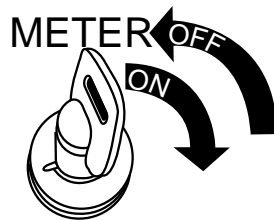
2. Open the SERVICE MENU from the ATTENDANT MENU by using the bet buttons indicated on the screen.
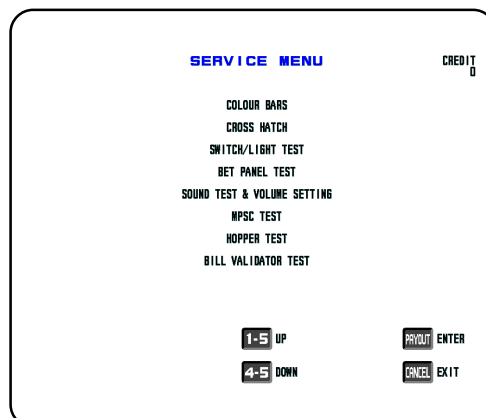
6.1   COLOUR BARS

Open the COLOUR BARS to test the monitor screen.

If any adjustment is necessary, refer to our Service Manual, Paragraph 5.1.
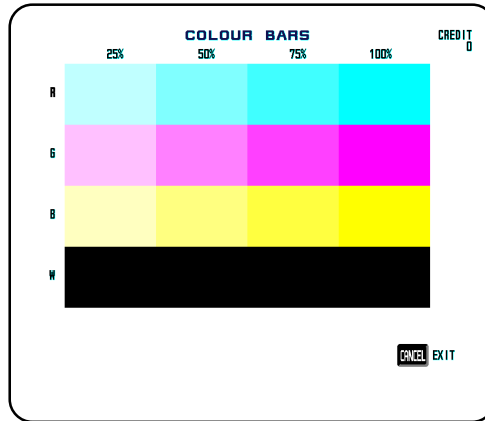
6.2   CROSS HATCH

Open the CROSS HATCH to test the monitor.

If any adjustment is necessary, refer to our Service Manual, Paragraph 5.1.
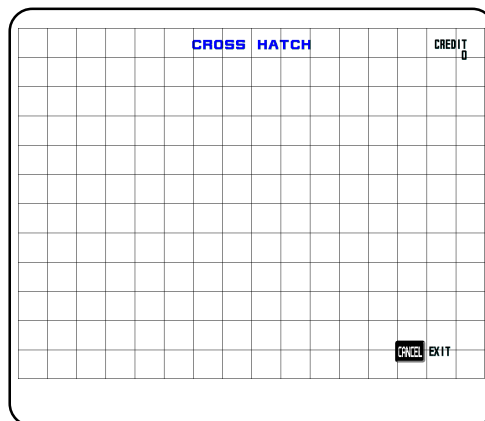
6.3 SWITCH/LIGHT TEST

Open the SWITCH/LIGHT TEST to test the switches and lights in the following procedure.

```
                    SWITCH/LIGHT TEST              CREDIT
                                                      0

         IN-PORT                 OUT-PORT

    COIN IN SENSOR 1
    COIN IN SENSOR 2
    DROP COIN IN SENSOR
    HOPPER WEIGHT SW.
    RESET KEY                  WIN LAMP BLUE & DIVERTER
    METER KEY                  WIN LAMP RED & LOCKOUT COIL
    CREDIT UP KEY
    FRONT DOOR O/C SW.
    UPPER DOOR O/C SW.
    CASH DOOR O/C SW.
    BILL VALID DOOR O/C SW.
    LOGIC DOOR O/C SW.
    CHANGE SW.                     CHANGE LIGHT
    DIVERTER SW.
    HOPPER REFILL SW.




                                             CANCEL EXIT
```
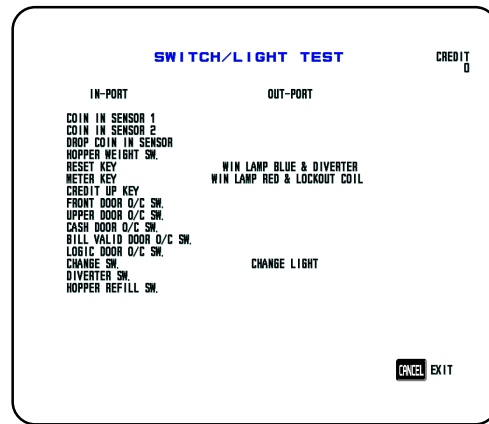
Procedure

1. Activate the object to be tested.

2. Check that the displayed characters turn ON (red) and OFF (white).

3. If any problem is detected, contact to Sigma Inc. or your nearest distributor.

4. To exit this mode, press the CANCEL button.

6.4   BET PANEL TEST

Open the BET PANEL TEST from the SERVICE MENU to test the betting buttons.
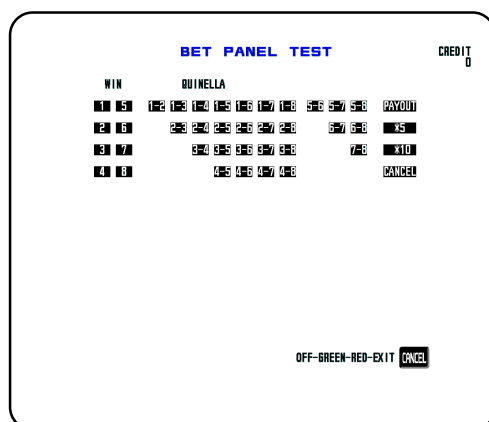
Procedure

1.   Activate the button to be tested.

2.   Check that the displayed button turns OFF, green, then red by pressing the CANCEL button.

3.   If any problem is detected, contact to Sigma Inc. or your nearest distributor.

4.   To exit this mode, use the CANCEL button.

6.5   SOUND TEST & VOLUME SETTING

Open the SOUND TEST & VOLUME SETTING from SERVICE MENU to test and adjust the sound.

```
┌──────────────────────────────────────────────┐
│                                                │
│    SOUND TEST & VOLUME SETTING      CREDIT     │
│                                        0       │
│                                                │
│                                                │
│         VOLUME        SOUND CODE               │
│          10           1: Error Sound           │
│                                                │
│                                                │
│                                                │
│                                                │
│                                                │
│                                                │
│     1-5 - - - UP - - - 1-6     PAYOUT ENTER    │
│                                                │
│     4-5 - - - DOWN - - 4-6     CANCEL EXIT     │
│                                                │
└──────────────────────────────────────────────┘
```
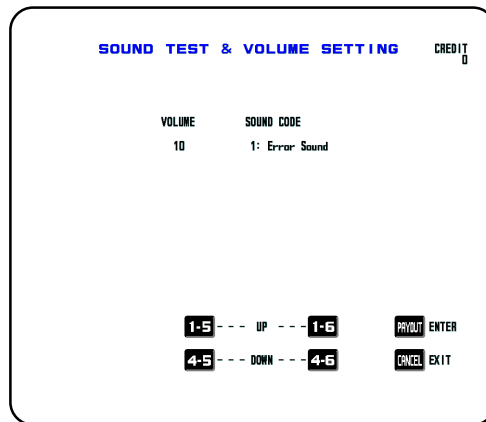
Procedure

1. Select the sound code by using the betting buttons of 1-6 and 4-6.

2. Press the PAYOUT button to hear the sound.

3. Adjust the volume by pressing the betting buttons of 1-5 and 4-5.

4. To exit this mode, press the CANCEL button.

6.6   MPSC TEST

Open the MPSC TEST from SERVICE MENU to check the communication status with the main control unit.

If no electric sound is heard as soon as opening the MPSC TEST, or if the error counts are extremely high, contact to Sigma Inc. or your nearest distributor.

```
┌──────────────────────────────────────────────┐
│                                                │
│           MPSC TEST                 CREDIT     │
│                                        0       │
│                                                │
│                                                │
│      SEND ABORT    :  0                        │
│      DELECT ABORT :   0                        │
│      OVER RUN      :  0                         │
│      CRC ERROR     :  0                         │
│      SHORT ERROR   :  0                         │
│                                                │
│                                                │
│                                                │
│                                                │
│                                CANCEL EXIT     │
│                                                │
└──────────────────────────────────────────────┘
```
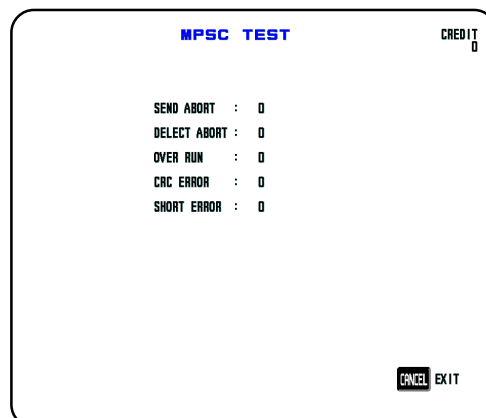
6.7   HOPPER TEST

Open the HOPPER TEST from SERVICE MENU to test the hopper operation. This function can be used only when the station unit DIP switch post #2 has been set to ON.   Refer to Paragraph 5.3.

⚠ **CAUTION !**

Changing the DIP switch setting affects the machine operation. Only qualified service personnel should change the setting.

```
                    HOPPER TEST                CREDIT
                                                  0

                HOPPER TEST 10 COIN MODE
                HOPPER TEST ALL COIN MODE




                      [1-5] UP          [PAYOUT] ENTER
                      [4-5] DOWN         [CANCEL] EXIT
```
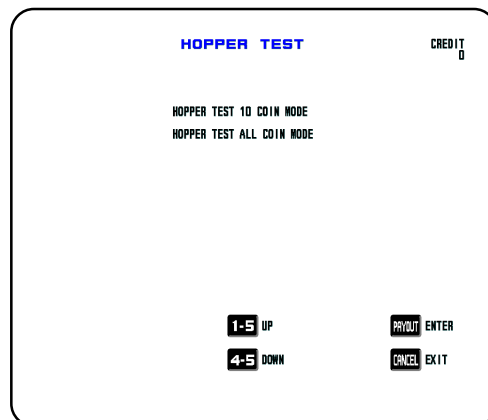
Procedure

1.   Open your desired test type .

```
    HOPPER TEST 10 COIN MODE   CREDIT          HOPPER TEST ALL COIN MODE    CREDIT
                                  0                                            0



         PAY OUT COUNT    0                          PAY OUT COUNT    0




                    [PAYOUT] PAY OUT                            [PAYOUT] PAY OUT
                    [CANCEL] EXIT                               [CANCEL] EXIT
```
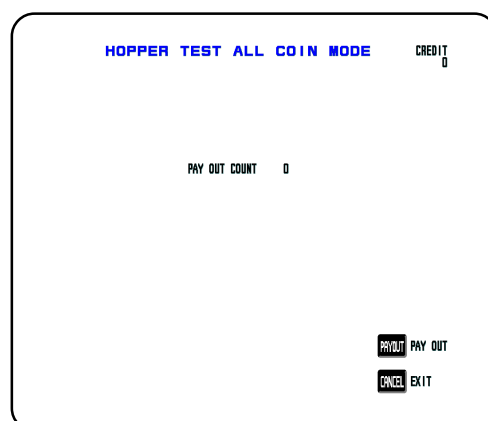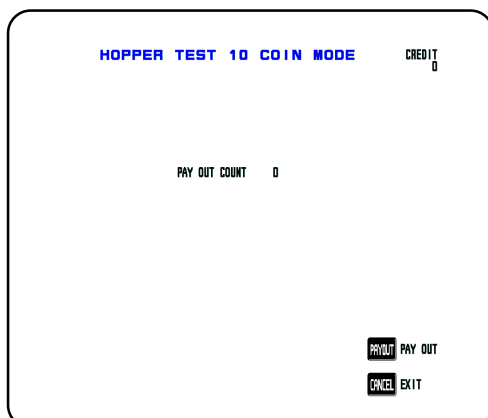
HOPPER TEST 10 COIN MODE: Pays out 10 coins for the test.
HOPPER TEST ALL COIN MODE: Pays out all the coins in the hopper for the test.

3.   Press the PAYOUT button to start the test.

> *NOTE*
> *To abort the test in HOPPER TEST ALL COIN*
> *MODE, press the PAYOUT (STOP) button again.*

4.   If any problem is detected, contact to Sigma Inc. or your nearest distributor.

5.   To exit this mode, press the CANCEL button.

6.8   BILL VALIDATOR TEST

Open the BILL VALIDATOR TEST from SERVICE MENU to check the function of the bill validator .
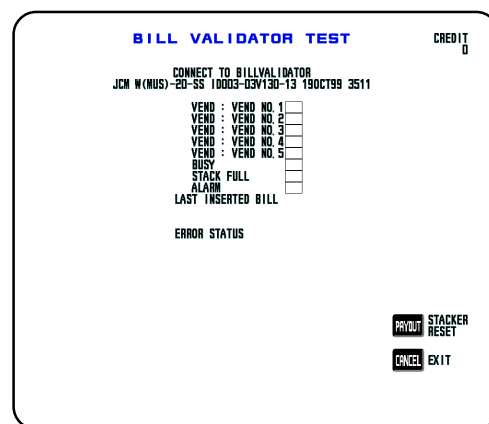
Procedure

1.   Insert a bill, and check the displayed value of INSERTED BILL is correct.

2.   To initialize the bill stacker, press the PAYOUT button.

3.   To exit this mode, press the CANCEL button.

7. CLEARING COIN/BILL JAM

If a coin or bill jam occurred, use the following procedures.

⚠ **WARNING !**

Risk of Hurt

When opening the upper door, be sure to lock the stay.

7.1 Clearing Coin Jam

The procedure for clearing a coin jam is outlined below.

7.1.1   Clearing a COIN-IN jam

If a COIN-IN jam error occurs, the error message of **"COIN-IN JAM OR TIMEOUT"** is displayed on the monitor screen. Take the following action.

7.1.1.1   When CC-16 coin acceptor is used

Procedure

1.   Open the front door to turn OFF the station unit.

2.   Open the upper door to locate the coin cup unit.

> *NOTE*
> *The upper door lock is located just under the arm rest.*

3.   Loosen the thumbscrew on the right of the COIN CUP unit, and then the screw on the rear.

Screw
Coin cup
Thumbscrew
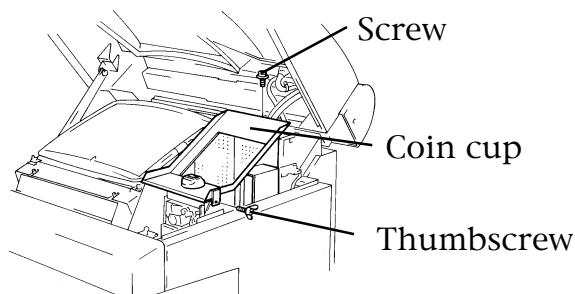
4. Remove the COIN CUP unit to locate the coin acceptor.

5. Open the coin acceptor to make the coin path visible.

Coin path
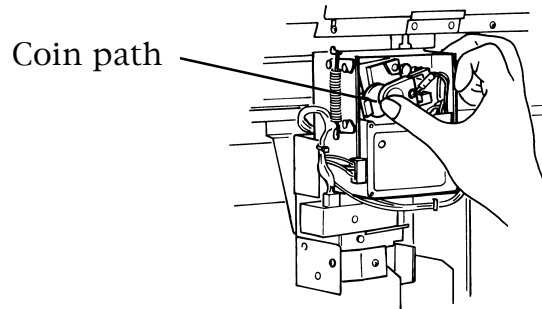
6. If necessary, remove the coin acceptor by disconnecting the connector and slightly raising the latch bar.

Latch bar   Coin acceptor

Connector
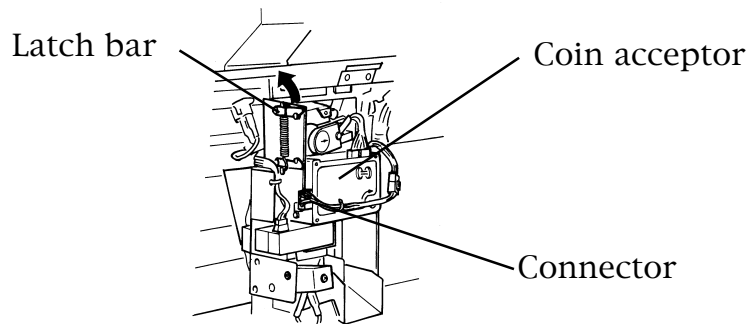
7. Clear the jamming coin.

8. When the coin acceptor was removed in the step 6, return it.

9. Return the COIN CUP unit in the reverse order of the above.

10. Close the upper door.

11. Turn ON the station unit before closing the front door.

7.1.1.2   When CONDOR coin acceptor is used

Procedure

1.   Locate the coin acceptor by using
     the steps described in Paragraph 7.1.1.1,
     Steps 1 through 4.

2.   Unlatch the coin acceptor to
     disconnect the connector.

3.   Take out the coin acceptor
     to clear the jamming coin.

4.   After clearing the jam, connect
     the connector to return the coin
     acceptor to the previous position.

5.   Turn ON the power before closing
     the front door.
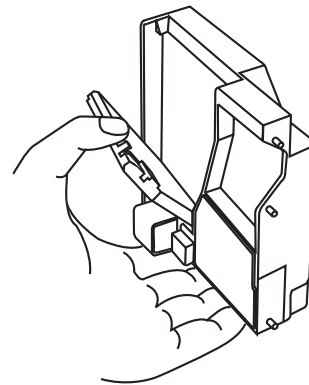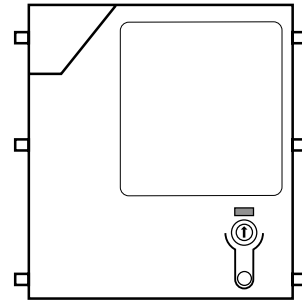
7.1.2   Clearing a DROP-COIN jam

If a DROP-COIN jam error occurs, the error message of **"COIN-IN DROP JAM/TIMEOUT"** is displayed on the monitor screen.   Take the following action to clear the jam.

Procedure

1.   Open the front door and turn OFF the station unit.

2.   Find the coin chute on the back of the front door and the 3 holes on the chute.

DROP COIN sensor

Holes for
clearing a jam
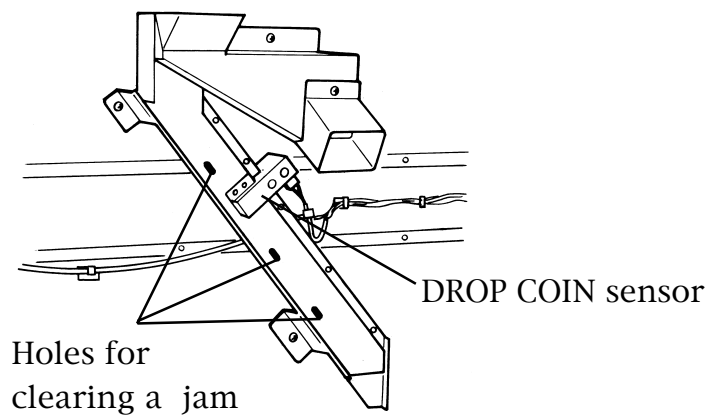
3.   Insert a thin driver or a thick wire into the 3 holes to clear the jamming coin.

4.   Turn ON the station unit before closing the front door.

7.2 Clearing a HOPPER Jam

If a HOPPER jam error occurs, the error message of **"HOPPER JAM OR TIMEOUT"** is displayed on the monitor screen.   Take the following action to clear the jam.

⚠️ **WARNING !**

RISK OF BURN

The shield of the hopper motor may be hot.

Wait until the shield cools down before touching the hopper.

RISK OF HURT

Do not rotate the shelf wheel forcibly for clearing a jamming coin.

When the hopper is heavy with coins, remove the coins from the hopper.

Procedure

1.   Open the front door to turn OFF the station unit.

2.   Open the upper door to locate the COIN CUP unit.

3.   Remove the COIN CUP unit by using the steps described in Paragraph 7.1.1.1, Steps 1 through 4.

4.   Disconnect the connector from the hopper.

5.   Loosen the two thumbscrews on the hopper base, and remove the plate.

Coin lifter

Positioning plate

Hopper
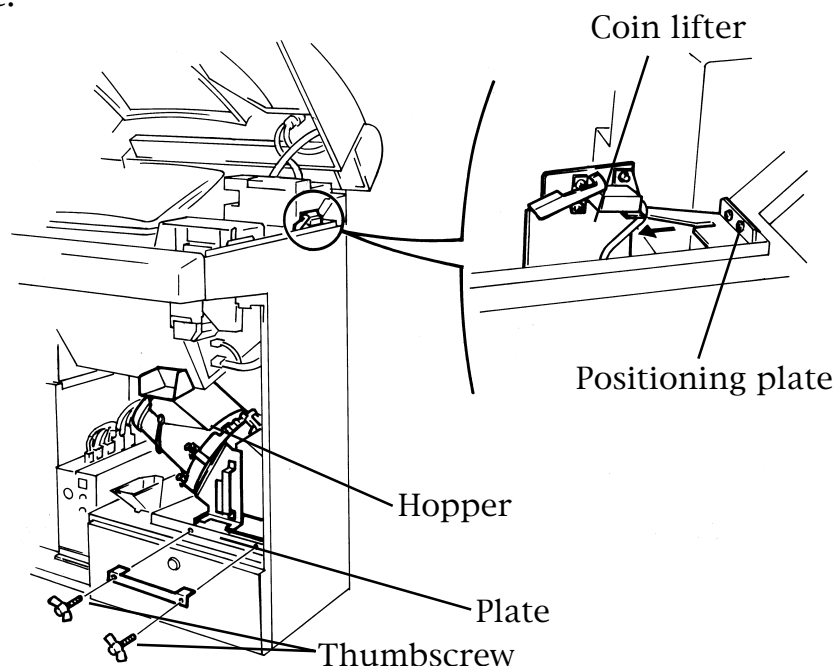
Plate

Thumbscrew

6. Detach the top of the coin lifter from the cut of the positioning plate.

7. Hold the hopper and the lifter by hands, and carefully slide them out.

8. Loosen the thumbscrew depicted below to remove the cover.

Thumbscrew
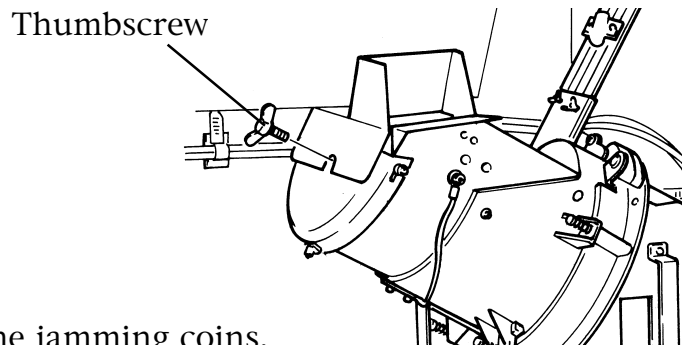
9. Clear the jamming coins.

    (1) Manually rotate the shelf wheel first counterclockwise, then clockwise to free the coins.

    (2) Push the jamming coin back in by using the edge of simillar coin.

10. Return the hopper and the lifter in the reverse order of the above.

11. Return the COIN CUP unit.

12. Connect the connector to the hopper.

13. Close the upper door.

14. Turn ON the station unit before closing the front door.

CHECK !

The top of the lifter must fit into the cut of the positioning plate in order to properly pay out coins.

7.3 Clearing a COIN REJECT Error

If inserted coins are very often rejected, check the sample coin in the coin acceptor.

1. If the sample coin is not in place, correct it.
2. If the sample coin is in place, replace it with another one.

7.4   Clearing a Bill Jam

If a bill jam error occurs, the error message of **"BILL VALI. ERROR"** is displayed on the monitor screen. Take the following action to clear the jam.

## 7.4.1   When WBA bill acceptor is used
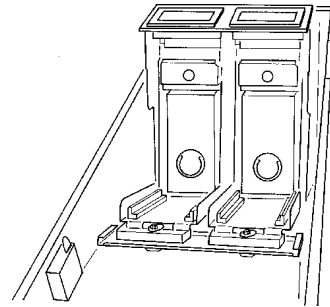
Procedure

1.   Open the front door of the station unit to turn OFF the power.

2.   Open the front and upper doors of the bill acceptor unit to locate the bill validator module.

3.   Pull forward the tabs on the both sides of the bill validator module to open the head.

4.   Clear the jamming bill.

5.   Close the head.
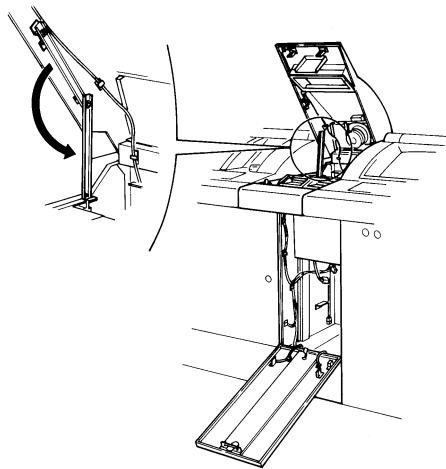
If the jamming bill occurred in the transfer section;

6.   Pull up the top cover release lever to open the top cover.

7.   Clear the jamming bill.

8.   Close the top cover.

Tabs
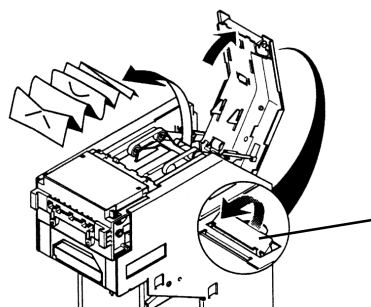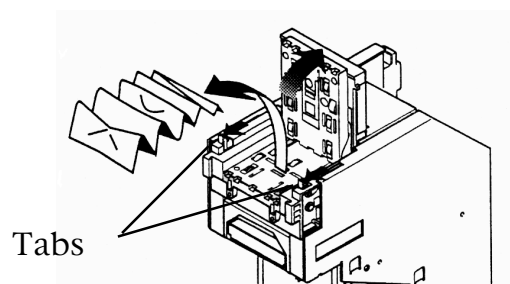
Top cover release lever

If the jamming bill occurred near the inlet of the bill stacker;

9.   Push back to unlatch the bill
     stacker container.

10. Unlock the door of the container to open it.

11. While pressing down the lever on
     the right side, pull out the stacker.

12. Clear the jamming bill.

13. After clearing the jam, return
     the bill stacker into the container,
     then close the door .

14. Close the front and upper doors of
     the bill validator unit.

15   Turn ON the power before closing
     the front door of the station unit.
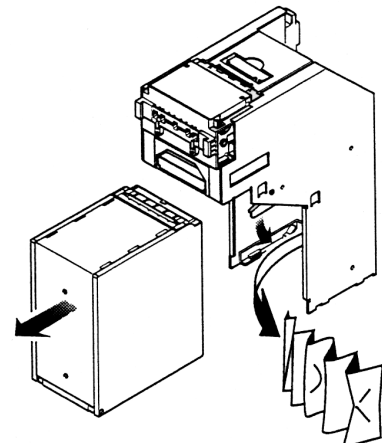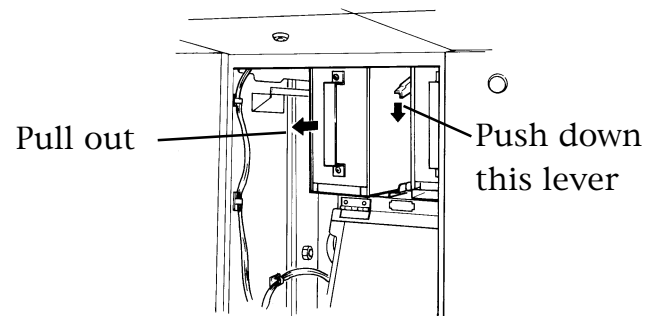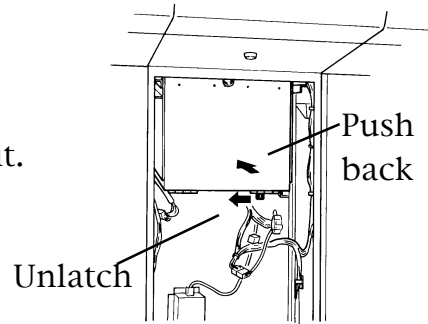
7.4.2   When GPT/SBB bill acceptor is ued

Procedure

1.   Open the front door of the station unit to turn OFF the power.

2.   Open the top door of the bill validator unit.

3.   Locate the bill validator module to open the head by hand.

4.   Clear the jamming bill.

5.   Close the head.

If the jamming bill occurred near
the inlet of the bill stacker;

6.   Pressing down the bill validator
     module to unlatch the bill stacker
     container.

Unlatch

7.   Unlock the door of the container.

8.   Pull out the bill stacker.

9.   Clear the jaming bill.

10. After clearing the jam, return
     the bill stacker into the container,
     then close the door.

Open

11. Close the top door of the bill
     validator unit.

12. Turn ON the power before closing
     the front door of the station unit.
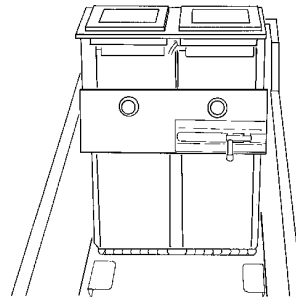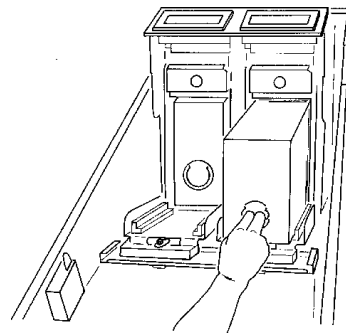
Pull out

8. ADJUSTMENT

⚠ **WARNING !**

Risk of Hurt

When opening the upper door, be sure to lock the stay.

8.1   Adjusting Coin Acceptor

Use the following procedure to adjust the coin acceptor.

8.1.1   When CC-16 coin acceptor is used

Procedure

1.   Open the front and upper doors of the station unit to find the coin acceptor just below the coin entry.

2.   Locate the potentiometer on the lower right position of the acceptor.

3.   Slightly turn the potentiometer clockwise.
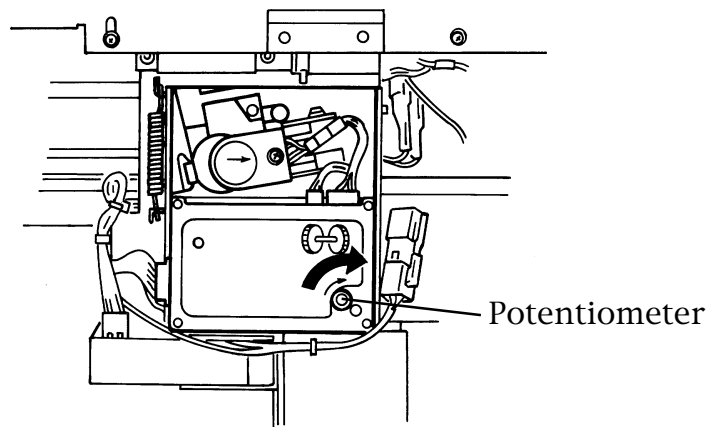
Potentiometer

4.   Close the front and upper doors to insert a high quality slug.

5.   Adjust the potentiometer again until the slug is rejected.

6.   Insert the proper coin to verify the acceptance.

7.   Repeat the above steps as necessary.

8.1.2 When CONDOR coin acceptor is used

Procedure

1. Open the front and upper doors of the station unit to find the coin acceptor just below the coin entry.
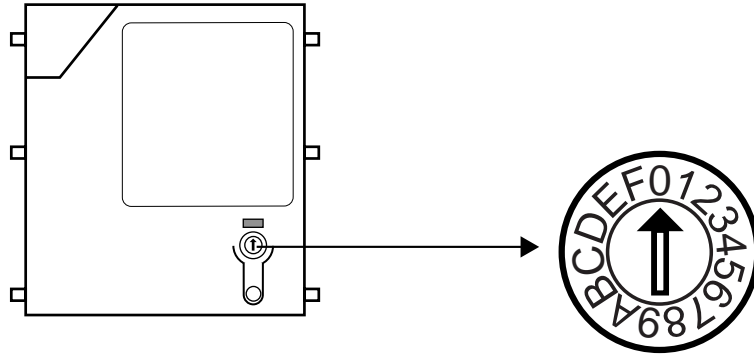
2. Locate the arrow indicator on the lower right of the coin acceptor.

   (1) Set the arrow indicator to zero for the standard setting.

   (2) Turn the arrow indicator clockwise to increase the selectivity for your coinage.

   (3) Turn the arrow indicator counterclockwise to increase the rejectivity aginst slugs.

3. Close the front and upper doors to check the selectivity/rejectivity by inserting proper coins and/or high quality slugs.

4. Repeat the above steps as necessary.

9. CLEANING MACHINE

Clean this machine daily as shown below.

⚠ **CAUTION !**

Be sure to turn OFF the machine before cleaning.

Never use a water jet for cleaning.

Procedure

1. Clean the machine surface.

   ⚠ **CAUTION!**

   Never use chemical duster, thinner, benzine or alcohol.
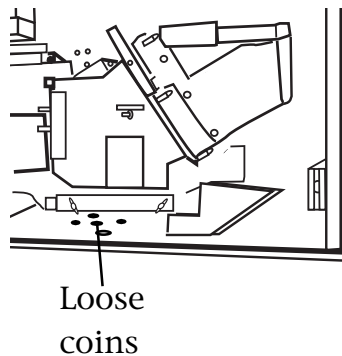   It will damage the machine surface.

   Diluted synthetic detergent can be used, but com-
   pletely wipe it up with dry cloth.

2. Vacuum inside a station unit to remove all dust and debris from the coin chute and hopper.

3. Remove loose coins inside a station unit.

   ⚠ **WARNING!**

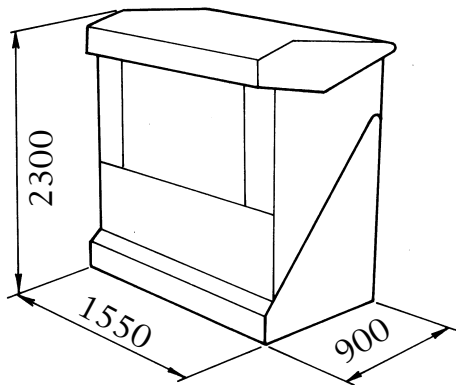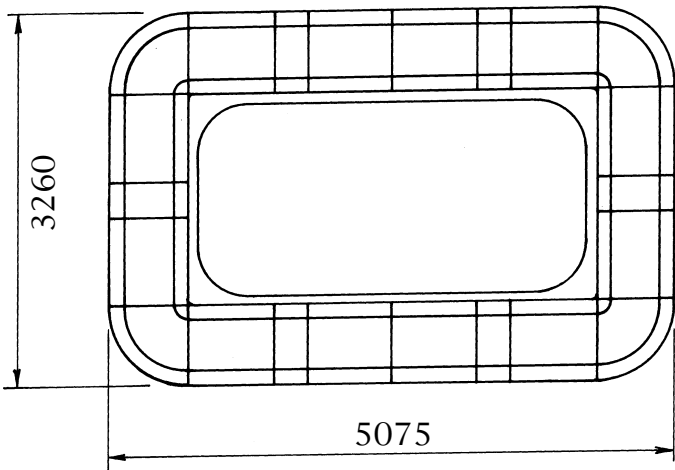   A loose coin could cause an unex-pected hazard including an elec-tric shock.

Loose
coins

10   TECHNICAL DATA

10.1   Dimension and Weight

	Main Body Including Track, Control, and Station Units	Projector Unit
Width	5075mm	1550mm
Depth	3260mm	900mm
Height	1310mm	2300mm
Weight	2710kg	190kg
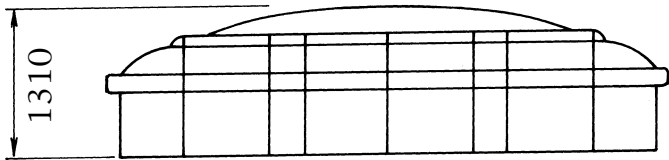
10.2   Utility

Exclusive power source of 30A must be necessary.

Rated voltage:
a)	Europe	230VAC, 50Hz
b)	Korea	220VAC, 60Hz
b)	Other areas	220/230/240VAC, 50/60Hz
		110/120VAC, 50/60Hz

Maximum current draw:

45A (60Hz) at 120VAC

21A (50Hz) at 220, 230, 240VAC

Power cable: Three-core cable

Temperature: 5 to 35 degrees C

Humidity: 30 to 60%, Free from dew condensation

THE DERBY MK-VI V8
MAINTENANCE MANUAL

November 1999   Ver. 001