

SERVICE MANUAL



RINGEDGE™

IMPORTANT

- Before using this product, read this manual carefully to understand the contents herein stated.
- After reading this manual, be sure to keep it near the product or in a convenient place for easy reference when necessary.

WEEE Statement

(for CE only)

The WEEE (Waste of Electrical and Electronic Equipment) directive places an obligation on all EU based manufacturers and importers of Electrical and Electronic Equipment to take back products at the end of their useful life. Sega Amusements Europe Ltd accepts its responsibility to finance the cost of treatment and recovery of redundant WEEE in the United Kingdom in accordance with the specified WEEE recycling requirements.

The following symbol will be on all products manufactured from 13th August 2005, which indicates this product must NOT be disposed of with other normal waste. Instead, it is the user's responsibility to dispose of their waste equipment by arranging to return it to a designated UK collection point for the correct recycling of waste electrical and electronic equipment.

For more information about where you can send your waste equipment for recycling contact your local authority office.



Battery Recycling Statement

(for CE only)

The EC Directive on Batteries and Accumulators (2006/66/EC) aims to minimize the impact of batteries on the environment and encourage the recovery of the materials they contain. To achieve increased collection and recycling of waste batteries, the Directive places 'producer responsibility' obligations on manufacturers and importers of portable, industrial and automotive batteries.

The following symbol will be on all equipment fitted with batteries from 26th September 2008 and indicates they must NOT be disposed of with other normal waste. Instead, it is the user's responsibility to dispose of used batteries by arranging to return them to a designated collection point for the correct recycling of waste batteries.

For more information about where you can send your waste batteries for recycling contact your local authority office.



Microsoft Software License Terms for:

Windows® XP Embedded and Windows® Embedded Standard Runtime

These license terms are an agreement between you and Sega Corporation. Please read them. They apply to the software included on this device. The software also includes any separate media on which you received the software.

The software on this device includes software licensed from Microsoft Corporation or its affiliate.

The terms also apply to any Microsoft

- Updates,
- Supplements,
- Internet-based services, and
- Support services

for this software, unless other terms accompany those items. If so, those terms apply. If you obtain updates or supplements directly from Microsoft, then Microsoft, and not Sega, licenses those to you.

As described below, using some features also operates as your consent to the transmission of certain standard computer information for Internet-based services.

By using the software, you accept these terms. If you do not accept them, do not use or copy the software. Instead, contact Sega to determine its return policy for a refund or credit.

If you comply with these license terms, you have the rights below.

1. Use Rights.

You may use the software on the device with which you acquired the software.

2. Additional Licensing Requirements and/or Use Rights.

- a. Specific Use.** Sega designed this device for a specific use. You may only use the software for that use.
- b. Other Software.** You may use other programs with the software as long as the other programs
 - Directly support the manufacturer's specific use for the device, or
 - Provide system utilities, resource management, or anti-virus or similar protection.

Software that provides consumer or business tasks or processes may not be run on the device. This includes email, word processing, spreadsheet, database, scheduling and personal finance software. The device may use terminal services protocols to access such software running on a server.

- 3. Scope of License.** The software is licensed, not sold. This agreement only gives you some rights to use the software. Sega and Microsoft reserve all other rights. Unless applicable law gives you more rights despite this limitation, you may use the software only as expressly permitted in this agreement. In doing so, you must comply with any technical limitations in the software that allow you to use it only in certain ways. For more information, see the software documentation or contact Sega. Except and only to the extent permitted by applicable law despite these limitations, you may not:

- Work around any technical limitations in the software;
- Reverse engineer, decompile or disassemble the software;
- Make more copies of the software than specified in this agreement;
- Publish the software for others to copy;
- Rent, lease or lend the software; or
- Use the software for commercial software hosting services.

Except as expressly provided in this agreement, rights to access the software on this device do not give you any right to implement Microsoft patents or other Microsoft intellectual property in software or devices that access this device.

- Internet-Based Services. Microsoft provides Internet-based services with the software. Microsoft may change or cancel them at any time.

a. **Consent for Internet-Based Services.** The software features described below connect to Microsoft or service provider computer systems over the Internet. In some cases, you will not receive a separate notice when they connect.

By using these features, you consent to the transmission of this information. Microsoft does not use the information to identify or contact you.

b. **Computer Information.** The following features use Internet protocols, which send to the appropriate systems computer information, such as your Internet protocol address, the type of operating system, browser and name and version of the software you are using, and the language code of the device where you installed the software. Microsoft uses this information to make the Internet-based services available to you.

Digital Certificates. The software uses digital certificates. These digital certificates confirm the identity of Internet users sending X.509 standard encrypted information. The software retrieves certificates and updates certificate revocation lists. These security features operate only when you use the Internet.

c. **Misuse of Internet-based Services.** You may not use these services in any way that could harm them or impair anyone else's use of them. You may not use the services to try to gain unauthorized access to any service, data, account or network by any means.

4. Product Support. Contact Sega for support options. Refer to the support number provided with the device.

5. Backup Copy. You may retain one backup copy of the software. You may use it only to reinstall the software on the device. The storage device is preinstalled with a backup copy.

6. Proof Of License. If you acquired the software on the device, or on a disc or other media, a genuine Certificate of Authenticity label with a genuine copy of the software identifies licensed software. To be valid, this label must be affixed to the device, or included on or in Sega's software packaging. If you receive the label separately, it is not valid. You should keep the label on the device or packaging to prove that you are licensed to use the software. To identify genuine Microsoft software, see <http://www.howtotell.com>.

7. Transfer to a Third Party. You may transfer the software only with the device, the Certificate of Authenticity label, and these license terms directly to a third party. Before the transfer, that party must agree that these license terms apply to the transfer and use of the software. You may not retain any copies of the software including the backup copy.

8. Not Fault Tolerant. The software is not fault tolerant. Sega installed the software on the device and is responsible for how it operates on the device.

9. Restricted Use. The Microsoft software was designed for systems that do not require fail-safe performance. You may not use the Microsoft software in any device or system in which a malfunction of the software would result in foreseeable risk of injury or death to any person. This includes operation of nuclear facilities, aircraft navigation or communication systems and air traffic control.

10. No Warranties for the Software. The software is provided "as is". You bear all risks of using it. Microsoft gives no express warranties, guarantees or conditions. Any warranties you receive regarding the device or the software do not originate from, and are not binding on, Microsoft or its affiliates. When allowed by your local laws, Sega and Microsoft exclude implied warranties of merchantability, fitness for a particular purpose and non-infringement.

11. Liability Limitations. You can recover from Microsoft and its affiliates only direct damages up to two hundred fifty U.S. Dollars (U.S. \$250.00). You cannot recover any other damages, including consequential, lost profits, special, indirect or incidental damages.

This limitation applies to:

- Anything related to the software, services, content (including code) on third party internet sites, or third party programs; and
- Claims for breach of contract, breach of warranty, guarantee or condition, strict liability, negligence, or other tort to the extent permitted by applicable law.

It also applies even if Microsoft should have been aware of the possibility of the damages. The above limitation may not apply to you because your country may not allow the exclusion or limitation of incidental, consequential or other damages.

12. Export Restrictions. The software is subject to United States export laws and regulations. You must comply with all domestic and international export laws and regulations that apply to the software. These laws include restrictions on destinations, end users and end use. For additional information, see www.microsoft.com/exporting.

BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

To maintain safety:

To ensure the safe operation of this product, be sure to read the following before usage. The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning displays and cautions, handle the product appropriately. Be sure to keep this manual close to the product or in a convenient place for future reference.

Herein, explanations which require special attention are enclosed with dual lines. Depending on the potentially hazardous degrees, the terms of DANGER, WARNING, CAUTION, etc. are used. Be sure to understand the contents of the displays before reading the text.



Indicates that mishandling the product by disregarding this pictograph will cause severe injury or death.



Indicates that mishandling the product by disregarding this caution will cause a slight hazardous situation which can result in personal injury and/or material damage.



Indicates that mishandling the product by disregarding this warning will cause a potentially hazardous situation which can result in death or serious injury.

For the safe usage of the product, the following pictographs are used:



Indicates "HANDLE WITH CARE." In order to protect the human body and equipment, this display is attached to places where the Owner's Manual, Serviceman Manual and/or Service Manual should be referred to.



Indicates a "Protective Earth Terminal." Before operating the equipment, be sure to connect it to the Ground.
(The step may be omitted for products in which a power cord with earth is used.)

- **Perform work in accordance with the instructions herein stated.**
Instructions for work are explained by paying attention to the aspect of accident prevention. Failing to perform work as per the instructions can cause accidents. In the case where only those who have technical expertise should perform the work to avoid hazardous situation, the instructions herein state that the site maintenance personnel should perform such work.
- **Be sure to turn off the power before working on the machine.**
To prevent an electric shock, be sure to turn off the power before carrying out any work that requires direct contact with the interior of the product. If the work is to be performed in the power-on status, the Instruction Manual herein always states to that effect.
- **Be sure to ground the Earth Terminal.**
(This is not required in the case where a power cord with earth is used.)
This product is equipped with the Earth Terminal. When installing the product, connect the Earth Terminal to the "accurately grounded indoor earth terminal" by using an earth wire. Unless the product is grounded appropriately, the user can be subject to an electric shock. After performing repair, etc. for the control equipment, ensure that the Earth Wire is firmly connected to the control equipment.
- **Ensure that the Power Supply used is equipped with an Earth Leakage Breaker.**
This product does not incorporate the Earth Leakage Breaker. Using a power supply which is not equipped with the Earth Leakage Breaker can cause a fire when earth leakage occurs.
- **Be sure to use fuses which meet the specified rating.**
(Only for the machines which use fuses.)
Using fuses exceeding the specified rating can cause a fire and an electric shock.

TABLE OF CONTENTS

Microsoft Software License Terms for:

BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

TABLE OF CONTENTS	i
INTRODUCTION	ii
1 HANDLING PRECAUTIONS	1
2 RINGEDGE SPECIFICATIONS	3
2-1 CABINET.....	3
2-2 PARTS DETAILS	4
3 RINGEDGE COMPONENTS	8
4 SYSTEM TEST MODE	9
4-1 GAME TEST MODE.....	9
4-2 SYSTEM INFORMATION	10
4-3 STORAGE INFORMATION	12
4-4 JVS TEST	13
4-5 MONITOR TEST	16
4-6 SPEAKER TEST.....	17
4-7 COIN ASSIGNMENTS	18
4-8 CLOCK SETTING	22
4-9 NETWORK SETTING	24
4-10 EXIT	26
5 ERROR CODES DISPLAY	27
6 REPLACING THE BUTTON BATTERY	36
7 CLEANING THE RINGEDGE	40

SEGA AMUSEMENTS OFFICES

- **Specification changes (removal of equipment, conversion and addition) not designated by SEGA are not allowed.**

The parts of the product include warning labels for safety, covers for personal protection. It is very hazardous to operate the product by removing parts and/or modifying the circuit. Should doors, lids and protective parts be damaged or lost, refrain from operating the product and contact where the product was purchased from or the office herein stated. SEGA shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by SEGA.

- **Ensure that the product meets the requirements of appropriate Electrical Specifications.**

Before installing the product, check for Electrical Specifications. SEGA products have a nameplate on which Electrical Specifications are described. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location. Use any Electrical Specifications different from the designated Specifications can cause a fire or an electric shock.

- **Install and operate the product in places where appropriate lighting is available allowing warning labels to be clearly read.**

To ensure safety for the customers, labels and printed instructions describing potentially hazardous situations are applied to places where accidents can be caused. Ensure that when the product is operated has sufficient lighting allowing the warnings to be read. If any label is peeled off, apply it again immediately. Please place an order with where the product was purchased from or the office herein stated.

- **When handling the monitor, be very careful. (Applies only to the product with a monitor.)**

Some of the monitor (TV) parts are subject to high tension voltage. Even after turning off power, some portions are still subject to high tension voltage sometimes. Monitor repair or replacement should be performed only by those technical personnel who have knowledge of electricity and technical expertise.

- **Be sure to adjust the monitor/projector properly. (Applies only to the product with a monitor/projector.)**

Do not operate the product leaving on-screen flickering or blurring as it is. Using the probe with the monitor/projector not properly adjusted may cause dizziness or a headache to an operator, a player, or the customers.

- **When transporting or reselling this product, be sure to attach this manual to the product.**

In the case where commercially available monitors and printers are used in this product, only the contents relating to this product are explained herein. Some commercially available equipment has functions and reactions not stated in this manual. Read this manual together with the specific Instruction Manual of such equipment.

*Descriptions herein contained may be subject to improvement changes without notice.
 *The contents described herein are fully prepared with due care. However, should any question arise or errors be found, please contact SEGA.

INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION

Normally, at the time of shipment, SEGA products are in a status allowing for usage immediately after transporting to the location. Nevertheless, an irregular situation may occur during transportation. Before turning on the power, check the following points to ensure that the product has been transported in a satisfactory status.

- Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
- Are Casters and Adjusters damaged?
- Do the power supply voltage and frequency requirements meet with those of the location?
- Are all wiring connectors correctly and securely connected? Unless connected in the correct way, connector connections can not be made accurately. Do not insert connectors forcibly.
- Do power cords have cuts and dents?
- Do the fuses used meet specified ratings? Is the Circuit Protector in an energized status?
- Are all accessories available?
- Can all Doors and Lids be opened with the Accessory Keys? Can Doors and Lids be firmly closed?

INTRODUCTION

This manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electro-mechanicals, servicing control, spare parts, etc. for the product, "RINGEDGE."

This manual is intended for the owners, personnel and managers in charge of operation of the product. Operate the product after carefully reading and sufficiently understanding the instructions.

In the unlikely event that the product does not function correctly, DO NOT allow anyone other than a technician to touch the internal system. Turn off the power to the machine, making sure to unplug the electrical cord from the outlet, and contact the office listed in this manual or the point of purchase for this product.

Use of this product is unlikely to cause physical injuries or damages to property. However, points that require special attention are indicated by bold text, the word "IMPORTANT" and the symbol below.

STOP IMPORTANT

Indicates important information that, if ignored, will result in the mishandling of the product and cause faulty operation and damage to the product.

About the Free Software Used in This Product

This product uses free software and contains a notice in accordance with the provisions given by each copyright holder.

Those who wish to obtain more information on the software used in this product may access the website below using the following ID and password and view the page entitled "For Non-GPL/LGPL Free Software."

URL: <http://amproduct-softlicense.sega.jp/>
 ID: amsoftwebdl
 Password: segaamhd1

NOTE: SEGA is unable to respond to questions about this software.

Definition of 'Site Maintenance Personnel or Other Qualified Individuals'

WARNING

Procedures not described in this manual or marked as 'to be carried out by site maintenance personnel or other qualified professionals' should not be carried out by personnel without the necessary skill or technology. Work carried out by unqualified persons may cause serious accidents, including electrocution.

Parts replacement, maintenance inspections and troubleshooting should be carried out by site maintenance personnel or other qualified professionals. This manual includes directions that potentially dangerous procedures should only be carried out by professionals with the appropriate specialized knowledge. The 'site maintenance personnel or other qualified professionals' mentioned in this manual are defined as follows:

Site maintenance personnel:

Persons with experience in maintaining amusement equipment, vending machines, etc., working under the supervision of the owner/operator of this product to maintain machines within amusement facilities or similar premises by carrying out everyday procedures such as assembly, maintenance inspections, and replacement of units/expendable parts.

Activities to be carried out by site maintenance personnel:

Amusement equipment/vending machine assembly, maintenance inspection and replacement of units/expendable parts.

Other qualified professionals:

Persons employed by amusement equipment manufacturers, involved in design, production, testing or maintenance of amusement equipment. Should have graduated from technical school or hold similar qualifications in electrician/electronics/mechanical engineering.

Activities to be carried out by other qualified professionals:

Amusement equipment/vending machine assembly, repair/adjustment of electrical/electronic/mechanical parts.

1 HANDLING PRECAUTIONS

WARNING

- To prevent electric shock or IC Board malfunctioning, be sure to turn off the power for the cabinet when installing or removing the IC Board.
- Extraneous matter such as dust on the IC Board can cause the IC Board to generate heat and result in a fire due to short circuit, etc. Ensure the IC Board surfaces are always kept clean.
- Keep the IC board well cooled. RINGEDGE is provided with ventilating fans. Do not block the air outlets of these fans. Also do not place anything closely to RINGEDGE. Failure to observe these instructions may cause an overheating and fire.
- Always follow the usage conditions from SEGA as well as the usage conditions for the cabinet you are using for RINGEDGE. Failure to do so may cause an overheating and fire.
- To avoid an electric shock or malfunctioning, do not pull out the power cord while the power is on.
- To avoid an electric shock or malfunctioning, do not touch the power input port with a wet hand.
- To avoid causing a fire or an electric shock, do not put things on or damage the power cords.
- When, or after installing the product, do not unnecessarily pull the power cord. If damaged, the power cord can cause a fire or an electric shock.
- In case the power cord is damaged, ask for a replacement through where the product was purchased from or the office herein stated. Using the cord as is damaged can cause fire, an electric shock or leakage.

STOP IMPORTANT

- Be sure to connect the IC Board and connectors completely. Insufficient insertion can damage IC Board, etc.
- For the IC Board circuit inspection, only the use of Logic Tester is permitted. The use of ordinary testers is not permitted as these can damage the IC Board.
- Do not subject the IC Board to static electricity when installing the IC Board in the cabinet or when connecting wire harness connectors to the IC Board.
- When soldering buttons, etc. to the wire harnesses, be sure to remove the wire harnesses from the IC Board so as not to subject the IC Board to heat.
- Using RINGEDGE without the Shield Case can cause electric wave trouble. Be sure to use RINGEDGE together with the accessory Shield Case.
- Some parts are the ones designed and manufactured not specifically for this product. The manufacturers may discontinue, or change the specifications of, such general-purpose parts. If this is the case, SEGA cannot repair or replace a failed product whether or not a warranty period has expired.

Electricity Consumption	Max. 2A	AC 120V, 60 Hz Area
	Max. 2A	AC 110V, 60 Hz Area <Taiwan>

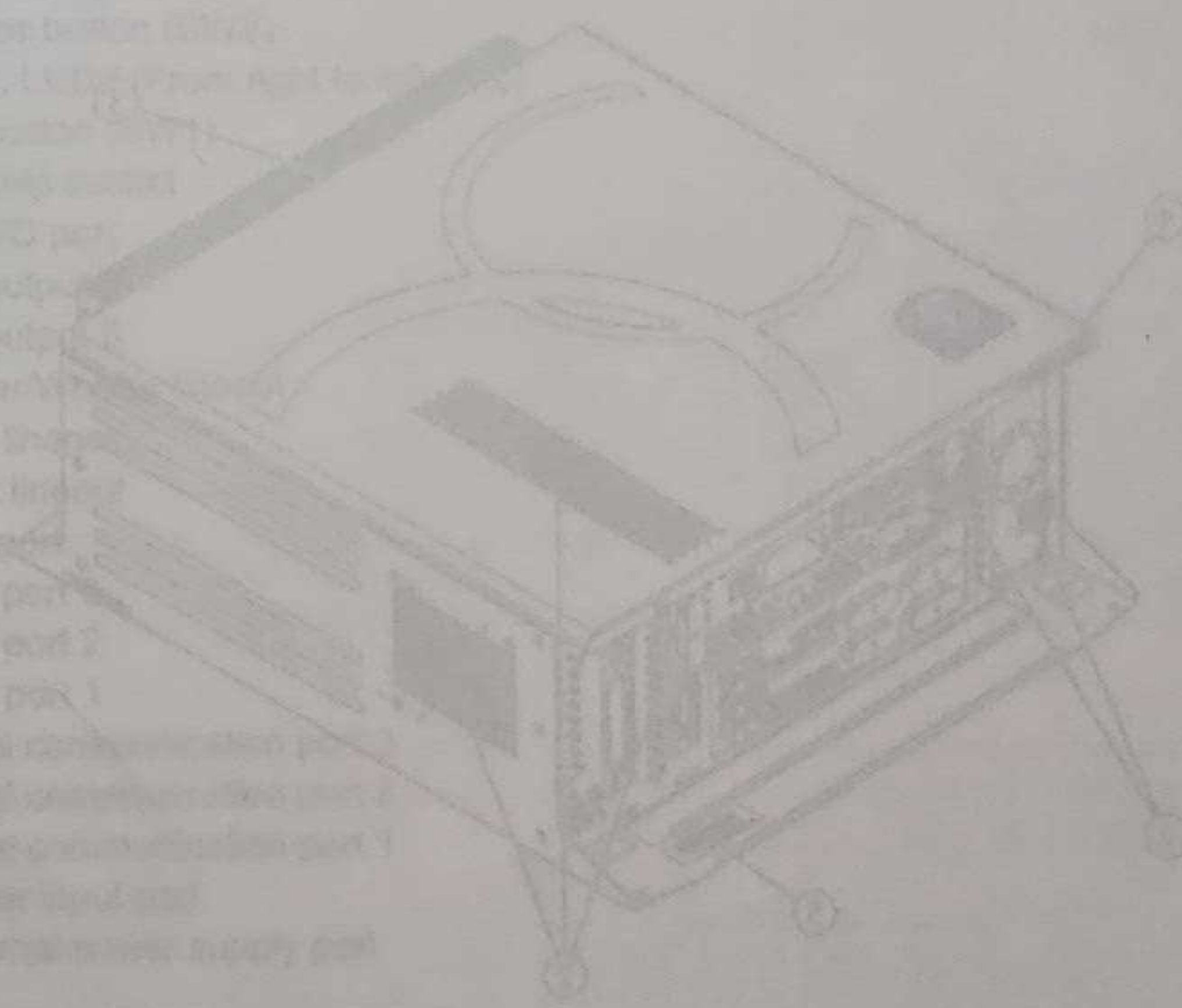
2 RINGEDGE SPECIFICATIONS

2-1 CABINET

- Always follow the usage conditions from SEGA as well as the usage conditions for the cabinet you are using for RINGEDGE.
- When using NAOMI CABINET, NET CITY, NEW NET CITY, BLAST CITY, NEW VERSUS CITY, or LINDBERGH UNIVERSAL CABINET, it will be necessary to prepare components such as a power modification kit in order to modify the cabinet so that it is compatible with RINGEDGE. Contact the office listed in this manual to inquire about the required components.

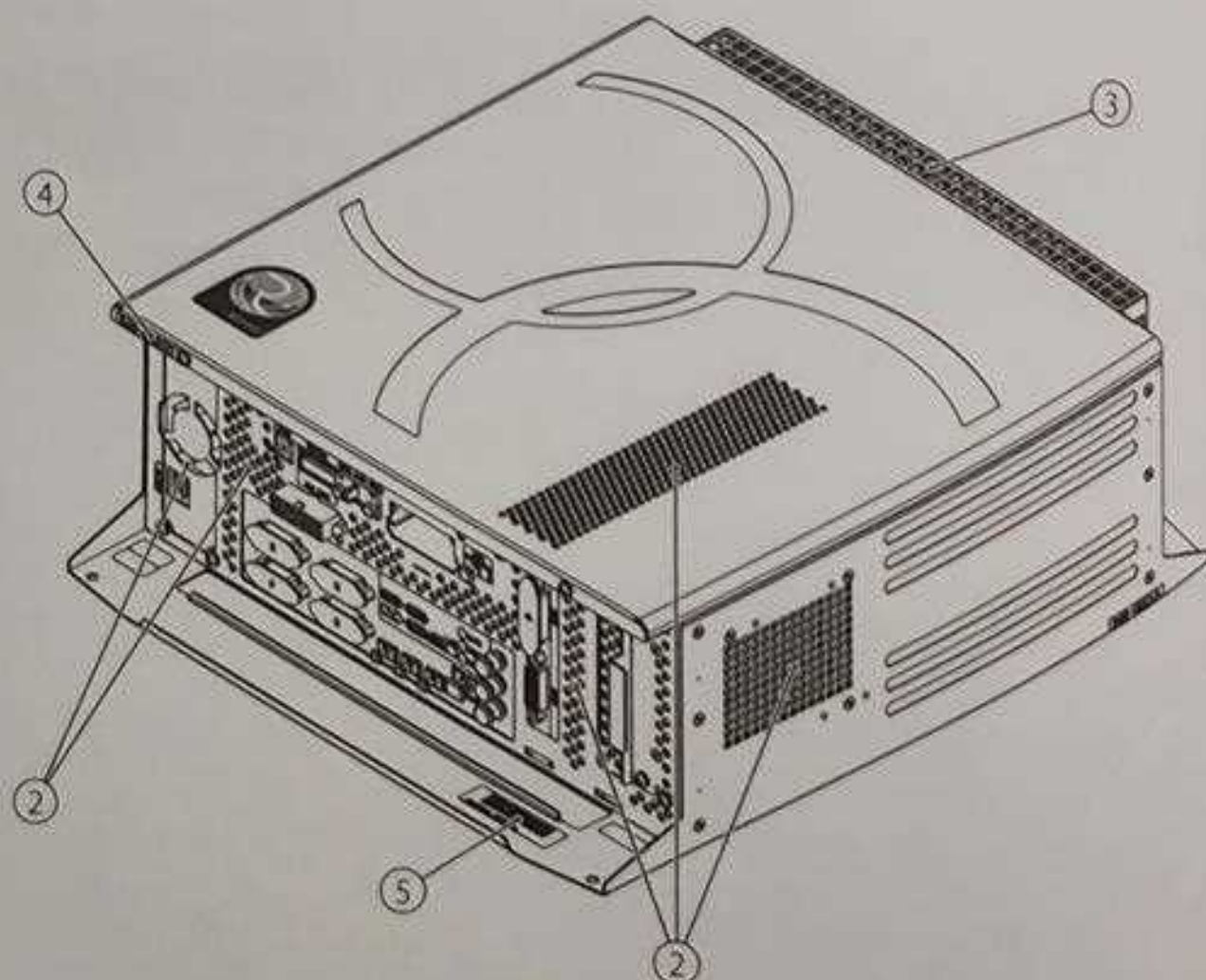
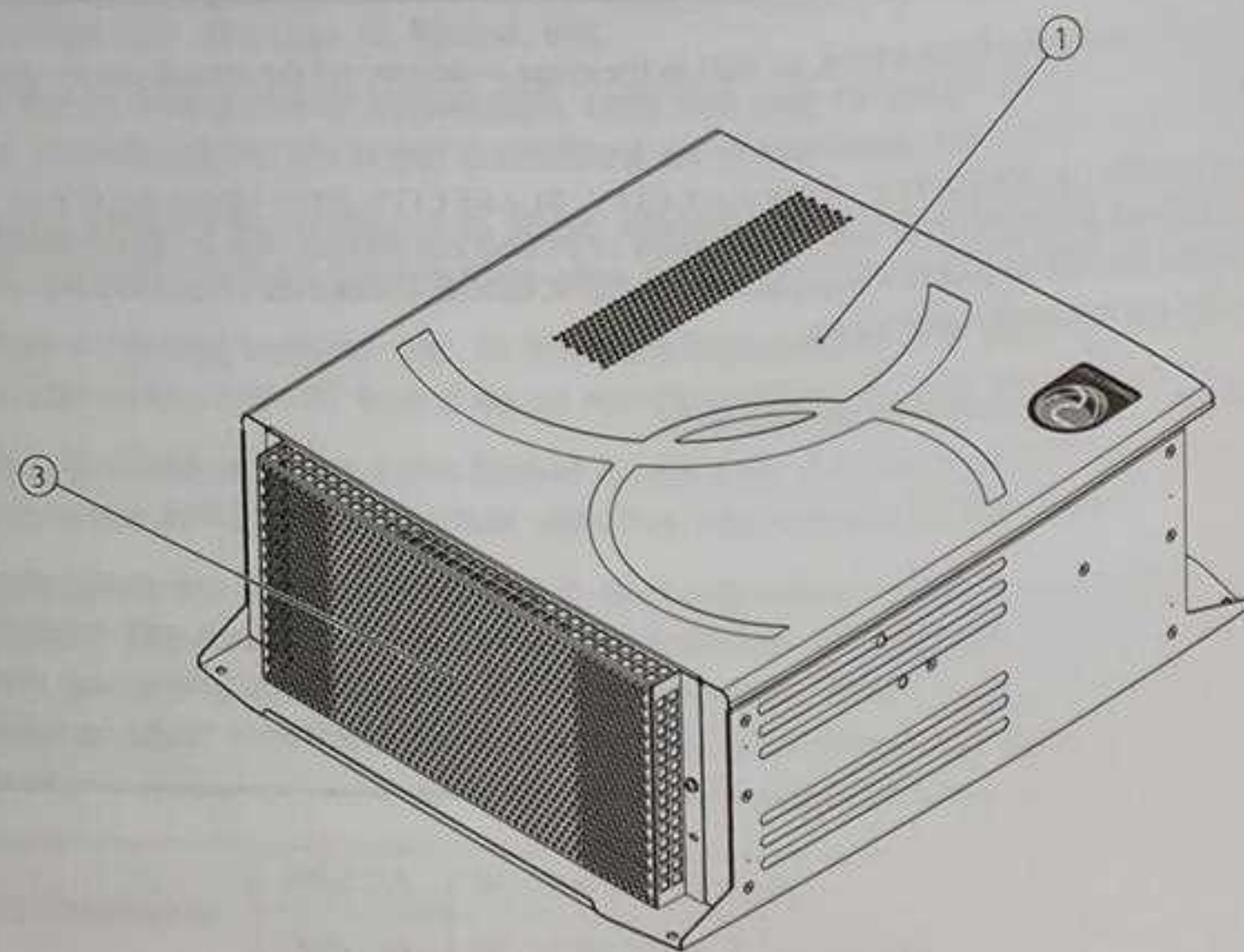
NOTE: If using a different cabinet, contact the manufacturer.

- ① Test board
- ② DIP SW (20 switches)
- ③ Service button (20)
- ④ LED1, LED2
- ⑤ Test button
- ⑥ Key cap
- ⑦ JVS 10 port
- ⑧ DVA out
- ⑨ DVA out
- ⑩ Center V
- ⑪ Rear shield
- ⑫ Front shield
- ⑬ JVS port
- ⑭ JVS port
- ⑮ USB port 1
- ⑯ Serial communication port
- ⑰ Serial communication port
- ⑱ Serial communication port
- ⑲ Power supply
- ⑳ Power supply



2-2 PARTS DETAILS

2

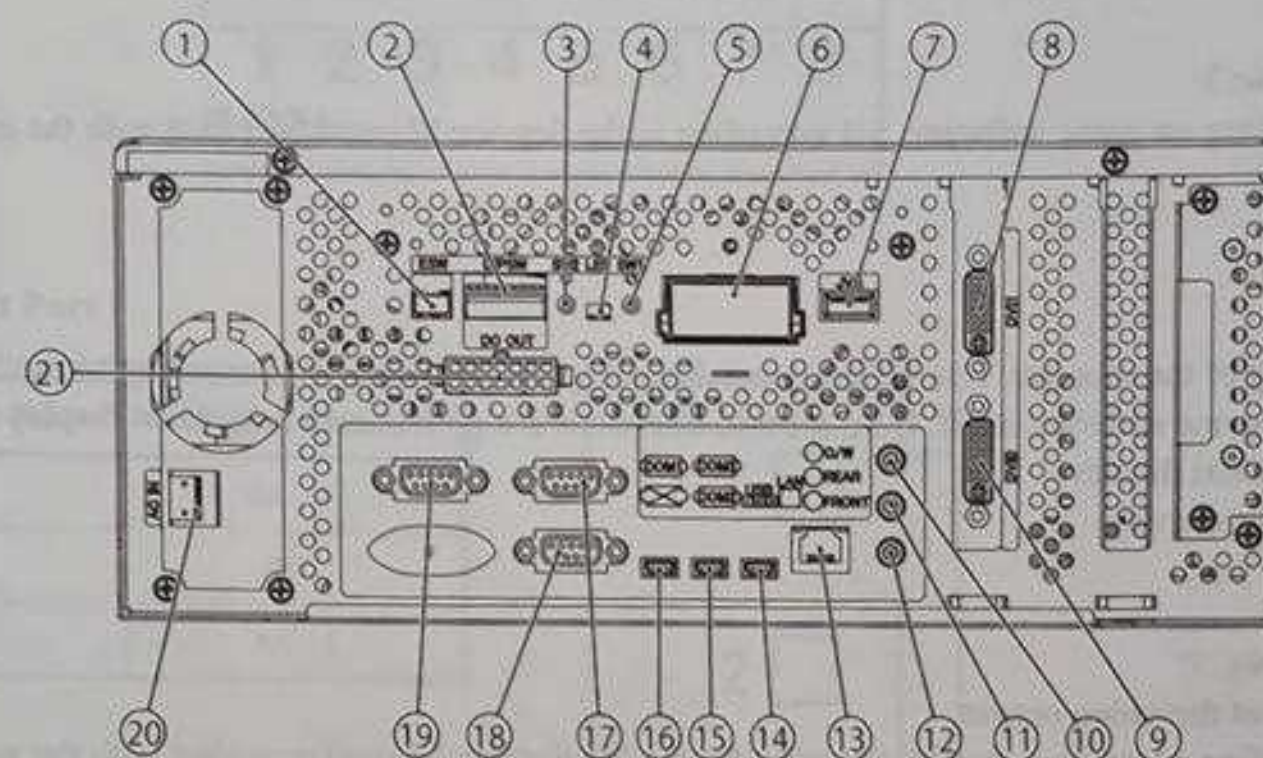


- ① Shield case
- ② Exhaust vent (Do not block or cover.)
- ③ Intake vent (Do not block or cover.)
- ④ Board number
- ⑤ Board serial number

CONNECTORS, SWITCHES AND LED

! WARNING

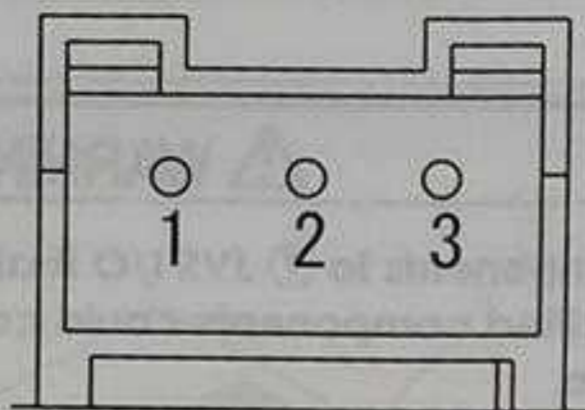
Do not connect components to ⑦ JVS I/O that are not designated by SEGA. Connecting unspecified components could cause an accident such as an electric shock or fire.



- ① Test/Service button external input port
- ② DIP SW (Dip switches)
- ③ Service button (SW2)
- ④ LED1, LED2 (From right to left: 1, 2)
- ⑤ Test button (SW1)
- ⑥ Key chip socket
- ⑦ JVS I/O port
- ⑧ DVI output 1
- ⑨ DVI output 0
- ⑩ Center/Woofers lineout
- ⑪ Rear lineout
- ⑫ Front lineout
- ⑬ LAN port
- ⑭ USB port 3
- ⑮ USB port 2
- ⑯ USB port 1
- ⑰ Serial communication port 3
- ⑱ Serial communication port 2
- ⑲ Serial communication port 1
- ⑳ Power input port
- ㉑ External power supply port

① Test/Service Button External Input Port

Terminal No.	Signal Name
1	SW1
2	SW2
3	GND



② DIP SW

No. 1, No. 2 and No. 3:
Use differs depending on game software. Set according to the Service Manual provided with the game software itself.

No. 4:
Changes the facing of the monitor. Use differs depending on game software. Set according to the Service Manual provided with the game software itself. If no specific directions are given set to horizontal display (OFF).

- OFF: Horizontal display
- ON: Vertical display

No. 5, No. 6 and No. 7:
Set the resolution of the video output.
Use differs depending on game software. Set according to the Service Manual provided with the game software itself.

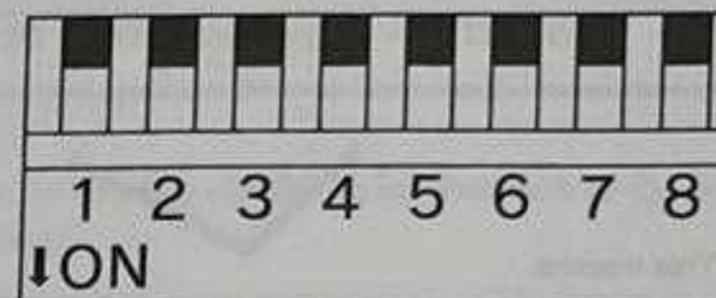
Resolution	No. 5	No. 6	No. 7
*	OFF	OFF	OFF
640 x 480	ON	OFF	OFF
1024 x 600	OFF	ON	OFF
1024 x 768	ON	ON	OFF
1280 x 720	OFF	OFF	ON
1280 x 1024	ON	OFF	ON
1360 x 768	OFF	ON	ON
1920 x 1080	ON	ON	ON

NOTES:
- If there are no specific settings for the resolution, set it to OFF/OFF/OFF. (*)
- When the setting is OFF/OFF/OFF, the system test will be displayed at a resolution of 640 x 480, and the game program will be displayed at the game resolution.

No. 8:
Use differs depending on game software. Set according to the Service Manual provided with the game software itself.

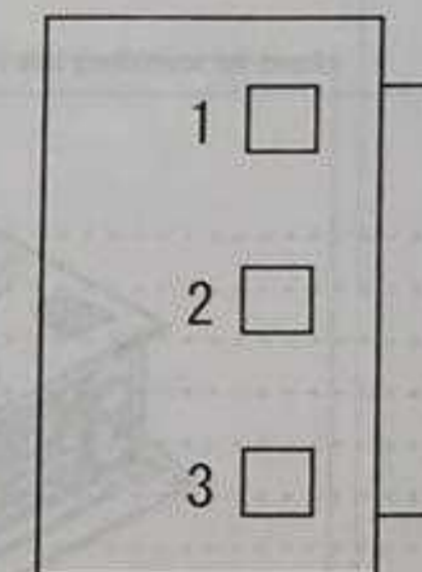
The factory settings when a game board (RINGEDGE) is purchased as a stand-alone unit.

No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF



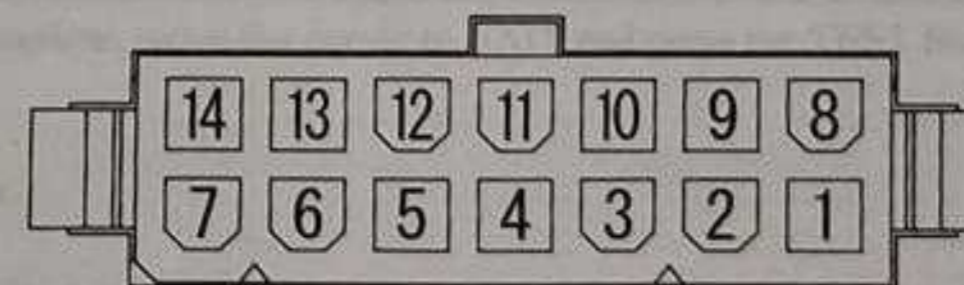
⑩ Power Input Port

Terminal No.	Signal Name
1	AC_N
2	NC
3	AC_L



⑪ External Power Supply Port



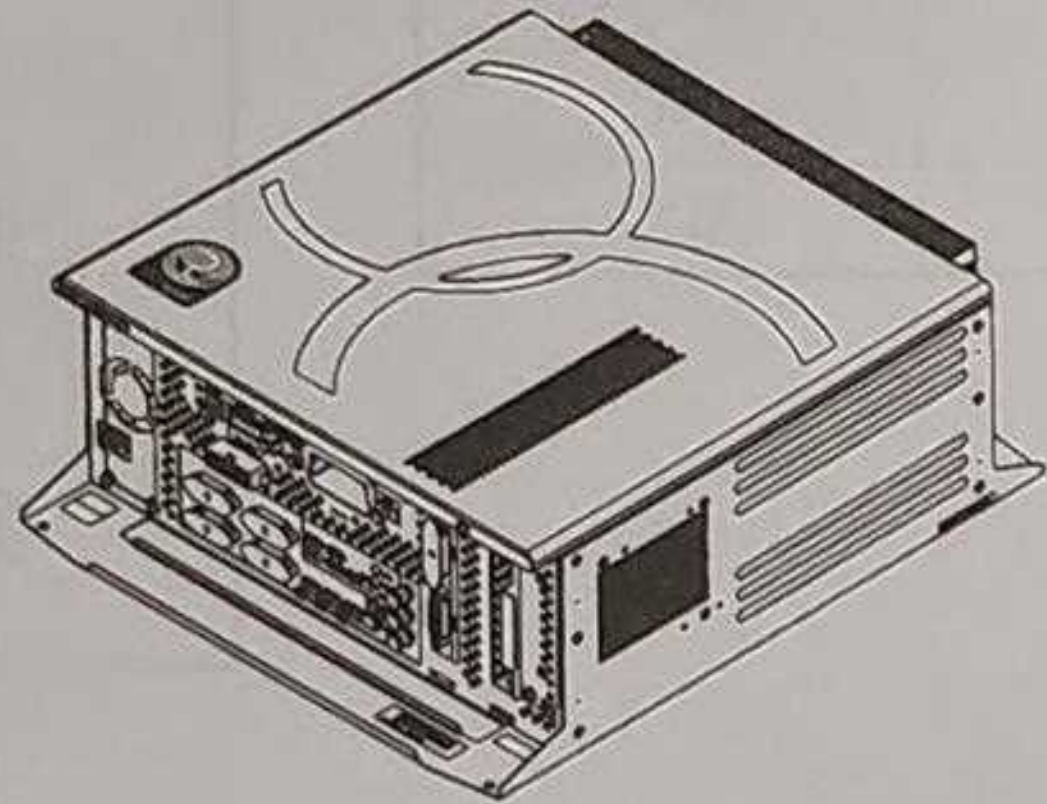
Terminal No	Signal Name	Terminal No.	Signal Name	Maximum Output Current
1	GND	8	+12V DC	2.3 A
2	GND	9	+12V DC	
3	GND	10	+12V DC	
4	GND	11	+5V DC	2.3 A
5	GND	12	+5V DC	
6	GND	13	+5V DC	1.2 A
7	GND	14	+3.3V DC	



3 RINGEDGE COMPONENTS

■ ACCESSORIES

Parts not labeled with part numbers are as yet unregistered or cannot be registered. Be sure to handle all parts with care, as some parts are not available for purchase separately.

DESCRIPTION/PART NO.	FIGURES/NOTES	QTY
SERVICE MANUAL 420-7206-01	 This manual.	1
TAPPING SCREW 011-P00412	 Used for installing the RINGEDGE.	4
RINGEDGE 846-0001D-01: USA 846-0001D-02: OTHERS 846-0001D-03: CHINA		1 ea.

4 SYSTEM TEST MODE

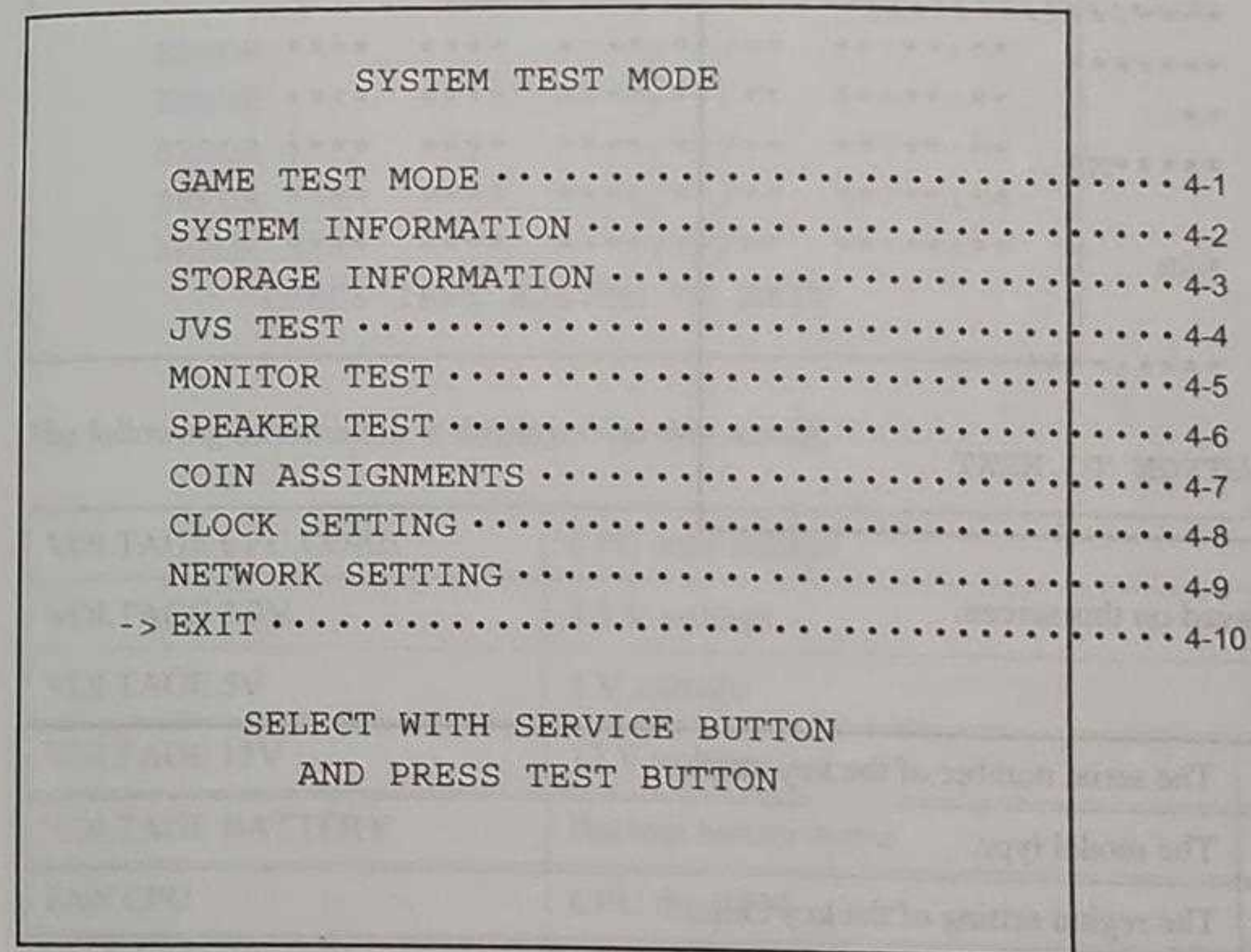
STOP IMPORTANT

The details of changes to Test Mode settings are saved when you exit from each Test Mode by selecting EXIT. Be careful because if the power is turned off before that point, changes to the settings will be lost.

SYSTEM TEST MODE can be used to check the information or the operation of RINGEDGE, adjust Monitor color, and perform coin/credit settings.

- 1 Press the TEST Button after powering on the unit to display the following SYSTEM TEST MODE.

■ SYSTEM TEST MODE Screen



- 2 Use the SERVICE Button to move the cursor to the desired test item.
- 3 Press the TEST Button to enter the selected item's test.
- 4 After the test is complete, move the cursor to EXIT and press the TEST Button to return to the game play screen.

Each item is explained below.

4-1 GAME TEST MODE

Opens the Game Test Mode, allowing game specific settings and tests to be performed. This option will be displayed in grey until preparations are complete. Select the Game Test Mode option to begin the game test.

4-2 SYSTEM INFORMATION

The SYSTEM INFORMATION screen displays system information. The following information is displayed on this screen.

SYSTEM INFORMATION 1/2

The SYSTEM INFORMATION 1/2 screen displays system information.

■ SYSTEM INFORMATION 1/2 Screen

```

SYSTEM INFORMATION 1/2

KEYCHIP
  KEYCHIP ID   A72*-*****
  MODEL TYPE   *
  REGION       ***
MOTHER BOARD
  MAIN ID      ****-*****
  OS VERSION   *****
  REGION       **
  MEMORY SIZE  *****MB
STORAGE DEVICE
  STORAGE SIZE *GB
GRAPHIC DEVICE
  DEVICE ID    ****;****

PRESS TEST BUTTON TO NEXT
    
```

The following information is displayed on this screen.

● KEYCHIP

KEYCHIP ID	The serial number of the key chip.
MODEL TYPE	The model type.
REGION	The region setting of the key chip.

● MOTHER BOARD

MAIN ID	The serial number of the game board.
OS VERSION	The version of the system program.
REGION	The region setting of the game board.
MEMORY SIZE	The onboard memory size.

● STORAGE DEVICE

STORAGE SIZE	The total capacity of the program installer device.
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● GRAPHIC DEVICE

DEVICE ID	The graphic device's ID.
BIOS VERSION	The graphic device's software version.

Press the TEST Button to move to the SYSTEM INFORMATION 2/2.

SYSTEM INFORMATION 2/2

The SYSTEM INFORMATION 2/2 screen displays system information. Press the TEST Button on the SYSTEM INFORMATION 2/2 screen to return to the SYSTEM TEST MODE screen.

■ SYSTEM INFORMATION 2/2 Screen

```

SYSTEM INFORMATION 2/2

VOLTAGE CPU CORE      **.** [V]
VOLTAGE 3.3V          **.** [V]
VOLTAGE 5V            **.** [V]
VOLTAGE 12V           +**.** [V]
VOLTAGE BATTERY       *****
FAN CPU               **** [rpm]
FAN CHASSIS           **** [rpm]
TEMP CPU              ** [C]
TEMP CHASSIS          ** [C]

ERROR LOG .....(A)
ERROR **** **** ****/**/** **:**:**
ERROR **** **** ****/**/** **:**:**
ERROR **** **** ****/**/** **:**:**
ERROR **** **** ****/**/** **:**:**
ERROR **** **** ****/**/** **:**:**

PRESS TEST BUTTON TO EXIT
    
```

The following information is displayed on this screen.

VOLTAGE CPU CORE	CPU core voltage
VOLTAGE 3.3V	3.3 V voltage
VOLTAGE 5V	5 V voltage
VOLTAGE 12V	12 V voltage
VOLTAGE BATTERY	Backup battery status
FAN CPU	CPU fan RPM
FAN CHASSIS	Case fan RPM
TEMP CPU	CPU temperature
TEMP CHASSIS	Case temperature

Press the TEST Button to return to the SYSTEM TEST MODE screen.

(A) History list of the error occurred

Display the previous 5 errors. It may not be displayed depending on the version of the installed system program. It may not also be displayed depending on the error. These error logs can not be cleared.

- Error number
- Game ID (The error which has been occurred except the game program will be displayed "—").
- Date and time of the error occurred

4-3 STORAGE INFORMATION

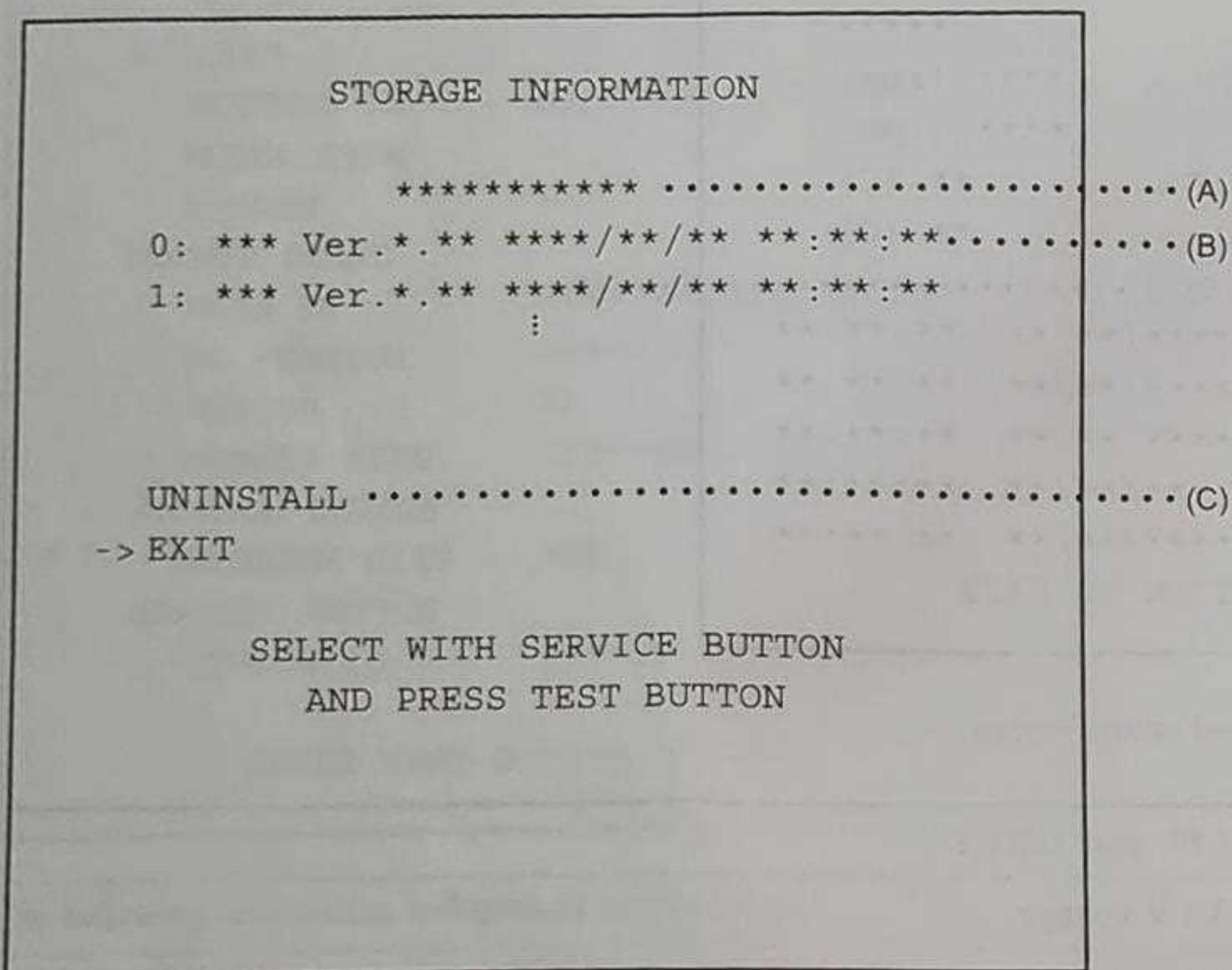
The STORAGE INFORMATION screen displays information on the game stored in the program installer device. This screen is also used when uninstalling the game stored within the program installer device.

Until preparations to launch the game are complete, a now checking screen will be displayed and uninstall cannot be performed.

If the program installer device does not contain any game data, "GAME PROGRAM NOT READY" screen will be displayed and uninstall cannot be performed.

NOTE: If an uninstall is performed, an install will then have to be performed before the game board can be used again. Do not needlessly perform an uninstall.

■ STORAGE INFORMATION Screen



The following information is displayed on this screen.

(A) GAME TITLE

(B) INSTALLED GAME PROGRAM LIST

- GAME ID
- VERSION
- DATE & TIME OF RELEASE

(C) UNINSTALL

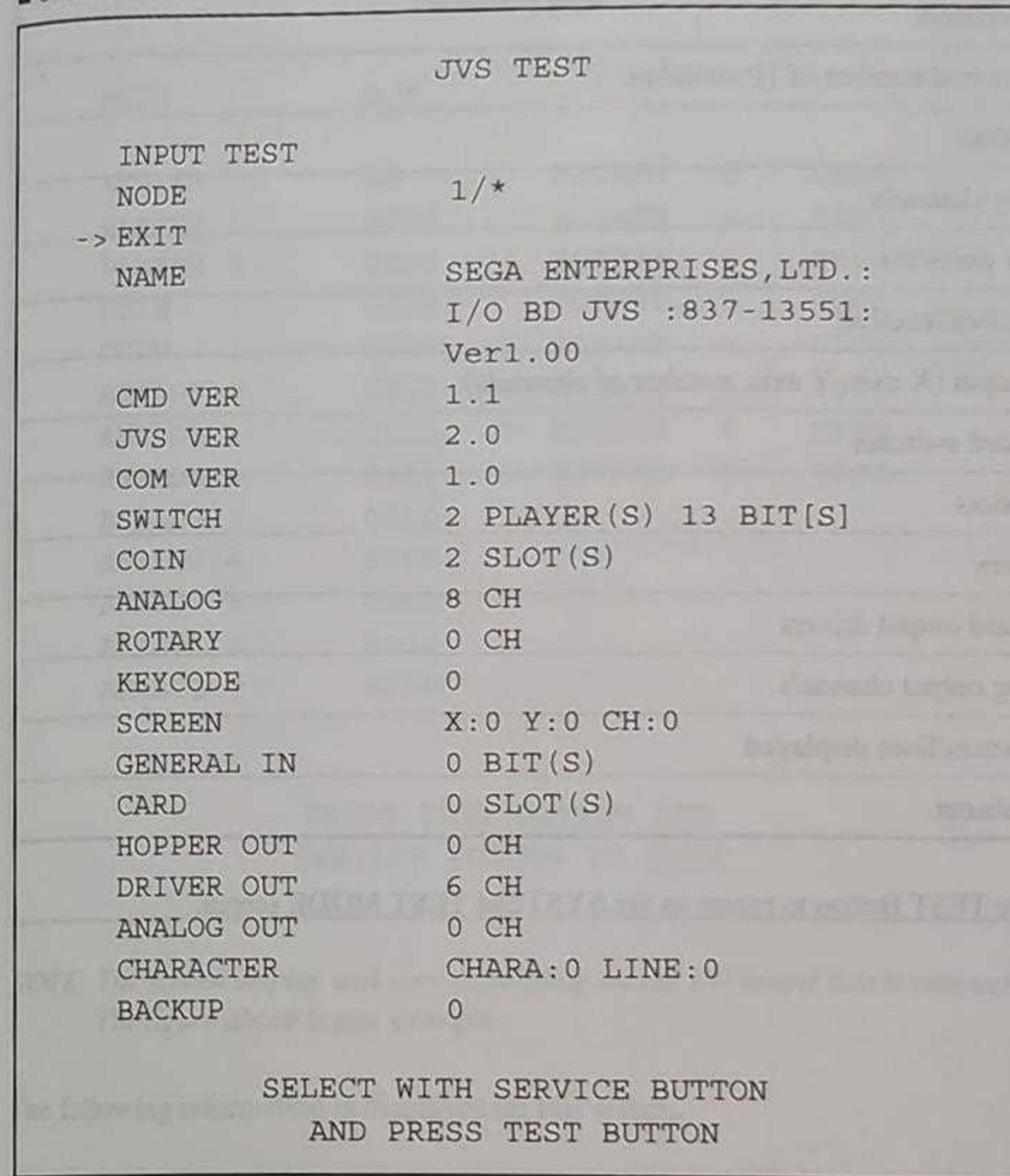
When preparations to launch the game are complete, it is possible to uninstall the game stored in the program installer device. Select UNINSTALL and then select "YES" to uninstall all game programs stored in the program installer device. Performing this operation will also mean that GAME TEST MODE will disappear from the SYSTEM TEST MODE screen.

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

4-4 JVS TEST

The JVS TEST screen displays information on the connected JVS I/O boards. Select INPUT TEST to display input data for the currently displayed JVS I/O board. Select NODE to display information on the next NODE. If no JVS I/O boards are connected, the message "NO JVS NODE" will be displayed.

■ JVS TEST Screen



NOTE: The screen display will vary depending on the I/O board that is connected. The figure above is one example.

The following information is displayed on this screen.

NODE	The currently displayed JVS I/O board number and the total number of connected JVS I/O boards
NAME	Name of the connected I/O board, etc.
CMD VER	Command format version
JVS VER	JVS standard version
COM VER	Communication version
SWITCH	Number of players and number of IP switches
COIN	Number of coin slots
ANALOG	Number of analog channels
ROTARY	Number of rotary encoders
KEYCODE	Keycode input active/inactive
SCREEN	Screen position input (X axis, Y axis, number of channels)
GENERAL IN	Number of standard switches
CARD	Number of card slots
HOPPER OUT	Number of hoppers
DRIVER OUT	Number of standard output drivers
ANALOG OUT	Number of analog output channels
CHARACTER	Number of characters/lines displayed
BACKUP	Backup present/absent

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

JVS INPUT TEST

Use the JVS INPUT TEST to test the JVS input.
The hexadecimal input information from the JVS I/O board will be displayed in real time.

JVS INPUT TEST Screen

JVS TEST INPUT TEST				
NODE	1/*			
SYSTEM	00	ROTARY	0	0000
PLAYER 1	0000	ROTARY	1	0000
PLAYER 2	0000	ROTARY	2	0000
COIN 1	0000	ROTARY	3	0000
COIN 2	0000	ROTARY	4	0000
ANALOG 0	0000	ROTARY	5	0000
ANALOG 1	0000	ROTARY	6	0000
ANALOG 2	0000	ROTARY	7	0000
ANALOG 3	0000			
ANALOG 4	0000			
ANALOG 5	0000			
ANALOG 6	0000			
ANALOG 7	0000			

PRESS TEST BUTTON AND
SERVICE BUTTON TO EXIT

NOTE: The screen display will vary depending on the I/O board that is connected.
The figure above is one example.

The following information is displayed on this screen.

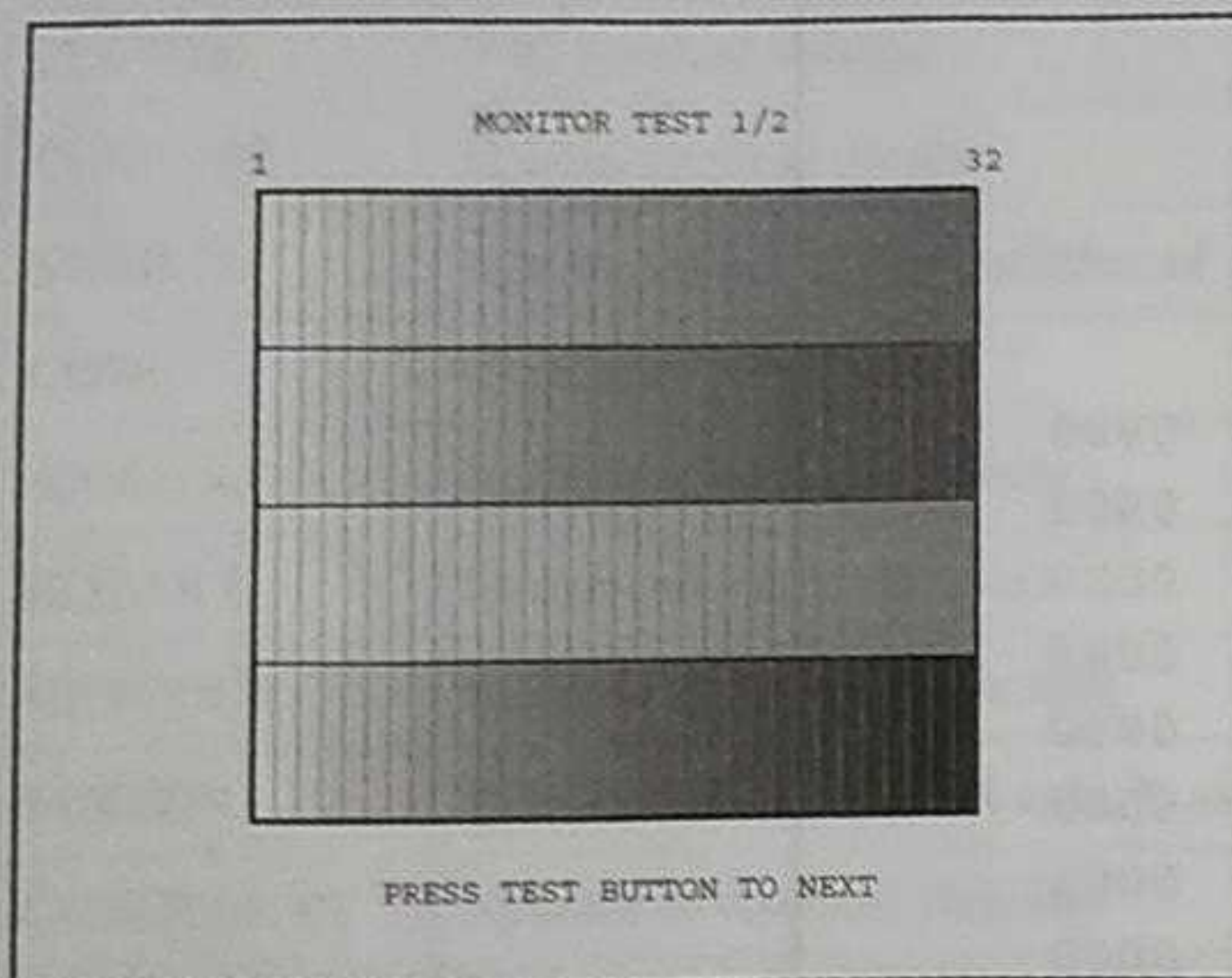
SYSTEM	System switch input data
PLAYER	Player number and player switch input data
COIN	Slot number and coin input data
ANALOG	Channel number and analog input data
ROTARY	Rotary number and rotary input data

Press the SERVICE and TEST Buttons simultaneously to return to the JVS TEST screen.

4-5 MONITOR TEST

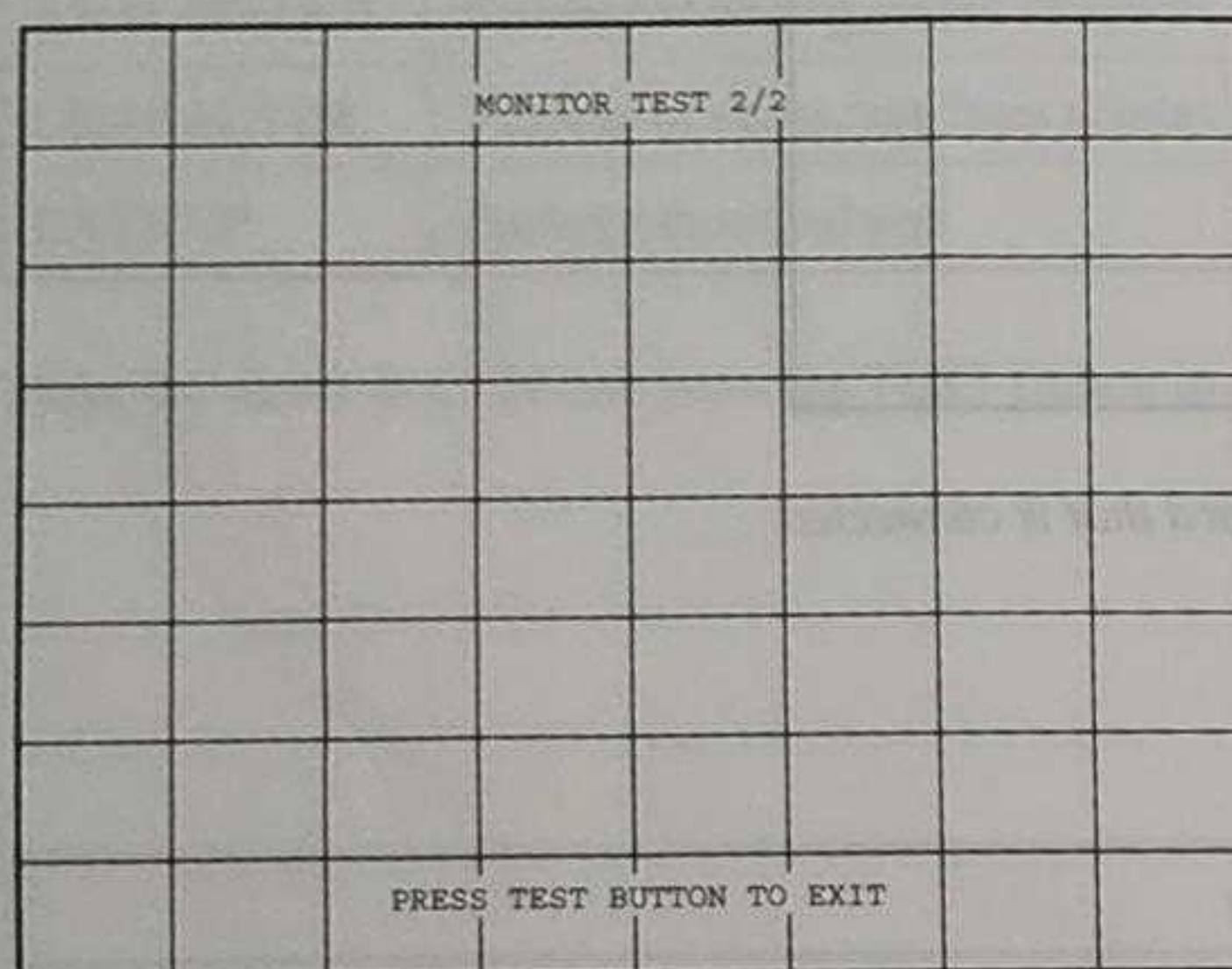
Use MONITOR TEST to check the output of the monitor.
Enter MONITOR TEST and the MONITOR TEST 1/2 Screen will be displayed.

■ MONITOR TEST Screen 1/2



Press TEST Button and the screen will change to the MONITOR TEST 2/2 Screen.

■ MONITOR TEST Screen 2/2



Press the TEST Button to return to the SYSTEM TEST MODE screen.

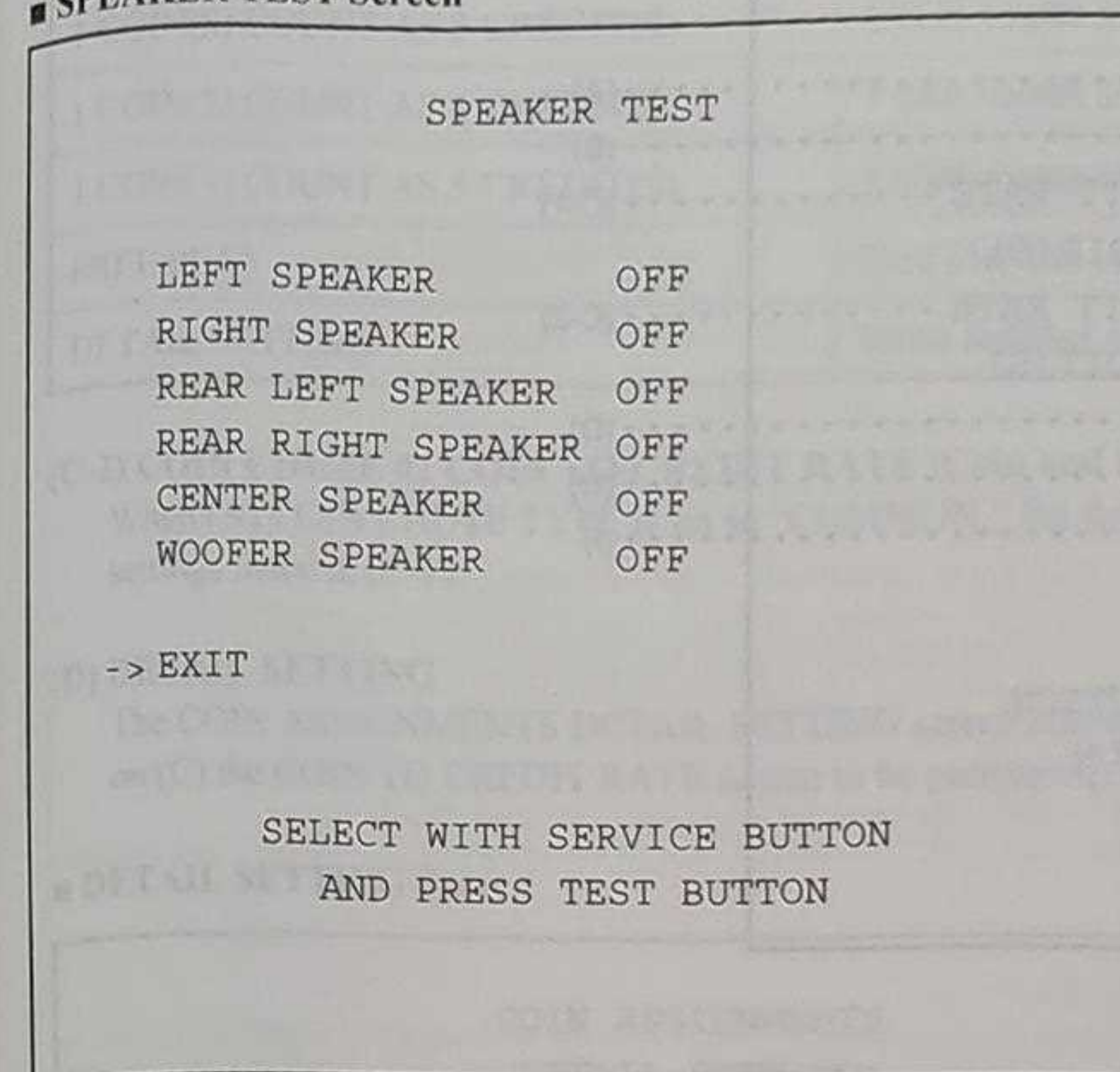
4-6 SPEAKER TEST

Use SPEAKER TEST to check the output of each speaker by having them each emit a test sound.

Select each speaker with the cursor and press the TEST Button to turn that speaker ON or OFF.
When set to ON a test sound will be emitted from that speaker.

It is possible to set multiple speakers to emit the test sound at the same time.
Depending on the cabinet used, some items will be displayed but no sound will be emitted.

■ SPEAKER TEST Screen



Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

4-7 COIN ASSIGNMENTS

Use COIN ASSIGNMENTS to alter the credit settings.
The game will award players the number of credits determined here.
Settings will only be saved if they have been changed.

■ COIN ASSIGNMENTS Screen

COIN ASSIGNMENTS	
COIN CHUTE TYPE	COMMON (A)
SERVICE TYPE	COMMON (B)
COIN CHUTE #1 COIN TO CREDIT RATE (C-1)
1 COIN(S) COUNT AS 1 CREDIT(S)	
COIN CHUTE #2 COIN TO CREDIT RATE (C-2)
1 COIN(S) COUNT AS 1 CREDIT(S)	
DETAIL SETTING (D)
GAME COST SETTING (H)
-> EXIT (I)
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON	

[COIN CHUTE TYPE: COMMON]

The following information is displayed on this screen.

(A) COIN CHUTE TYPE

COMMON	Allow all credits to be used by all players.
INDIVIDUAL	Treat each player's credits individually.

(B) SERVICE TYPE (Service Button Type)

COMMON	When the COIN CHUTE TYPE is set to COMMON, the number of credits available to all players will increase by 1.
	When the COIN CHUTE TYPE is set to INDIVIDUAL, each player's credits will increase by 1.
INDIVIDUAL	When the COIN CHUTE TYPE is set to COMMON, the number of credits available to all players will increase by 1.
	When the COIN CHUTE TYPE is set to INDIVIDUAL, the player corresponding to the SERVICE Button's credits will increase by 1.

(C-1) COIN CHUTE #1 COIN TO CREDIT RATE (Coin and credit conversion rate 1)

1 COIN(S) COUNT AS 1 CREDIT(S)	1 coin counts as 1 credit
2 COIN(S) COUNT AS 1 CREDIT(S)	2 coins count as 1 credit
3 COIN(S) COUNT AS 1 CREDIT(S)	3 coins count as 1 credit
4 COIN(S) COUNT AS 1 CREDIT(S)	4 coins count as 1 credit
5 COIN(S) COUNT AS 1 CREDIT(S)	5 coins count as 1 credit
1 COIN(S) COUNT AS 2 CREDIT(S)	1 coin counts as 2 credits
1 COIN(S) COUNT AS 3 CREDIT(S)	1 coin counts as 3 credits
1 COIN(S) COUNT AS 4 CREDIT(S)	1 coin counts as 4 credits
1 COIN(S) COUNT AS 5 CREDIT(S)	1 coin counts as 5 credits
FREE PLAY	Free play (no coins required)
DETAIL SETTING	More detailed settings

(C-2) COIN CHUTE #2 COIN TO CREDIT RATE (Coin and credit conversion rate 2)

When (A) COIN CHUTE TYPE is set to "COMMON," the detail settings for this item are restricted to the settings listed in (C-1).

(D) DETAIL SETTING

The COIN ASSIGNMENTS DETAIL SETTING screen allows more detailed settings that cannot be performed on (C) the COIN TO CREDIT RATE screen to be performed.

■ DETAIL SETTING Screen

COIN ASSIGNMENTS	
DETAIL SETTING	
COIN CHUTE #1 MULTIPLIER (E-1)
1 COIN COUNT AS 1 COIN (S)	
COIN CHUTE #2 MULTIPLIER (E-2)
1 COIN COUNT AS 1 COIN (S)	
BONUS ADDER	NO BONUS ADDER (F)
COIN TO CREDIT 1 COIN (S) 1 CREDIT (G)
-> EXIT	
COIN CHUTE #1 OPERATION	
COIN	1 2 3 4 5 6 7 8 9
CREDIT	1 2 3 4 5 6 7 8 9
COIN CHUTE #2 OPERATION	
COIN	1 2 3 4 5 6 7 8 9
CREDIT	1 2 3 4 5 6 7 8 9
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON	

[COIN CHUTE TYPE: COMMON]

The following information is displayed on this screen.

(E-1) COIN CHUTE #1 MULTIPLIER

Coin conversion rate for #1. (How many coins 1 inserted coin counts for)

(E-2) COIN CHUTE #2 MULTIPLIER

Coin conversion rate for #2. (How many coins 1 inserted coin counts for)

NOTE: When (A) COIN CHUTE TYPE is set to "COMMON," COIN CHUTE #1 and COIN CHUTE #2 can be set separately.

(F) BONUS ADDER

Use of a bonus coin.

NO BONUS ADDER	No bonus coin given
2 COINS GIVE 1 EXTRA COIN	2 coins inserted successively award 1 bonus coin
3 COINS GIVE 1 EXTRA COIN	3 coins inserted successively award 1 bonus coin
4 COINS GIVE 1 EXTRA COIN	4 coins inserted successively award 1 bonus coin
5 COINS GIVE 1 EXTRA COIN	5 coins inserted successively award 1 bonus coin
6 COINS GIVE 1 EXTRA COIN	6 coins inserted successively award 1 bonus coin
7 COINS GIVE 1 EXTRA COIN	7 coins inserted successively award 1 bonus coin
8 COINS GIVE 1 EXTRA COIN	8 coins inserted successively award 1 bonus coin
9 COINS GIVE 1 EXTRA COIN	9 coins inserted successively award 1 bonus coin

(G) COIN TO CREDIT

The number of coins to number of credits conversion rate.

Move the cursor to EXIT and press the TEST Button to return to the COIN ASSIGNMENTS screen.

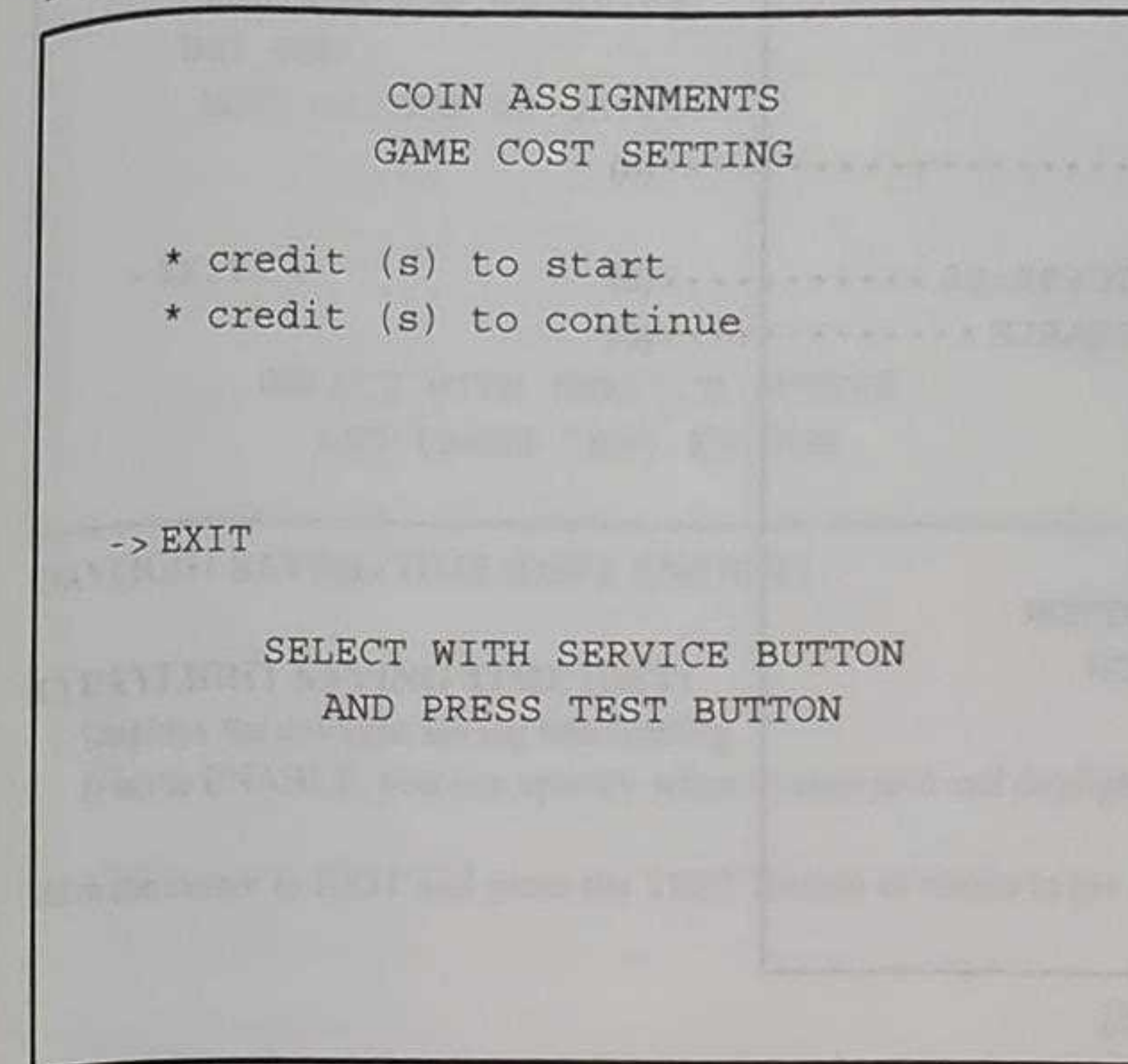
(H) GAME COST SETTING

Use the COIN ASSIGNMENTS GAME COST SETTING screen to set the cost (number of required credits) that the game program will use to determine if there are enough credits to play the game.

A total of 8 game costs can be defined. The game cost is defined by the BOOT ID, and when the second boot recognizes the game, the game cost defined by the BOOT ID will be displayed.

If the game is not recognized, the default game cost will be displayed.

GAME COST SETTING Screen



NOTE: The screen display will vary depending on the game that is installed. The figure above is one example.

Move the cursor to EXIT and press the TEST Button to return to the COIN ASSIGNMENTS screen.

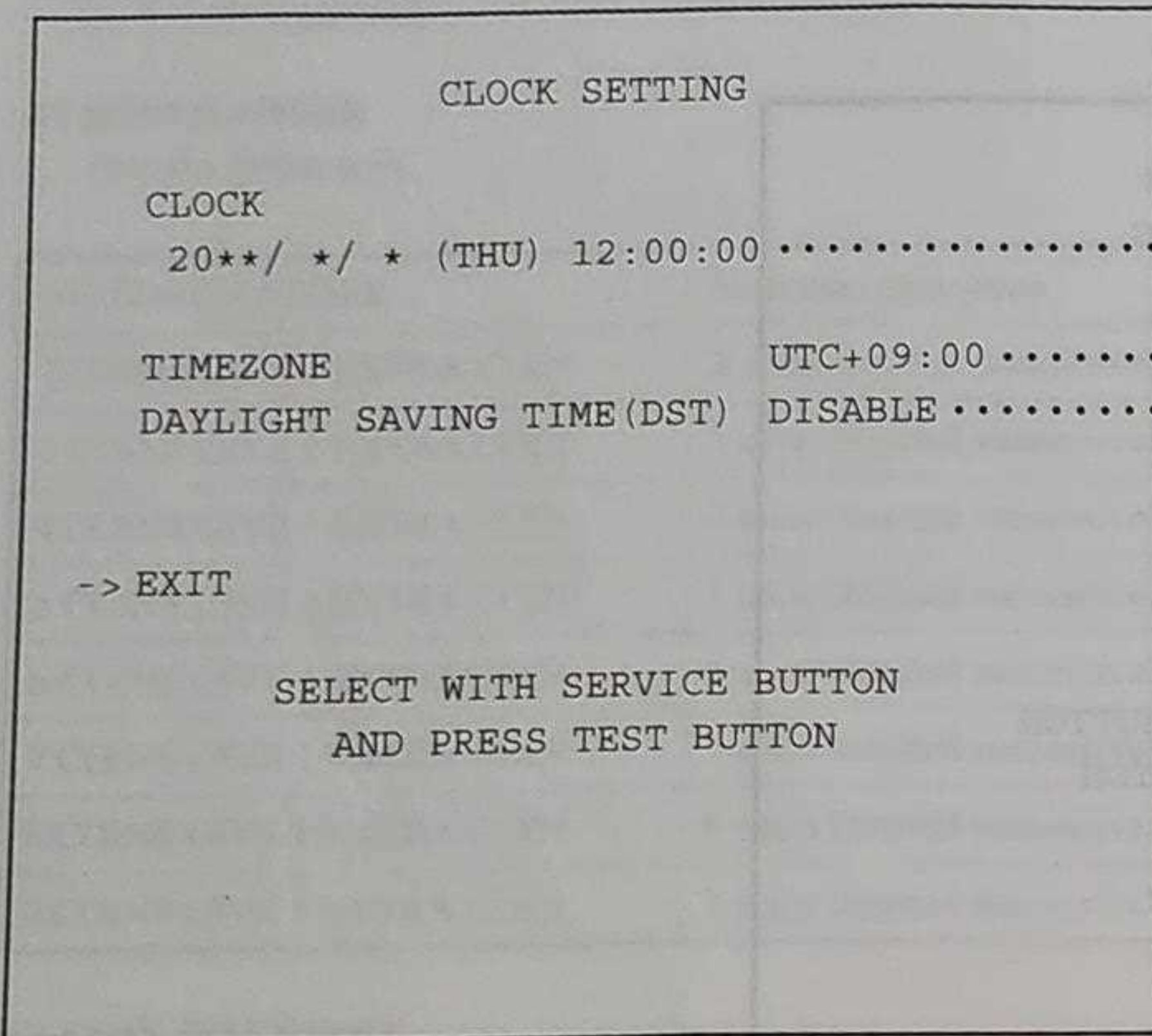
(I) EXIT

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

4-8 CLOCK SETTING

Use CLOCK SETTING to set the date and time.
Use the SERVICE Button to move the cursor to the category that you wish to change and press the TEST Button to increase that value. Holding the TEST Button down will make the value continuously increase.

■ CLOCK SETTING Screen



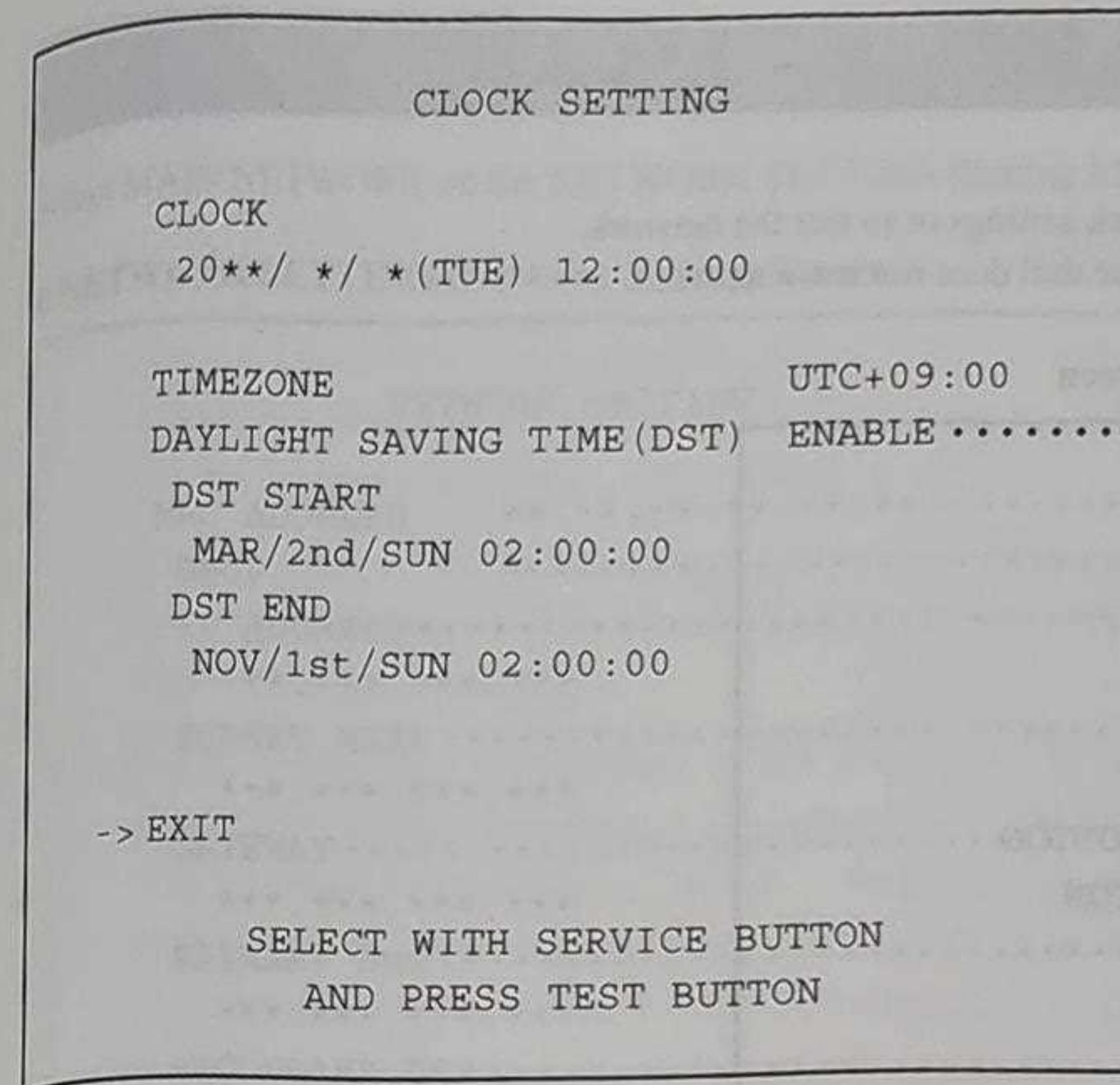
[DAYLIGHT SAVING TIME (DST): DISABLE]

(A) CLOCK

Displays the current time and date.
The time and date can be changed by selecting CLOCK.
Use the SERVICE Button to move the underline to the item you want to change and press the TEST Button to change the value.
If you select EXIT and press the TEST Button after changing the setting, you will be asked whether you really want to make the changes.
Select "YES" to change the value or "NO" to leave it as it is, and press the TEST Button.
Games connected to the network will adjust the time automatically.
Exercise caution as the game may become unplayable if the time is changed.

(B) TIMEZONE

Displays the time zone setting. If the machine is not available for ALL.Net, it is not displayed.



[DAYLIGHT SAVING TIME (DST): ENABLE]

(C) DAYLIGHT SAVING TIME (DST)

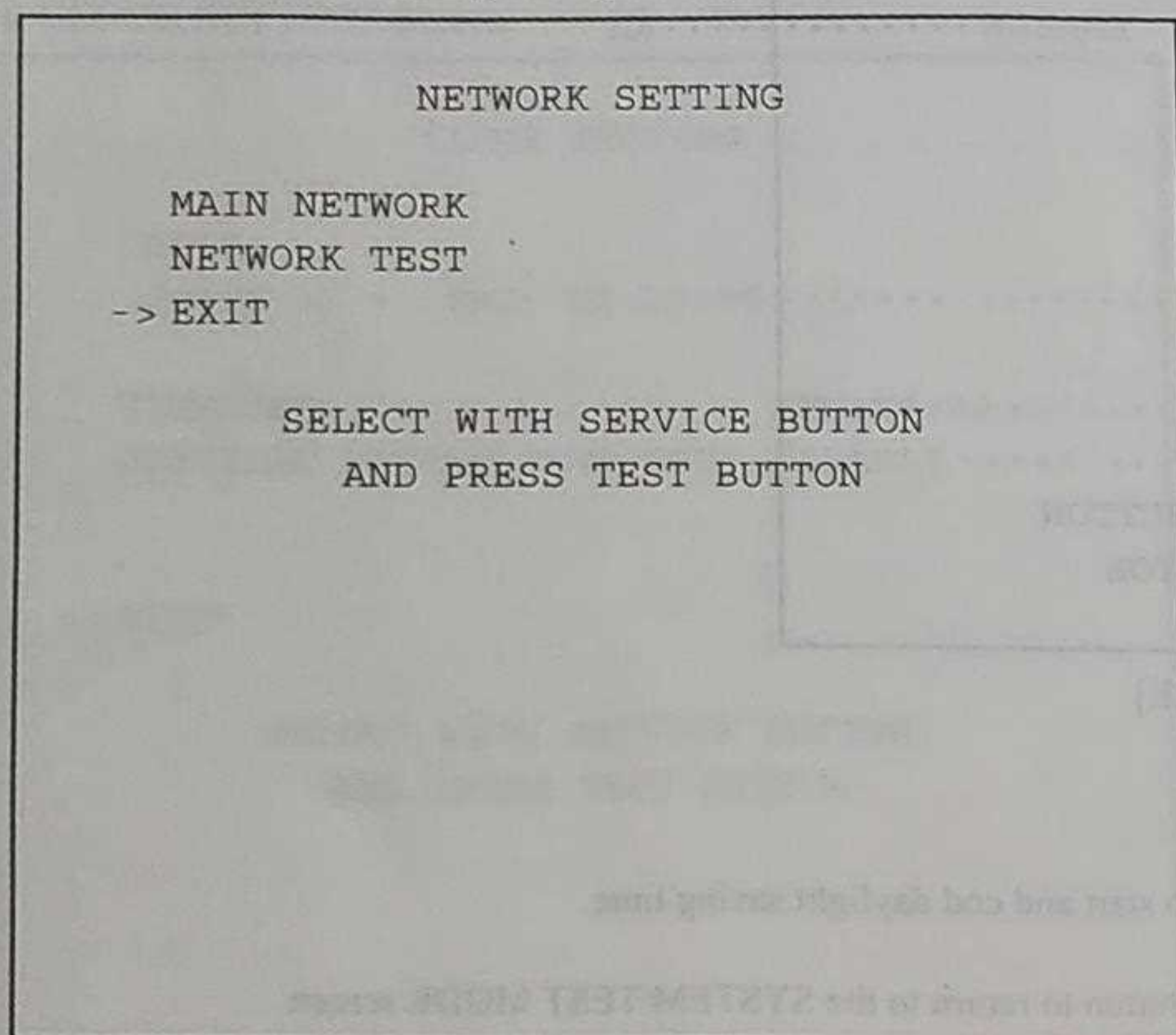
Displays the daylight saving time setting.
If set to ENABLE, you can specify when to start and end daylight saving time.

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

4-9 NETWORK SETTING

Use NETWORK SETTING to determine network settings or to test the network. There is no need to alter these settings for a game that does not use a network.

■ NETWORK SETTING (Setting Menu) Screen



The following information is displayed on this screen.

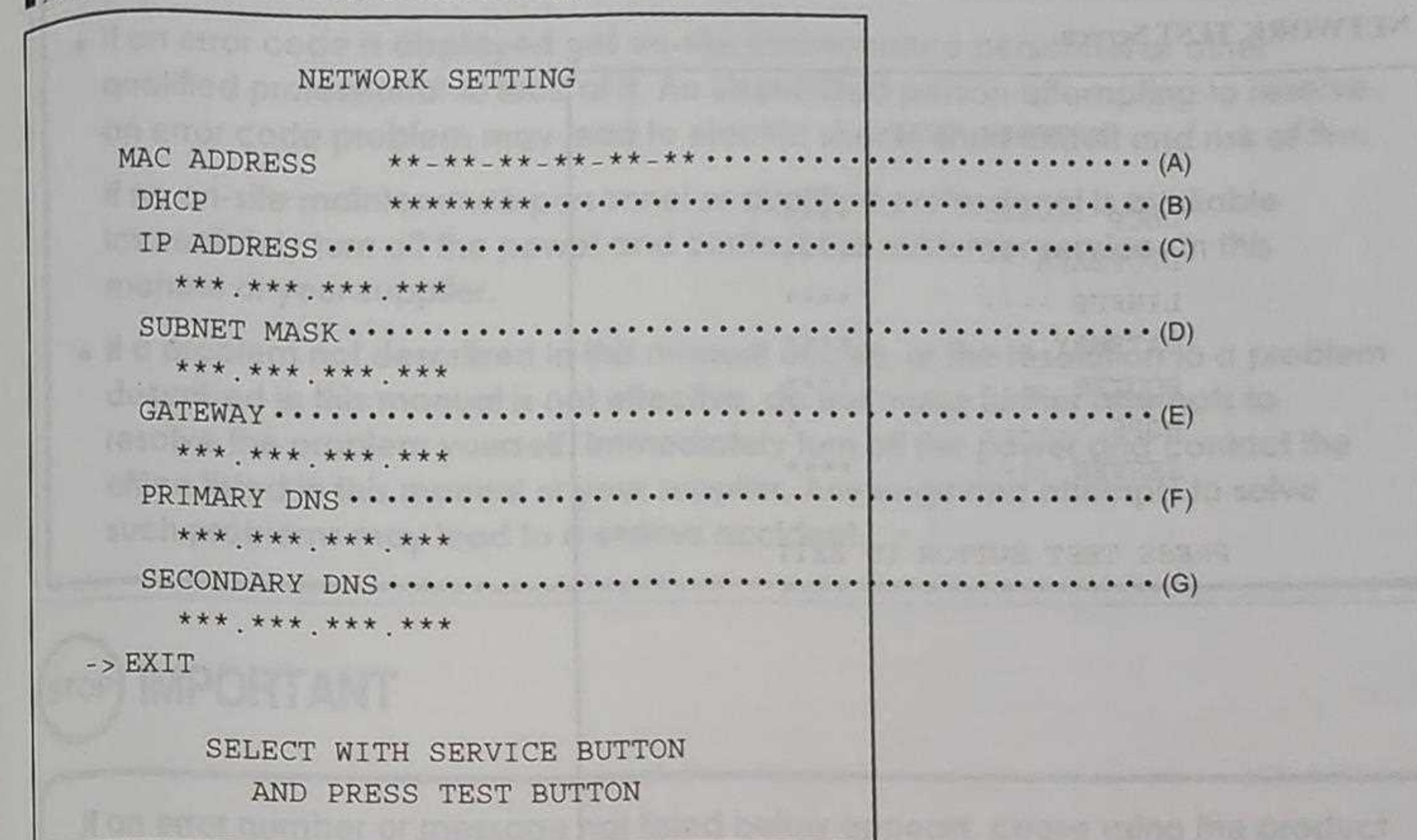
MAIN NETWORK	Performs a network setting.
NETWORK TEST	Performs a network test.

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

MAIN NETWORK

Select MAIN NETWORK on the NETWORK SETTING (Setting Menu) and the following screen will be displayed.

■ NETWORK SETTING (Network Setting) Screen



The following information is displayed on this screen.

(A) MAC ADDRESS

The individual ID number assigned to each device using the Ethernet.

(B) DHCP

Set automatic acquisition of network settings.

ENABLE: Acquire network settings automatically.

DISABLL: Input network settings manually.

(C) IP ADDRESS

A setting required for the network. See the manual supplied with each game software for the correct setting.

After setting the numbers, select SET and press the TEST Button to save the setting.

When DHCP is set to ENABLE, this item cannot be selected.

(D) SUBNET MASK

A setting required for the network. See the manual supplied with each game software for the correct setting.

After setting the numbers, select SET and press the TEST Button to save the setting.

When DHCP is set to ENABLE, this item cannot be selected.

(E) GATEWAY

A setting required for the network. See the manual supplied with each game software for the correct setting.

After setting the numbers, select SET and press the TEST Button to save the setting.

When DHCP is set to ENABLE, this item cannot be selected.

(F) PRIMARY DNS

A setting required for the network. See the manual supplied with each game software for the correct setting.

After setting the numbers, select SET and press the TEST Button to save the setting.

When DHCP is set to ENABLE, this item cannot be selected.

(G) SECONDARY DNS

A setting required for the network. See the manual supplied with each game software for the correct setting.

After setting the numbers, select SET and press the TEST Button to save the setting.

When DHCP is set to ENABLE, this item cannot be selected.

Move the cursor to EXIT and press the TEST Button to return to the NETWORK SETTING (Setting Menu) screen.

NETWORK TEST

Check the network connection.

The test will begin as soon as this screen is displayed. The machine cannot be operated until the test is finished.

■ NETWORK TEST Screen

NETWORK TEST	
DHCP -----	****
LOOPBACK --	****
LINKUP ----	****
GATEWAY ---	****
ROUTER ----	****
HOPS -----	*
SERVER ----	****
PRESS TEST BUTTON TO EXIT	

The following information is displayed on this screen.

DHCP	Status of communication settings acquisition when DHCP is set to ENABLE.
LOOPBACK	RINGEDGE network function operation status.
LINKUP	LAN cable connection status.
GATEWAY	Status of connection with title router, etc.
ROUTER	Status of connection with ALL.Net router.
HOPS	Number of router connections to ALL.Net router.
SERVER	Status of connection with ALL.Net server.

The status of determining items is as listed in the table below:

CHECK	Indicates that the item is currently being checked.
GOOD	Indicates that the item is functioning normally.
BAD	Indicates that the item is not functioning normally. (Damaged, incorrect settings, etc.)
N/A	Indicates that the item has not been checked. (Prerequisites have not been met, etc.)

Press the TEST Button to return to the NETWORK SETTING (Setting Menu) screen.

4-10 EXIT

Exit the Test Mode.

5 ERROR CODES DISPLAY

⚠ WARNING

- If an error code is displayed get on-site maintenance personnel or other qualified professional to look at it. An unqualified person attempting to resolve an error code problem may lead to electric shock, short circuit and risk of fire.
If no on-site maintenance personnel or qualified professional is available immediately turn off the power and contact the customer services in this manual or your supplier.
- If a problem not described in this manual occurs, or the resolution to a problem described in this manual is not effective, do not make further attempts to resolve the problem yourself. Immediately turn off the power and contact the office listed in this manual or your supplier. Any unguided attempts to solve such problems may lead to a serious accident.

STOP IMPORTANT

If an error number or message not listed below appears, cease using the product immediately and contact the office listed in this manual or the point of purchase for this product.

RINGEDGE is equipped to display various errors on-screen to help solve any problems. If an error is displayed the game cannot be used. Use the following table of causes and countermeasures to solve the problem.

DISPLAY	Error 0001 Keychip Not Found
CAUSE	There is no key chip, or the key chip is not connected correctly.
COUNTERMEASURES	Check that the key chip is connected correctly.

DISPLAY	Error 0002 Keychip Not Available
CAUSE	The key chip is not supported. The RINGEDGE system program must be updated.
COUNTERMEASURES	Check how the game was installed. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0004 Game Program Not Acceptable
CAUSE	The key chip is not supported.
COUNTERMEASURES	Check that the key chip from a different system is not inserted. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0008 Keychip Access Failed
CAUSE	The key chip could not be accessed.
COUNTERMEASURES	Reinsert the key chip and restart RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0010 Unexpected Game Program Failure
CAUSE	The game program crashed due to an unexpected error.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0020 EXIO Not Found
CAUSE	The I/O board inside RINGEDGE is not recognized.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0021 Main board Malfunctioning
CAUSE	The main board does not recognize itself.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0022 Game Program Not Found on Storage Device
CAUSE	There is no game program on the storage device.
COUNTERMEASURES	Use the installation media (DVD DRIVE, etc.) to reinstall the game.
DISPLAY	Error 0023 - 0026 Main board Malfunctioning
CAUSE	Failed to access the main board.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0027 Low Battery
CAUSE	The button battery may be depleted.
COUNTERMEASURES	Replace the button battery.
DISPLAY	Error 0041 Game Program Not Found on Install Media
CAUSE	There is no game program on the install media.
COUNTERMEASURES	Check that the game program, place on the install media (DVD DRIVE etc.), and the key chip correspond to each other.
DISPLAY	Error 0042 Game Program Not Found on Install Media
CAUSE	Some part of the game program is missing.
COUNTERMEASURES	Check how the game was installed. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0049 Install Media Access Failed
CAUSE	Failed to access the install media.
COUNTERMEASURES	Check that the install media (DVD DRIVE etc.) is connected correctly. Check that the game disk is not scratched, damaged or dirty. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0052 Install Media Access Failed
CAUSE	Failed to access the install media.
COUNTERMEASURES	Check that the install media (DVD DRIVE etc.) is connected correctly. Check that the game disk is not scratched, damaged or dirty. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0055 Game Program Verify Error
CAUSE	The installed game program is not working correctly.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0064 Game Program Not Found on Server
CAUSE	No game program on the LAN install server.
COUNTERMEASURES	Check that the game program, place on the LAN install server, and the key chip correspond to each other.
DISPLAY	Error 0066 Game Program Verify Error
CAUSE	The installed game program is not working correctly.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0081 Invalid Storage Format
CAUSE	The storage format is wrong.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0082 Game Program Access Failed
CAUSE	The storage device cannot be recognized.
COUNTERMEASURES	Reinstall the game program. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.
DISPLAY	Error 0083 Storage Device Not Acceptable
CAUSE	The storage does not have enough space.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0084 Storage Device Malfunctioning
CAUSE	The storage device may be broken.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0085 Invalid Storage Format
CAUSE	The storage format is wrong.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0088 System Program Verify Error
CAUSE	The installed system program is not working correctly.
COUNTERMEASURES	Perform a manual recovery of RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0090 High CPU Temperature
CAUSE	The CPU temperature is high.
COUNTERMEASURES	Refer to Chapter 7, and clean RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0091 Too High CPU Temperature
CAUSE	The CPU temperature is high.
COUNTERMEASURES	Refer to Chapter 7, and clean RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0501 - 0530 (No message)
CAUSE	The connected device cannot be recognized.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0531 (No message)
CAUSE	The connected graphics device cannot be recognized.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0532 (No message)
CAUSE	The connected USB device cannot be recognized.
COUNTERMEASURES	Check that the USB devices are connected correctly, and turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0533 - 0550 (No message)
CAUSE	The connected device cannot be recognized.
COUNTERMEASURES	Turn the power off and then restart the RINGEDGE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0901 Wrong Platform
CAUSE	The game board being used is not supported.
COUNTERMEASURES	Check to see if any game programs have been upgraded.

DISPLAY	Error 0902 Wrong System Program
CAUSE	It was started up with an unsupported system program. The RINGEDGE system program must be updated.
COUNTERMEASURES	Check how the game was installed. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0903 Wrong Region.
CAUSE	The game is for a foreign region.
COUNTERMEASURES	Use a domestic game.

DISPLAY	Error 0905 Graphic Function Not Found
CAUSE	The RINGEDGE graphics function cannot be recognized.
COUNTERMEASURES	Check that the game program is compatible with the RINGEDGE. If it is, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0906 Sound Function Not found
CAUSE	The RINGEDGE sound function cannot be recognized.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0907 Not Enough System Memory
CAUSE	RINGEDGE does not have enough memory.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0908 Not Enough SRAM
CAUSE	RINGEDGE does not have enough SRAM.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0909 Not Enough Storage Device
CAUSE	RINGEDGE does not have enough storage.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0910 Wrong Resolution Setting
CAUSE	The game does not support the current resolution settings.
COUNTERMEASURES	Change the DIP SW to the correct settings and restart the RINGEDGE.

DISPLAY	Error 0911 Wrong Horizontal/Vertical Setting.
CAUSE	The monitor horizontal/vertical settings are incorrect.
COUNTERMEASURES	Change the DIP SW to the correct settings and restart the RINGEDGE.

DISPLAY	Error 0949 Keychip Not Found
CAUSE	Failed to access the key chip.
COUNTERMEASURES	Check that the key chip is connected correctly.

DISPLAY	Error 6401 JVS I/O board is not connected to main board.
CAUSE	(1) The I/O board is not connected. (2) Unreliable connection between the game board and the I/O board.
COUNTERMEASURES	(1) Connect the I/O board to RINGEDGE. Check that the power cable is connected to I/O board. (2) Reconnect or replace the JVS cable that connects the I/O board to RINGEDGE.

DISPLAY	Error 6402 JVS I/O board does not fulfill the game spec.
CAUSE	The correct I/O board is not connected.
COUNTERMEASURES	Use an I/O board that provides the proper input/output for the game.

DISPLAY	Error 8001 Network address error (DHCP)
CAUSE	The network connection settings could not be initialized.
COUNTERMEASURES	Check the network connection and follow the startup procedures to restart the system.

DISPLAY	Error 8002 Network setting error (SYSTEM)
CAUSE	The SYSTEM TEST MODE NETWORK SETTING is incorrect.
COUNTERMEASURES	Check the NETWORK SETTING.

DISPLAY	Error 8003 Network address error (Dup.IP)
CAUSE	The network connection settings could not be initialized.
COUNTERMEASURES	Check the network connection and follow the startup procedures to restart the system.

DISPLAY	Error 8004 Network setting error (Dup.IP)
CAUSE	The SYSTEM TEST MODE NETWORK SETTING is incorrect.
COUNTERMEASURES	Check the NETWORK SETTING.

DISPLAY	Error 8005 Network type error (WAN)
CAUSE	The line type of the connected ALL.Net router is incorrect.
COUNTERMEASURES	Check the line type of the connected ALL.Net router.

DISPLAY	Error 8006 Network timeout error (DHCP)
CAUSE	The network connection settings could not be initialized.
COUNTERMEASURES	Check the network connection and follow the startup procedures to restart the system.

DISPLAY	Error 8007 Network timeout error (DNS-WAN)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGEDGE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

DISPLAY	Error 8008 Network timeout error (DNS-LAN)
CAUSE	A connection could not be established with the ALL.Net router.
COUNTERMEASURES	Check the RINGEDGE network connection and the in-store network ALL.Net connection and then follow the startup procedures to restart the system.

DISPLAY	Error 8009 Network Game Disabled
CAUSE	The GAME TEST MODE ALL.Net connection is set to OFF.
COUNTERMEASURES	Check the GAME TEST MODE settings.

DISPLAY	Error 8103 ALL.Net System error (TIMEOUT)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGEDGE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

DISPLAY	Error 8104 ALL.Net System error (REG)
CAUSE	ALL.Net registration could not be confirmed.
COUNTERMEASURES	Check to make sure ALL.Net registration (the agreement) has been successfully completed.

DISPLAY	Error 8106 ALL.Net System Caution
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGEDGE network connection, the in-store network connection and the connection between the ALL.Net router and network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.
DISPLAY	Error 8111 ALL.Net System error (REG)
CAUSE	ALL.Net registration could not be confirmed.
COUNTERMEASURES	Check to make sure ALL.Net registration (the agreement) has been successfully completed.
DISPLAY	Error 8113 ALL.Net System error (MODE)
CAUSE	The ALL.Net settings could not be confirmed.
COUNTERMEASURES	Contact the office listed in this manual.
DISPLAY	Error 8114 ALL.Net System error (RTC)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGEDGE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.
DISPLAY	Error 8201 ALL.Net System error (TIMEOUT)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGEDGE network connection, the in-store network connection and the connection between the ALL.Net router and network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.
DISPLAY	Error 8202 ALL.Net System error (REG)
CAUSE	ALL.Net registration could not be confirmed.
COUNTERMEASURES	Check to make sure ALL.Net registration (the agreement) has been successfully completed.
DISPLAY	Error 8301 Network error (GAME-LAN)
CAUSE	The connection with the devices that make up this game could not be confirmed.
COUNTERMEASURES	Check the network connection and follow the startup procedures to restart the system.
DISPLAY	Error 8302 Maintenance time (GAME)
CAUSE	Currently the server is undergoing maintenance.
COUNTERMEASURES	Wait until server maintenance is complete.

DISPLAY	Error 8303 Network error (GAME)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGEDGE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.
DISPLAY	Error 8304 Network failed (GAME)
CAUSE	Automatic recovery from the network failure is not possible.
COUNTERMEASURES	Check the RINGEDGE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

Manual Recovery

Use the following procedure to return the RINGEDGE system program to a previous state.

- 1 Press the TEST and SERVICE Buttons simultaneously with the RINGEDGE power off.
Hold the buttons down and turn on the power.
- 2 After RINGEDGE starts up and the following message is displayed, release the buttons.
The system program will recover automatically. The Advertising screen will be displayed once everything finishes. Until it is displayed, do not interfere with the cabinet's operations.
(If you are uninstalling a game, the Install Wait screen will be displayed.)

SYSTEM UPDATE

STEP1

DO NOT TURN OFF THE POWER

6 REPLACING THE BUTTON BATTERY

⚠ WARNING

- Make sure you do not damage the printed board and wires. Such damage can lead to electric shock, short circuit and fire hazard.
- To prevent overheating, explosion, or fire:
 - Do not recharge, disassemble, heat, incinerate, or short the battery.
 - Do not allow the battery to come into direct contact with metallic objects or other batteries.
 - To preserve the battery, wrap it in tape or other insulating material.
- Follow local regulations when disposing of the battery. Improper disposal can damage the environment.
- Even the site maintenance personnel or other qualified professionals must not perform replacement operations for parts not described in this manual. In the event that such work is required either contact the office listed in this manual or first confirm the procedure with the place or office of purchase. Failure to do so may lead to electric shock or short circuit.
- Do not turn on the power with current carrying parts exposed. Doing so could result in electric shock or short circuit.

⚠ CAUTION

To avoid risk of malfunction and damage:

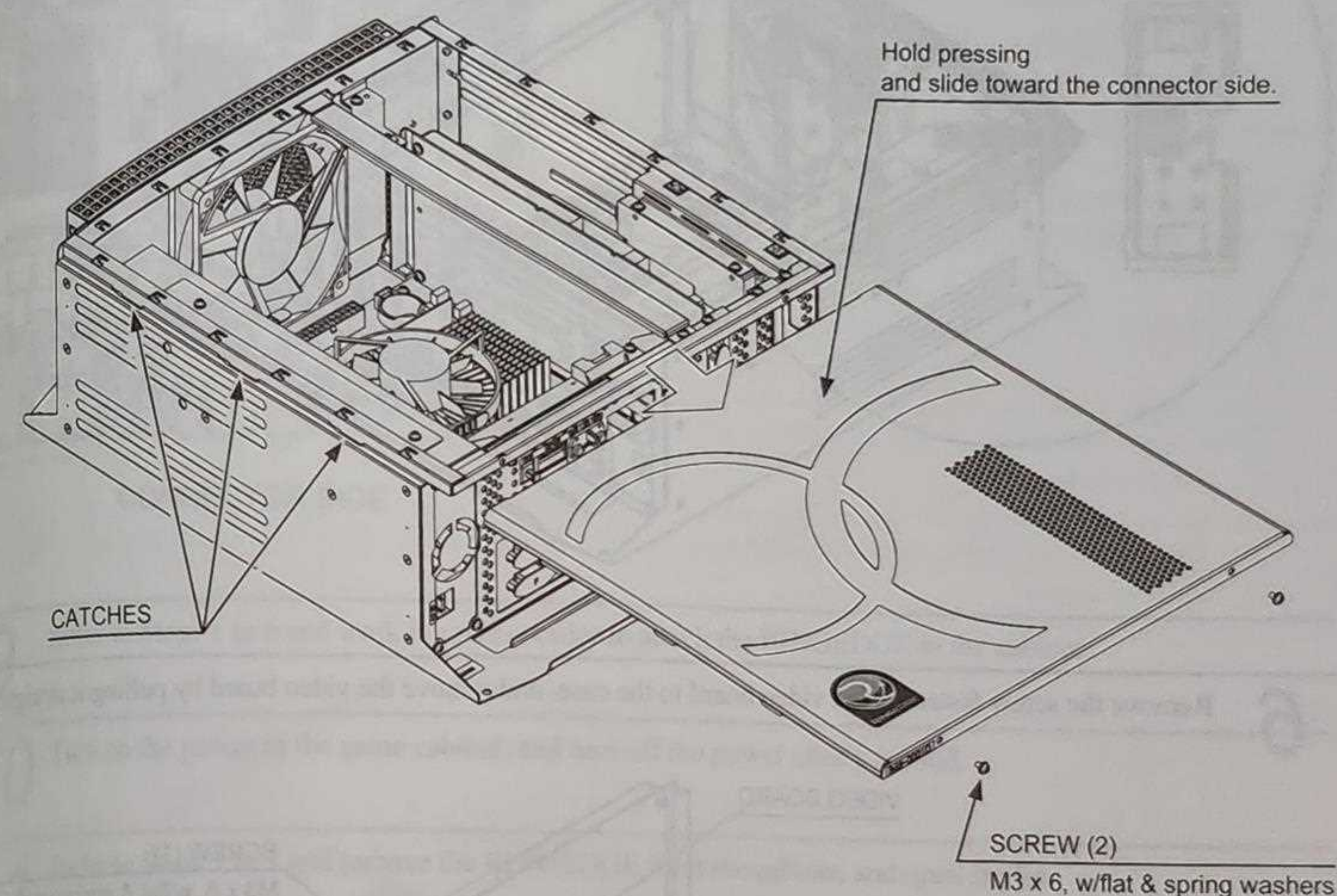
- Make sure the positive and negative ends are aligned correctly.
- Use only batteries approved for use with this unit.

STOP IMPORTANT

- The batteries in RINGEDGE can be used for approximately 8 years of standard usage. If the battery appears to require replacement sooner than 8 years it is more likely that an error has occurred with some other part of the board. Rather than exchanging the battery requesting repair of the board itself may be more appropriate.
- Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.

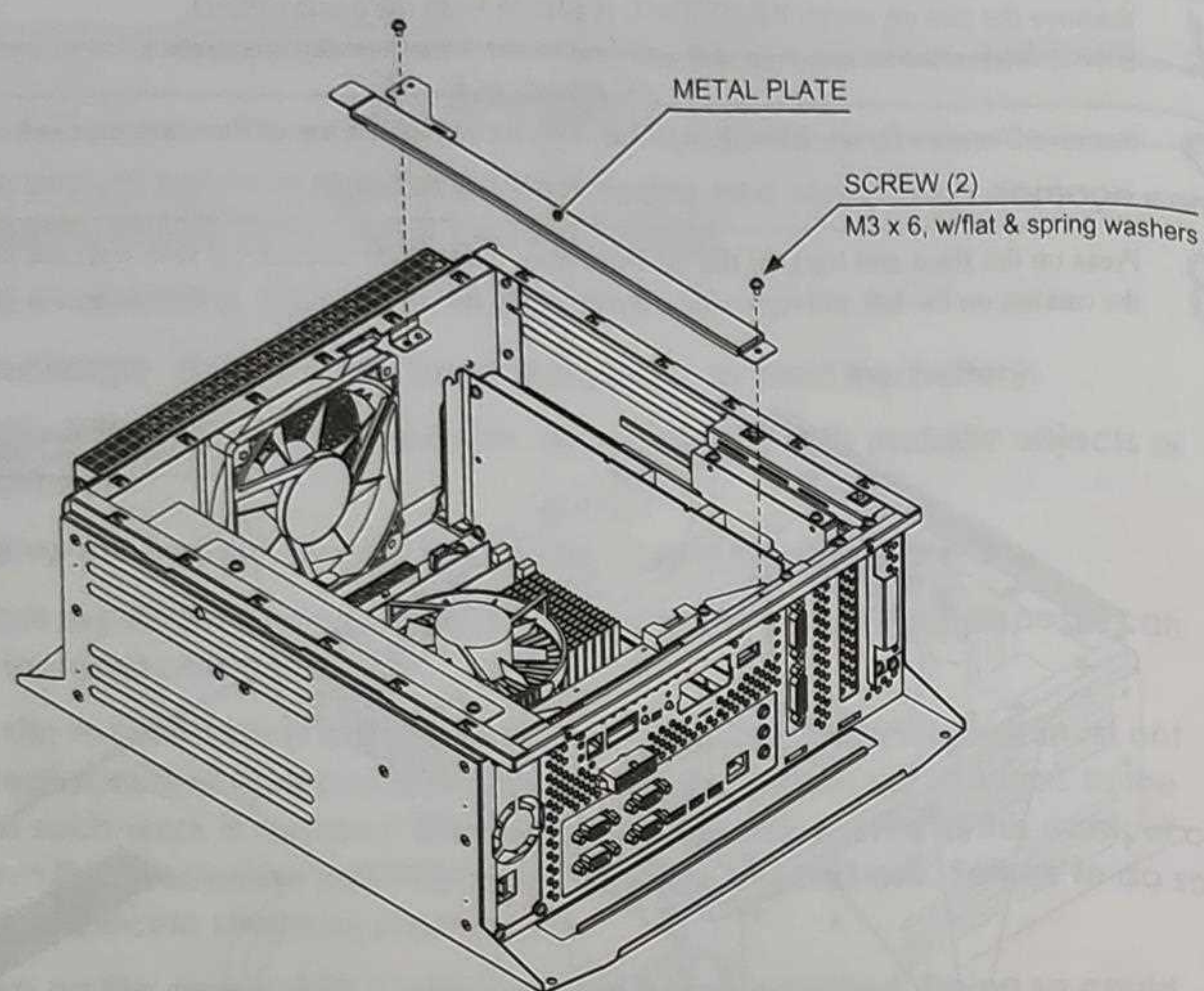
The button battery that require replacement can be found on the main board, inside the RINGEDGE shield case.

- 1 Remove the unit on which RINGEDGE is placed from the game cabinet. RINGEDGE must be removed still attached to the base (wooden shelf, etc.).
- 2 Remove 2 screws for the RINGEDGE lid. The screws are on top of the connector side.
- 3 Press on the front and back of the lid from above and slide toward the side with the connectors, releasing the catches on the left and right sides. Remove the lid.

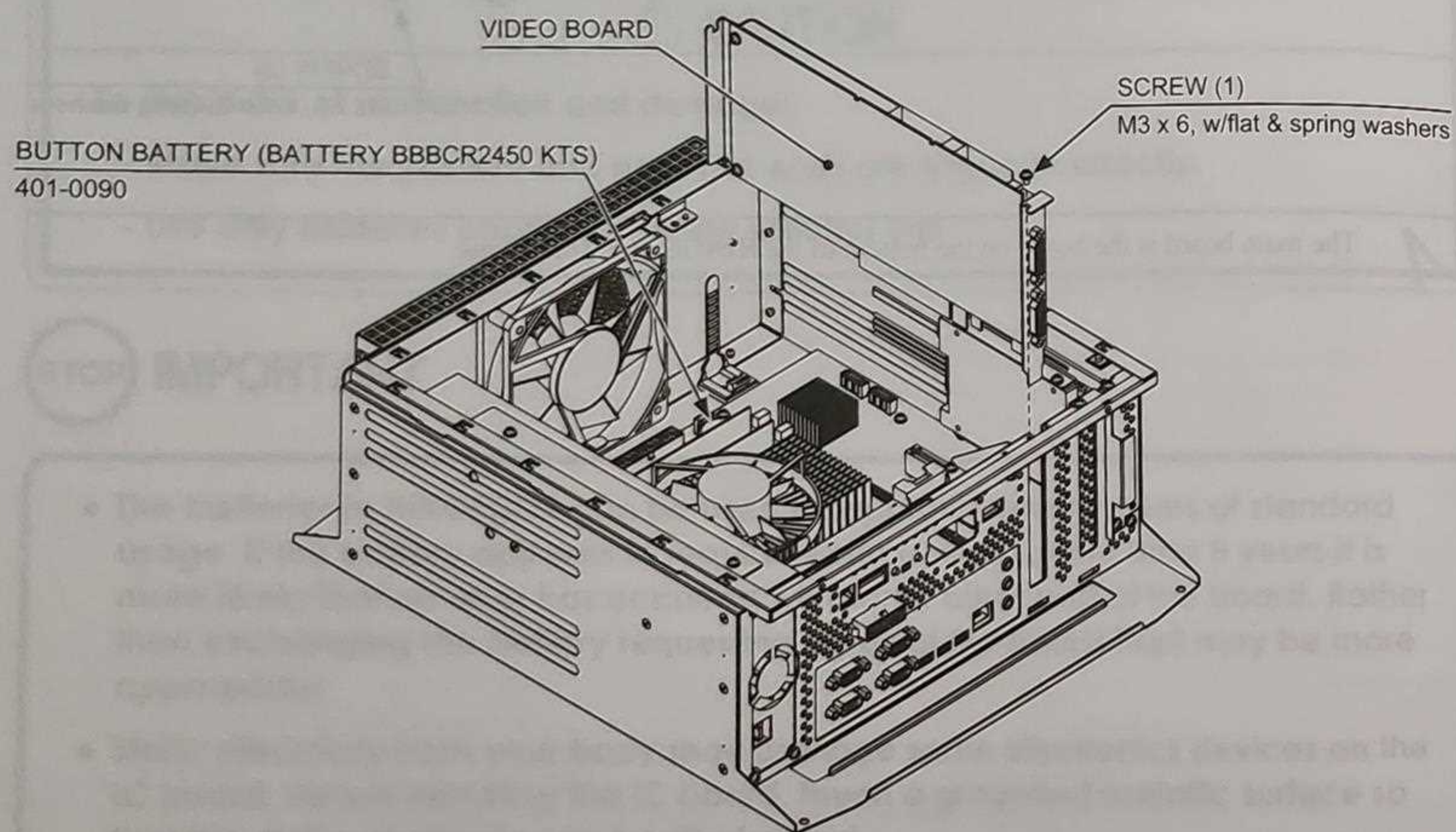


- 4 The main board is the board on the bottom of the RINGEDGE shield case.

- 5 Remove the 2 screws from both sides of the metal plate fastening the top of the video board, and take off the metal plate.

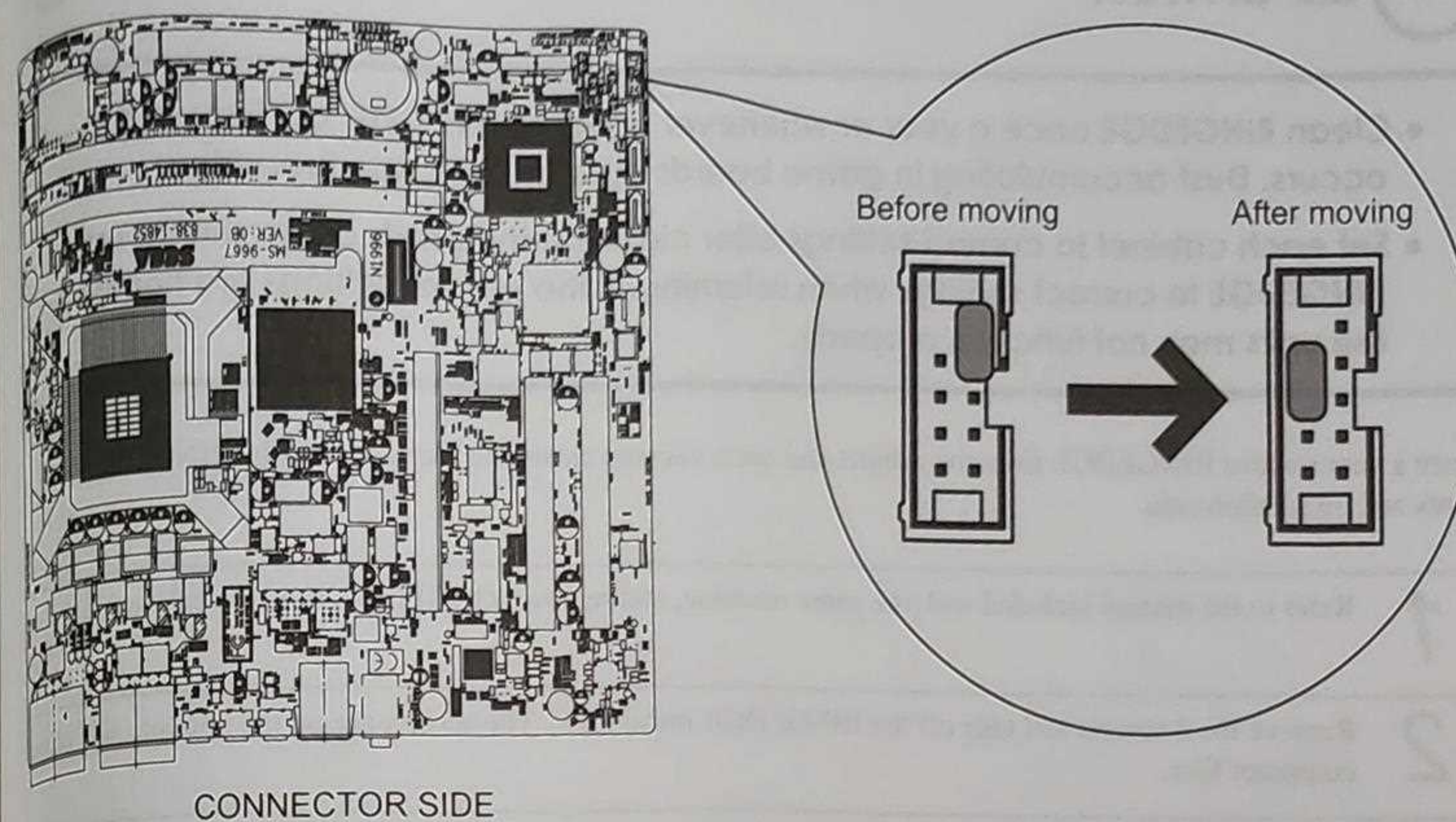


- 6 Remove the screw fastening the video board to the case, and remove the video board by pulling it straight up.



- 7 Replace the button battery on the main board.

- 8 Change the jumper socket attached to the connector as shown in the figure.

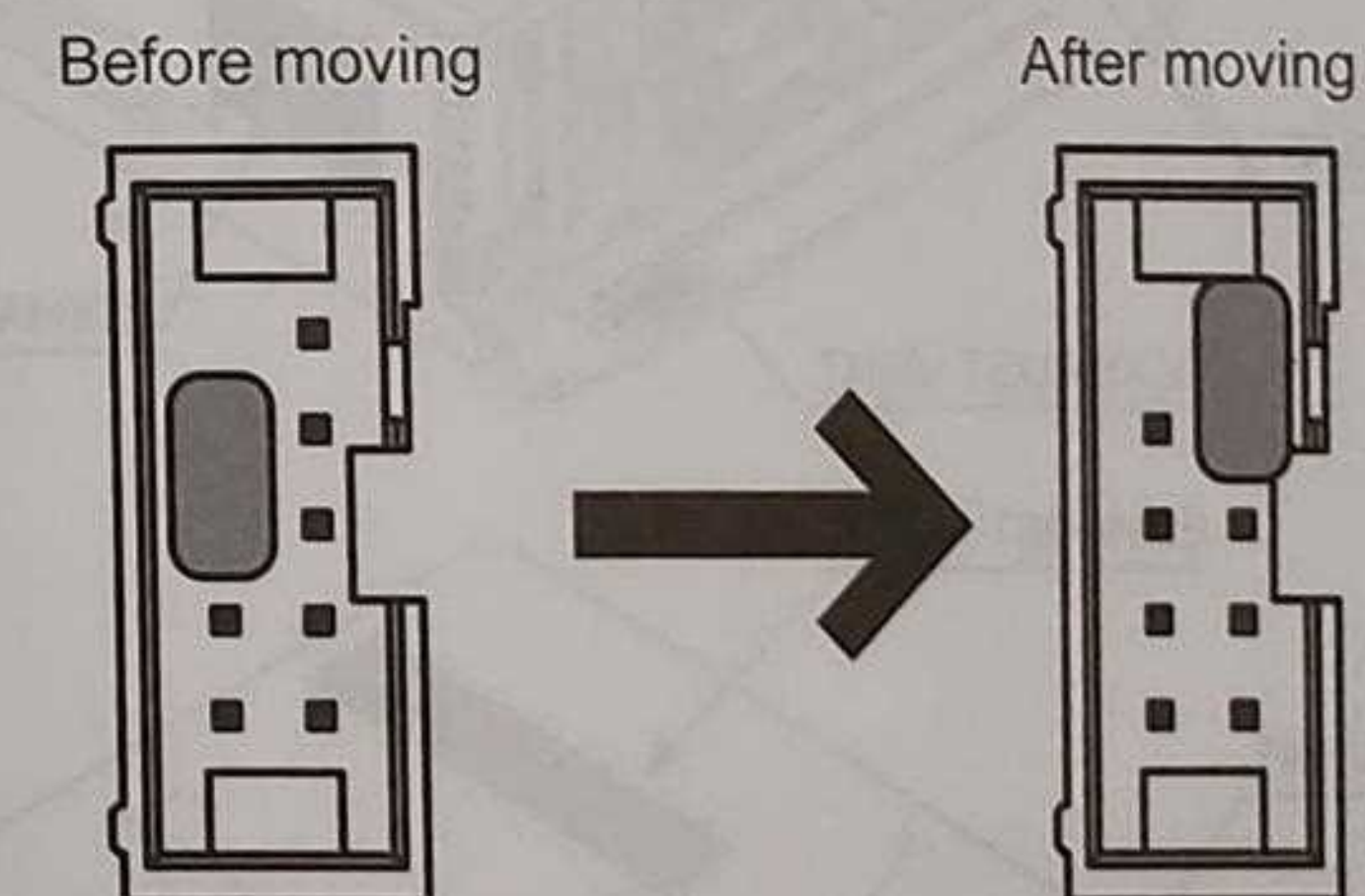


- 9 Refer to Steps 1 to 6 and work in reverse order to attach the RINGEDGE to the cabinet.

- 10 Turn on the power to the game cabinet, and turn off the power after 1 second.

- 11 Refer to Steps 1 to 3 and remove the RINGEDGE from the cabinet, and open the lid.

- 12 Make sure to return the jumper socket to its original position.



- 13 Refer to Steps 1 to 3 and work in reverse order to attach the RINGEDGE to the cabinet. If the power does not turn on, redo the procedure starting from Step 8.

7 CLEANING THE RINGEDGE

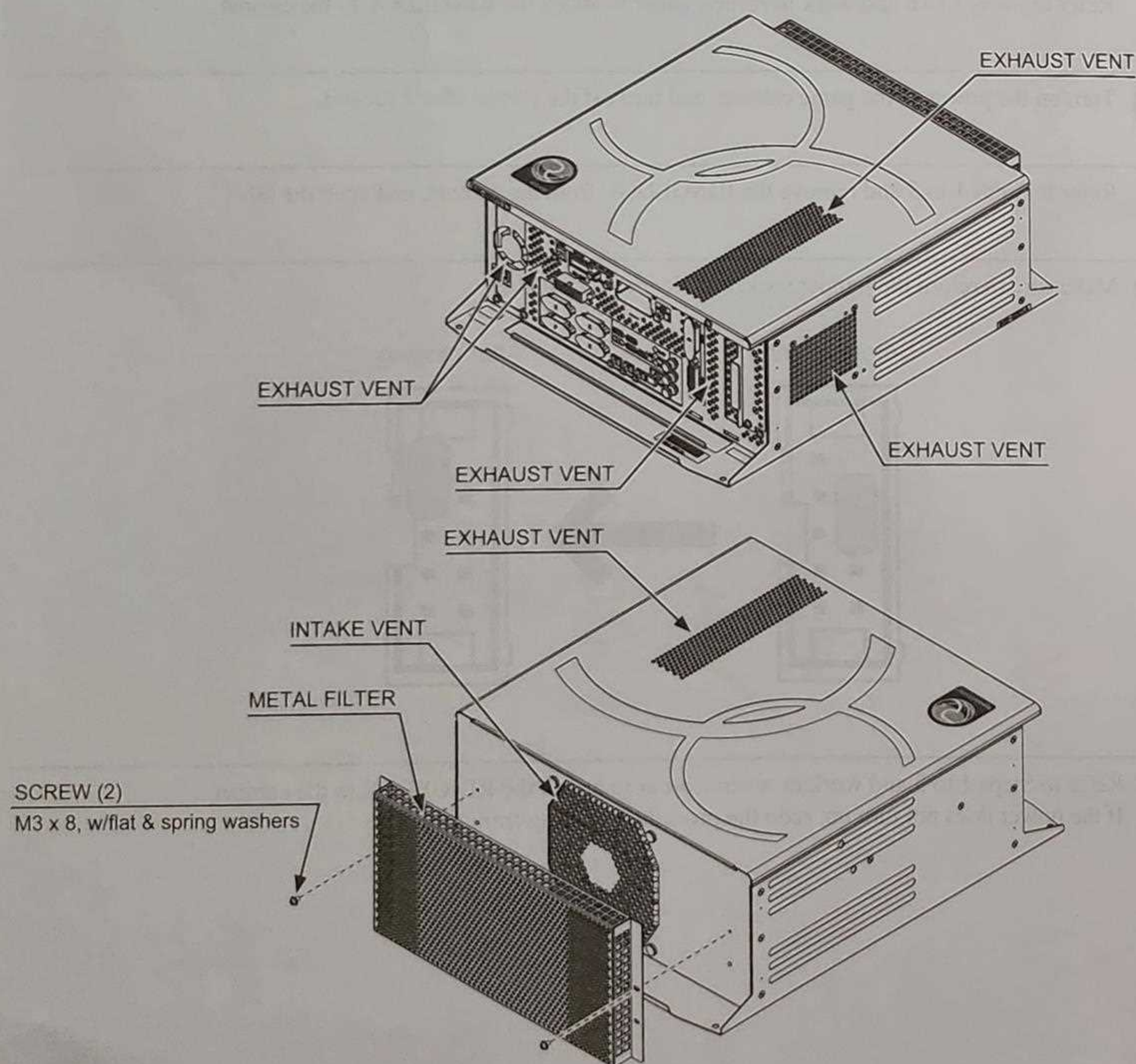
STOP IMPORTANT

- Clean RINGEDGE once a year or whenever either "Error 0090" or "Error 0091" occurs. Dust accumulating in game boards may not function properly.
- Set each cabinet to correct settings after cleaning the product. Be sure to set RINGEDGE to correct settings when returning. If the proper settings are not used, the units may not function properly.

7

Once a year remove RINGEDGE from the cabinet and use a vacuum cleaner to clean around the RINGEDGE's air vents and installation area.

- 1 Refer to the manual included with the game machine, and remove RINGEDGE from the cabinet.
- 2 Remove the 2 screws and take off the RINGEDGE metal filter. The screws are on the opposite side of the connector face.
- 3 Clean the front and back of the metal filter and the area around the RINGEDGE exhaust and intake vents with a vacuum.



4 Clean around installment parts of RINGEDGE in the cabinet with a vacuum cleaner. Be sure not to damage wirings and boards. Electronic devices on boards may damage by static electricity, and be sure not to vacuum electronic devices by a vacuum cleaner.

5 Set each RINGEDGE you removed by the reverse method.

7

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