## SEEA

## SEGA CORPORATION

TRC Haneda Building 2-13-1, Higashikoiiya, Ohta-ku, Tokyo 144-0033, Japan Telephone: $+81-3-6863-8401$ Facsimile: $+81-3-6863-8407$ Telephone: +81-3-6863-8401
© SEGA

## SERVICEMAN MANUAL

## O $P$ R $A T \mathbb{N}$

 GHOOSOTO

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

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

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.


## LIST OF THIRD-PARTY RIGHTS

Copyright © 1994-2008 Lua.org, PUC-Rio.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT

NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND

NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,

DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT

OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

```
tolua++ License
```

tolua++ is based on toLua (www.tecgraf.puc-rio.br/~celes/tolua), and it's licensed under the terms of the MIT license reproduced below. This means that Lua is free software and can be used for both academic and commercial purposes at absolutely no cost.

Copyright (C) 2009 Ariel Manzur.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## BEFORE USING THE PRODUCT, be sure to read the followng:

## 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 warning will cause a potentially hazardous situation which can result in death or serious injury.

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.

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 instruction 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 cable 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 and unplug the power cable 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 cable 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 cable. 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 cable is firmly connected to the control equipment.
- Ensure that the power supply used is equipped with an 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.
- 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, etc. It is very hazardous to operate the product by removing parts and/or modifying the circuits. 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. Using any electrical specifications different from the designated specifications can cause a fire and 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 where 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 products with monitors.)
Some of the monitor parts are subject to high tension voltage. Even after turning off the power, some portions are still subject to high tension voltage sometimes. Monitor repair and replacement should be performed only by those technical personnel who have knowledge of electricity and technical expertise.
- Be sure to adjust the monitor properly. (Applies only to products with monitors.)
Do not operate the product leaving on-screen flickering or blurring as it is. Using the product with the monitor 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.
$\square$ Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
$\square$ Are casters and adjusters damaged?
$\square$ Do the power supply voltage and frequency requirements meet with those of the location?
$\square$ 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 cables have cuts and dents?Are all accessories available?Can all doors and lids be opened with the accessory keys? Can doors and lids be firmly closed?

## TABLE OF CONTENTS

WEEE STATEMENT
LIST OF THIRD-PARTY RIGHTS
BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:
TABLE OF CONTENTS ..... i
INTRODUCTION ..... iv
1 HANDLING PRECAUTIONS ..... 1
2 PRECAUTIONS REGARDING INSTALLATION LOCATION ..... 6
2-1 LIMITATIONS OF USAGE ..... 7
2-2 OPERATION AREA ..... 8
3 PRECAUTIONS REGARDING PRODUCT OPERATION ..... 10
3-1 BEFORE OPERATION ..... 10
3-2 PAYING ATTENTION TO CUSTOMERS ..... 13
4 PART DESCRIPTIONS ..... 15
5 ACCESSORIES ..... 17
6 ASSEMBLY AND INSTALLATION ..... 20
6-1 ASSEMBLING THE FRONT CABINET. ..... 23
6-2 CONNECTING THE CONTROLLER CABINET TO THE FRONT CABINET ..... 29
6-3 INSTALLING THE CABINET ..... 33
6-4 PREPARING FOR SOFTWARE INSTALLATION ..... 35
6-5 CONNECTING THE POWER CABLE AND EARTH. ..... 38
6-6 SOFTWARE INSTALLATION ..... 40
6-7 ASSEMBLING CHECK ..... 45
6-7-1 SPEAKER VOLUME SETTING ..... 46
6-7-2 MONITOR TEST ..... 47
6-7-3 SPEAKER TEST ..... 47
6-7-4 INPUT TEST ..... 48
6-7-5 OUTPUT TEST ..... 48
6-7-6 LED ADJUSTMENT ..... 49
6-7-7 CONTROLLER ADJUSTMENT ..... 50
6-7-8 SETTING THE INTERFERENCE PREVENTION WIRING ..... 51
7 PRECAUTIONS WHEN MOVING THE MACHINE
8 GAME DESCRIPTION ..... 57
8-1 HOW TO PLAY ..... 57
8-2 GAME SCREENS ..... 57
8-3 RELOADING ..... 57
8-4 SWITCHING SHOOTING MODE ..... 58
8-5 RTO (REALTIME TACTICAL ORDER) ..... 59
8-6 ITEMS ..... 59
8-7 EVENTS ..... 60
8-8 BATTLES WITH BOSSES ..... 60
8-9 GAME OVER ..... 61
8-10 CONTINUE PLAY BONUS ..... 6254
$9 \quad$ SWITCH UNIT AND COIN METER ..... 63
13 LCD ..... 82
10 SYSTEM TEST MODE ..... 65
11 GAME TEST MODE ..... 67
11-1 GAME TEST MENU ..... 67
11-2 BOOKKEEPING ..... 68
11-3 INPUT TEST ..... 71
11-4 OUTPUT TEST ..... 73
11-5 GAME ASSIGNMENTS ..... 75
11-6 LED ADJUSTMENT ..... 77
11-7 CONTROLLER ADJUSTMENT ..... 78
11-8 BACKUP DATA CLEAR ..... 79
12 CONTROL PANEL ..... 80
12-1 REMOVING THE CONTROL PANEL ..... 80
12-2 REPLACING THE DENOMINATION SHEET ..... 81
13-1 CAUTIONS REGARDING SAFE HANDLING OF LCD ..... 82
13-2 CLEANING THE LCD ..... 83
13-3 ADJUSTING THE LCD ..... 84
13-4 REPLACING THE LCD ..... 91
14 CONTROL UNIT ..... 97
14-1 REMOVING THE CONTROL UNIT ..... 99
14-2 REMOVING THE CONTROLLER SUPPORT ..... 102
14-3 REMOVING THE SCOPE ..... 103
14-4 REPLACING THE MICROSWITCH ..... 105
14-5 REPLACING THE SENSOR UNIT ..... 107
14-6 REPLACING THE SOLENOID ..... 108
15 COIN SELECTOR ..... 110
15-1 COIN INSERTION TEST ..... 111
15-2 CLEANING THE COIN SELECTOR ..... 112
15-3 REMOVING THE JAMMED COIN ..... 113
15-4 TROUBLESHOOTING THE COIN SELECTOR ..... 114
15-5 ADJUSTING THE PRICE OF PLAY ..... 115
15-5-1 REGIONAL AND ACCEPTOR SETTINGS (DIL SWITCH 3) ..... 116
15-5-2 CREDIT SETTINGS (DIL SWITCH 1) ..... 117
15-6 SETTING THE COIN SELECTOR ..... 119
15-6-1 SR3 COIN SELECTOR ..... 119
15-6-2 G-13 COIN SELECTOR ..... 121
16 REPLACING THE FUSE ..... 124
17 PERIODIC INSPECTION ..... 126
18 TROUBLESHOOTING ..... 128
18-1 TROUBLESHOOTING TABLE ..... 129
18-2 REPLACING THE LED BOARD ..... 130
19 RINGWIDE ..... 135
19-1 REMOVING THE RINGWIDE ..... 136
19-2 CLEANING THE RINGWIDE ..... 140
19-3 COMPOSITION OF THE RINGWIDE ..... 141
20 ERROR DISPLAY ..... 142
21 DESIGN RELATED PARTS ..... 143

## 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. as regards the product, "OPERATION G.H.O.S.T."

This manual is intended for technical personnel who have knowledge of electricity and technical expertise especially in ICs, CRTs, microprocessors, etc. For the prevention of accidents, work stated herein should under no circumstances be performed by anyone other than the technical personnel.

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 power to the machine, making sure to unplug the electrical cable from the outlet, and contact the office listed in this manual or the point-of-purchase for this product.

Should this Serviceman Manual be lost, it can be purchased by placing an order with 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 thick underlining, the word "IMPORTANT" and the symbol below.

## stop IMPORTANT

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

## $\triangle$ WARNING

Servicing and maintenance work of the contents herein stated should be performed by the SERVICEMAN stipulated as per IEC Standard. Those who do not have technical expertise and knowledge other than the SERVICEMAN are not allowed to perform the work herein stated. Executing aforementioned work by such non-technical personnel can cause serious accidents that may endanger life.

## SPECIFICATIONS

| Installation space | $1,950 \mathrm{~mm}(76.8 \mathrm{in})$ [Width] $\times 1,525 \mathrm{~mm}(60 \mathrm{in})$ [Depth] |
| :--- | :--- |
| Height | $2,152 \mathrm{~mm}(85 \mathrm{in})$ |
| Weight | $300 \mathrm{~kg}(661.4 \mathrm{lb})$ |
| Power, maximum current | $573 \mathrm{~W}, 2.7 \mathrm{~A} \mathrm{AC} 230 \mathrm{~V} 50 \mathrm{~Hz}$ Area <br> $585 \mathrm{~W}, 2.6$ A AC 240 V 50 Hz Area |

NOTE: The contents herein described are subject to change without notice.

## GAME VERSION NOTATION

Version numbers appearing in TEST MODE are displayed as asterisks and hyphens. When describing software version upgrades, only major version and minor version numbers are displayed. Release version numbers are for SEGA's administrative use only. If you require these numbers, please contact the office listed in this manual or the point-of-purchase for this product.


## 1 HANDLING PRECAUTIONS

When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely. Failure to handle the product appropriately according to the following points or to observe the cautions listed herein could result in personal injury or damage to the product.

## WARNING

- Proceed with checks and tasks as indicated in these instructions. If instructions are not followed, or if tasks and/or checks are neglected, an electric shock or other very serious accident, even fatal accident, can occur. Also, customers could be injured while operating the product.
- Before performing work, be sure to turn the power off. Performing the work without turning the power off can cause an electric shock or short circuit. In the case work should be performed in the status of power on, this manual always states to that effect.
- To avoid an electric shock or short circuit, do not plug in or unplug quickly.
- To avoid an electric shock, do not plug in or unplug with a wet hand.
- Do not expose power cables or earth (ground) cables on the surface, (floor, passage, etc.). If exposed, the power cables and earth (ground) cables are susceptible to damage. Damaged cables can cause an electric shock or short circuit. Wherever wiring has been laid out on a floor surface, use a wiring protection cover.
- To avoid causing a fire or an electric shock, do not put things on or damage the power cables.
- When or after installing the product, do not unnecessarily pull the power cable. If damaged, the power cable can cause a fire or an electric shock.
- In case the power cable is damaged, ask for a replacement through where the product was purchased from or the office herein stated. Using the cable as is damaged can cause fire, an electric shock or leakage.
- Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock.
- When inserting or removing a connector, always hold it by its main part. If you hold it by anything else while doing so, the connections between cable and connector terminal fixtures could be damaged; and there could be a short circuit or fire.
- Be sure that connections such as IC board are made properly. Insufficient insertion can cause an electric shock.
- When connecting a connector, check the direction carefully. Connectors must be connected in only one direction. If indiscriminate loads are applied in making connections, the connector or its terminal fixtures could be damaged, resulting in electrical shock, short circuits or fires.
- Be careful not to damage the cables. Damaged cables may cause electric shock or short circuit or present a risk of fire.


## WARNING

- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.
- Whenever any fasteners (e.g. screws, nuts) have been lost, be sure to use replacement fasteners with proper dimensions as specified in this manual. If fasteners of any other dimensions are used, it could cause damage and/or separation of parts that result in secondary accidents.
- Specification changes, removal of equipment, conversion and/or addition, not designated by SEGA are not permitted.
- Failure to observe this may cause a fire or an electric shock. Noncompliance with this instruction can have a bad influence upon physical conditions of the players or the onlookers, or result in injury during play.
- SEGA shall not be held responsible for damage, compensation for damage to a third party, caused by specification changes not designated by SEGA.
- Performing work or parts replacements not described in this manual could result in accidents. If you need to perform any work not listed in this manual, request work from the office indicated in this manual or the point-of-purchase, or inquires for details.
- Be sure to perform periodic maintenance inspections herein stated.


## stop IMPORTANT

- For the IC board circuit inspections, only the logic tester is allowed. The use of a multiple-purpose tester is not permitted, so be careful in this regard.
- 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.
- Some parts are not designed and manufactured specifically for this game machine. 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 game machine whether or not a warranty period has expired.
- Do not turn the power on and off continuously. Repeatedly turning the power on and off may cause product malfunction or parts damage.
- Be careful not to drop fasteners (screws, nuts, etc.) inside the cabinet. Doing so may result in breakdown or parts damage.
- This product uses an LCD. Be careful when cleaning the LCD as it is easily scratched. For details, see Chapter 13 "LCD."


## CONCERNING THE STICKER DISPLAY

SEGA product has stickers describing serial No. (the product manufacture number) and electrical specifications. Also it has a sticker describing where to contact for repair and for purchasing parts.
When inquiring about or asking for repair, mention the serial No. and name of machine indicated on the sticker. The serial No. indicates the product register. Identical machines could have different parts depending on the destination (whether the machines are intended for Europe or Japan). In order for us to take an appropriate action promptly, be sure to mention the serial No. when contacting the applicable places.

NOTE: The illustrations indicate product liability related warning labels and stickers to be used in the countries where English is the official language. In the countries where a language other than English is used for the official language, the illustrated warning labels and stickers in the applicable official language will be used.

## CONCERNING WARNING DISPLAYS

This SEGA product has warning displays on stickers, labels and/or printed instructions adhered/attached to or incorporated in the places where a potentially hazardous situation could arise. The warning displays are intended for accident prevention for customers and for avoiding hazardous situations relating to maintenance and servicing work. Some portions of the cabinet contain high voltage and may cause accidents if touched. When performing maintenance, be very careful of the warning displays. It is especially important that any complex repair and replacement work not mentioned herein should be performed by those technical personnel who have knowledge of electricity and technical expertise. In order to prevent accidents, caution any customer ignoring the warnings to cease and desist immediately.


*Affix an applicable sticker for your country on English sticker.

440-WS0002YEG*

*Affix an applicable sticker for your country on English sticker.

## 2 PRECAUTIONS REGARDING INSTALLATION LOCATION

## WARNING

This product is an indoor game machine. Do not install it outside. Even indoors, avoid installing in places mentioned below so as not to cause a fire, electric shock, injury and/or malfunction.

- Places subject to rain or water leakage, or places subject to high humidity in the proximity of an indoor swimming pool and/or shower, etc., or places where a water jet (high pressure washing device) could be used.
- Places subject to direct sunlight, or places subject to high temperatures in the proximity of heating units, etc.
- Places filled with inflammable gas or vicinity of highly inflammable/volatile chemicals or hazardous matter.
- Dusty places.
- Sloped or unstable surfaces.
- Places subject to any type of violent impact.
- Vicinity of anti-disaster facilities such as fire exits and fire extinguishers.
- Areas where the temperature exceeds the applicable temperature (ambient temperature) range of 10 to $\mathbf{3 0}$ degrees centigrade.


## 2-1 LIMITATIONS OF USAGE

## WARNING

- Be sure to check the Electrical Specifications. Ensure that this product is compatible with the location's power supply, voltage, and frequency requirements. A plate describing electrical specifications is attached to the product. Noncompliance with the electrical specifications can cause a fire and electric shock.
- This product requires a breaker and earth mechanism as part of the location facilities. Using the product without these can cause a fire and electric shock.
- Be sure to use an independent power supply equipped with an earth leakage breaker. Using a power supply without an earth leakage breaker can cause an outbreak of fire if a power surge occurs.
- Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.
- Ensure that the indoor wiring for the power supply is rated at 15 A or higher (AC $100 \mathrm{~V}-120 \mathrm{~V}$ area) and 7 A or higher (AC $220 \mathrm{~V}-240 \mathrm{~V}$ area). Noncompliance with the electrical specifications can cause a fire and electric shock.
- When using an extension cable, ensure that the cable is rated at 15 A or higher (AC100 V-120 V area) and 7 A or higher (AC $220 \mathrm{~V}-240 \mathrm{~V}$ area). Using a cable rated lower than the specified rating can cause a fire and electric shock.


## ELECTRICITY CONSUMPTION

| $\mathbf{2 . 7} \mathbf{A}$ | Single phase AC $230 \mathrm{~V}, 50 \mathrm{~Hz}$ Area |
| :--- | :--- |
| $\mathbf{2 . 6} \mathbf{A}$ | Single phase AC $240 \mathrm{~V}, 50 \mathrm{~Hz}$ Area |

## 2-2 OPERATION AREA

- For safe operation, use and operate this product in an area measuring at least 2.45 m ( 96.5 in ) in width and $2.28 \mathrm{~m}(89.8 \mathrm{in})$ in depth. SEGA shall not be held responsible for damage or compensation for damage to a third party, resulting from the failure to observe this instruction.
- The ceiling where this product is installed must be at least $2.18 \mathrm{~m}(85.8 \mathrm{in})$ high. If the ceiling is too low, the heat emitted from the product may cause it to catch on fire.
- Be sure to provide sufficient space specified in this manual. Do not allow objects to block the ventilation ports. It can cause generation of heat and a fire.
- Put the cabinets close together so that people cannot get through or provide enough space between them that people can go both ways without difficulty. If the cabinets are installed carelessly, people may bump into each other or the cabinets when passing between them or fall down. To prevent people from walking between them, place them 0.15 m ( 59 in ) apart.
- If the machine does not fit through the entryway to the installation location, do not disassemble it without first consulting the instructions. Specific tools and adjustment procedures are required to assemble and disassemble the mechanical parts. Attempting to assemble or disassemble the machine without consulting the instructions may result in accidents during assembly/disassembly and electric shock, short circuits, and/or personal injury during operation. If the machine still does not fit through the entryway after following the procedures in this manual, contact your retailer or the office listed in this manual.
- If the machine is still too large to fit through the entryway after following the procedures listed in this manual, do not tip the machine on its side. Attempting to transport the machine while it is tipped on its side may cause accidents. It may also damage or warp parts of the machine, resulting in accidents during operation.
- To install this product, the entrance must be at least $0.8 \mathrm{~m}(31.5 \mathrm{in})$ in width and $1.89 \mathrm{~m}(74.4 \mathrm{in})$ in height. If the entrance is too narrow, do not tilt the product carelessly. If all the product weight is put on the casters at one side only, there could be damage or deformation, causing serious accidents such as workers getting caught underneath.



## 3 PRECAUTIONS REGARDING PRODUCT OPERATION

In order to avoid accidents, check the following before starting the operation:

## 3-1 BEFORE OPERATION

## WARNING

- To ensure maximum safety for the players and the customers, ensure that where the product is operated has sufficient lighting to allow any warnings to be read. Operation under insufficient lighting can cause bodily contact with each other, hitting accident, and/or trouble between customers.
- Check if all of the adjusters are in contact with the surface. If they are not, the cabinet can move and cause an accident.

- Do not put any heavy item on this product. Placing any heavy item on the product can cause a falling down accident or parts damage.
- Do not climb on the product. Climbing on the product can cause falling down accidents. To check the top portion of the product, use a step/stepladder.
- To avoid electric shock, check to see if door and cover parts are damaged or omitted.
- Do not place the following items on top of the product, nearby the product or hang them from the ceiling. Doing so could result in electric shock, short circuits and/or damage to the parts.
Flower vases, flowerpots, cups, water tanks, cosmetics, and receptacles/ containers/vessels containing chemicals and water.


## $\triangle$ CAUTION

- To avoid injury, be sure to provide sufficient space by considering the potentially crowded situation at the installation location. Insufficient installation space can cause contact, collisions, and/or trouble between customers.
- During daily cleaning, be sure to check the surface of the control unit and other
parts that the player touches with his/her hands for damage, cracks, or loose screws. If a player uses the machine while it is damaged, cracked, or has a loose screw, the player may become injured.

- Check carefully to make sure there are no gaps in the cabinet joints and that they are not loose. If there are gaps or looseness, players may get their hands or fingers caught, resulting in an injury.
- Make sure all the doors are locked securely and that they do not rattle. If the doors are not locked properly or there are gaps or rattling, the players could get their fingers or hands caught. It could also invite mischief.
- Be sure to perform appropriate adjustment of the LCD. For operation of this machine, do not leave monitor's flickering or deviation as is. Failure to observe this can have a bad influence upon the players' or the customers' physical conditions.
- Inspect for the following items during a trial run. If there is any type of error, use the Test Mode, etc., to resolve the problem. If you continue use with an error, it can cause an accident or irreparable parts damage.
- Is there any strangeness in the operability of the control unit?
- Is there any improper adjustment of the LCD screen?
- Prepare a place where players can rest if they feel sick.


## STOP IMPORTANT

- Players directly hold the control unit with their bare hands so it is recommended that wet towels (paper towels) be provided.
- Diligently clean the parts that players touch directly to ensure a pleasant game playing experience.
- Inspect the coin insertion slots to make sure no foreign objects have been inserted and that they have not otherwise been tampered with. This will prevent play.


## 3-2 PAYING ATTENTION TO CUSTOMERS

To avoid injury and trouble, be sure to pay attention to the behavior of visitors and players.

## WARNING

- For safety reasons, do not allow any of the following people to play the game. Failure to observe this warning could result in serious injury.
- Persons who disregard the product's warning displays.
- Those who are intoxicated or under the influence of drugs.
- To avoid injury from falls and electric shocks due to spilled drinks, instruct the player not to place heavy items or drinks on the product.
- To avoid electric shock and short circuits, do not allow customers to put hands and fingers or extraneous matter in the openings of the product or small openings in or around the doors.
- To avoid falls and resulting injury, immediately stop the customer from leaning against or climbing on the product, etc.
- To avoid electric shock and short circuit, do not allow customers to unplug the power plug without a justifiable reason.
- Be sure to instruct the adult responsible for their children to watch them. Children cannot sense danger. Approaching the player during play may result in accidental contact, collisions or falls. If the control unit is pulled from the controller holder and dropped on the head, it may cause injury.
- Caution the player not to wrap the control unit cable around his/her wrist or neck, as this can lead to serious injury.


## $\triangle$ CAUTION

- Immediately stop such violent acts as hitting and kicking the product. Such violent acts can cause parts damage or falling down, resulting in injury due to fragments and falling down.
- Persons other than the player should not be allowed to touch the controls during play. They may brush against or collide with the controls or the player, possibly resulting in accidents.
- Instruct those who feel sick during play to have a medical examination.
- Immediately stop users from leaning or sitting on the control panel. Such acts can lead to injury or damage to parts or the shape of the cabinet.
- Immediately stop users from swinging or reloading the control unit in a violent manner. Such acts may hurt the user or other people around them.
- Playing too close to the cabinet may cause the control unit to hit the cabinet and cause damage. Make sure that players understand to play at a safe distance from the cabinet.


## CAUTION

- Make sure that players understand not to stand too close together when playing a 2 player game. Swinging the control unit could lead to a player getting hit and may cause injury.
- Instruct players to hold the control unit securely while playing. If the control unit is dropped, it could cause injury to the player.
- Items such as large finger rings can cause injury to the fingers while playing. Instruct players to remove all accessories that could cause an accident before playing.
- Instruct players that a single control unit is never to be held by 2 or more people during play. Otherwise there could be dangerous contact or a collision.


## stop IMPORTANT

The control units for use on 1P side (left side) and 2P side (right side) are different. Ensure that players do not confuse the right and left side control units when starting play.

## 4 PART DESCRIPTIONS



| Item | Width | Depth | Height | Weight |
| :--- | :--- | :--- | :--- | :--- |
| FRONT CABINET | $1,397 \mathrm{~mm}(55 \mathrm{in})$ | $557 \mathrm{~mm}(22 \mathrm{in})$ | $1,876 \mathrm{~mm}(73.9 \mathrm{in})$ | $215 \mathrm{~kg}(474 \mathrm{lb})$ |
| CONTROLLER CABINET | $789 \mathrm{~mm}(31.1 \mathrm{in})$ | $887 \mathrm{~mm}(35 \mathrm{in})$ | $933 \mathrm{~mm}(36.7 \mathrm{in})$ | $51 \mathrm{~kg}(112.4 \mathrm{lb})$ |
| SIDE BOARD L, R | $1,073 \mathrm{~mm}(42.2 \mathrm{in})$ | $443 \mathrm{~mm}(17.4 \mathrm{in})$ | $45 \mathrm{~mm}(1.8 \mathrm{in})$ | $7 \mathrm{~kg}(15.4 \mathrm{lb})$ |
| UPPER BOARD | $1,457 \mathrm{~mm}(57.4 \mathrm{in})$ | $445 \mathrm{~mm}(17.5 \mathrm{in})$ | $45 \mathrm{~mm}(1.8 \mathrm{in})$ | $10 \mathrm{~kg}(22 \mathrm{lb})$ |

## 5 ACCESSORIES

Confirm that the accessories listed in the table below are present when setting up the product. Accessories marked "Spare" in the note column are consumable items but included as spares.

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.

| Part name/Part no. |  | Quantity |
| :--- | :--- | :---: |
| SERVICEMAN MANUAL <br> 420-7353-04 | This manual | 1 |
| OWNER'S MANUAL <br> 420-7353-03 |  | 1 |
| RINGWIDE SERVICE MANUAL <br> $420-7210-01$ |  | 1 |


| Part name/Part no. |  | Quantity |
| :--- | :--- | :---: |
| DVD SOFTWARE KIT <br> DVR-0037A |  |  |
| MICROSWICH <br> 509-5080 | Spare |  |
| FUSE (200 mA) <br> 514-5143-200 |  | 3 |
| FUSE (2000 mA) <br> 514-5143-2000 | Spare |  |
| DENOMINATION PLATE <br> (BLANK) <br> 421-7308-136 |  | 1 |
| WH RNG DC OUT DVD DRIVE <br> GST-1521-06 (Russia) <br> G05-0157-100 <br> GST-152 <br> GST-1521-03 (Italy) |  | 1 |

The DVD drive is sold separately, but it is required in order to install the software for this product. If you do not have the drive when installing the product, consult the dealer from which you purchased this product. Alternatively, use the kit number below to arrange for a drive.

## KIT NUMBER: XKT-1515-01 [DVD DRIVE KIT FOR LBG ENG]

| Part name/Part no. | Diagram/Use etc. | Quantity |
| :--- | :--- | :---: |
| DVD DRIVE SERVICE MANUAL <br> $420-6923-01$ |  | 1 |
| DVD DRIVE <br> $610-0719-03$ |  | 1 |
| DVD CABLE <br> $605-0094$ | For software installation |  |

## 6 ASSEMBLY AND INSTALLATION

## 4 WARNING

- This work should be carried out by the site maintenance personnel or other qualified professionals. Work performed by non-technical personnel can cause a severe accident such as electric shock. Failing to comply with this instruction can cause a severe accident such as electric shock to the player during operation. If no one with proper technological expertise is available, request service from the office indicated in this document or the point-of-purchase so as to ensure safety.
- Proceed with checks and tasks as indicated in these instructions. If instructions are not followed, or if tasks and/or checks are neglected, an electric shock or other very serious accident, even fatal accident, can occur. Also, customers could be injured while operating the product.
- Be careful not to damage the cables. Damaged cables may cause electric shock or short circuit or present a risk of fire.
- Ensure that plenty of space is available for assembly and installation.Performing these tasks in an unsuitable environment may cause accidents.
- Make sure that all the adjusters are resting on the floor. The cabinet may move and cause an accident if the adjusters are not laid out properly.
- To perform work safely and avoid serious accident such as the cabinet falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.
- When assembling, more than one person is required. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Ensure that connectors are properly connected. Improper connections can cause electric shock.
- Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock.
- Do not leave power cable, earth cables or network cables exposed in areas of heavy foot traffic. Doing so may cause them to become damaged, possibly resulting in electric shock and/or short circuits. When laying wiring across the floor, always use safety covers to protect the cables. (Wiring diameter: power cable, approx. 8 mm )
- Exercise proper caution when using a stepstool to perform work. Falling or tipping over could result in a major accident. Also, if the ceiling is low, you could bump your head.


## CAUTION

- Be careful in handling plastic parts. Be sure not to tighten screws or nuts too tightly. If such parts are exposed to excessive loads or impact, they might become damaged, resulting in fragments or cracks that could cause accidental injury.
- When opening/closing or attaching/removing the doors or the other parts, be careful that your hands or fingers do not get caught in anything.
- Wear appropriate work clothing so that work can be performed safely. Use gloves and safety shoes to prevent accidents or injuries.


## TOOLS NECESSARY FOR WORK

| Phillips screwdriver (For M4, M5) |  |
| :--- | :--- |
| Box driver <br> (with opposite side distance of 7 mm , <br> for M4 nut) | Sockets for hexagon bolts and nut or <br> Spanner <br> (with opposite side distance of 13 <br> mm, for M8) |
| Key master (Accessory) |  |

## 6-1 ASSEMBLING THE FRONT CABINET

1 Using a stepstool, attach the board support L to the front cabinet with the 2 screws.


Lightly fasten the lower bracket L with the 4 screws.


3 Insert side board $L$ so that it is aligned with the guide on lower bracket $L$.


Lightly fasten the side board L with the 5 screws.


## 5 <br> Refer to Step 1 to 4, attach the board support R and lightly fasten the lower bracket R and side board R on the opposite side in the same way.

6 Align the billboard plate with the holes, place the billboard sash on top and affix with the 2 screws.


Lightly fasten the upper board bracket with the 2 screws.
NOTE: Refer to the figure, pay attention to the direction in which you are attaching the upper board bracket.


8 Insert the upper board to the upper board bracket and lightly fasten it with the 6 screws.


Lightly fasten the upper bracket L with the 5 screws.

SCREW (5), black
M5 x 20, w/flat \& spring washers


10
Lightly fasten the upper cover L with the 6 truss screws.


11 Lightly fasten the lower cover $L$ with the 6 truss screws.


12
Refer to Step 9 to 11, lightly fasten the upper bracket $R$, upper cover $R$ and lower cover $R$ on the opposite side in the same way.

13
Fully tighten the 60 screws that were lightly tightened in Step 2, 4, 5, 7 to 12 .

6-2 CONNECTING THE CONTROLLER CABINET TO THE FRONT CABINET

1 Remove the 2 truss screws and take off the lid lower.


While lifting up the controller cabinet, align it so that the guide on the front cabinet fit into the slot on the controller cabinet. Be careful not to damage the cables.


3 Affix front cabinet and controller cabinet by attaching joint brackets $L$ and $R$ with 6 bolts each.

4. Remove from the caster plate the hexagon nut not being used.


Pull through the earth cable from the front cabinet and attach to the caster plate, using the hexagon nut that you removed in Step 4.


6
Pull the 6 connectors through from the front cabinet and connect them.
NOTE: The SM18P connectors are stamped with the letters $1 P$ and $2 P$. Connect each to its corresponding connector.


7 Fasten the cable down with the 3 cord clamps.


Refer to Step 1 and work in reverse order to attach the lid lower.

## 6-3 INSTALLING THE CABINET

## $\triangle$ WARNING

Be sure to ground the adjusters, and secure the product firmly to the installation location. If the product moves either during assembly work or during operation after the completion of assembly, a serious accident may occur.

This product has 7 casters and 6 adjusters. When the installation site has been determined, have the adjusters come in direct contact with the floor. Establish a gap of about $5 \mathrm{~mm}(0.2 \mathrm{in})$ between the floor and the casters and adjust the unit so that it will remain level.


Refer to this figure (scale $=1 / 100$ ) for the layout of the place of installation.

1
Move the product to the installation site. Hold the grips on the sides of the cabinet when moving it and changing the direction it faces. Secure a $200 \mathrm{~mm}(7.9 \mathrm{in})$ space between the back wall and the back of the cabinet for ventilation.


## 2

Bring the adjusters into direct contact with the floor. Use a wrench to align the height of the adjusters until the cabinet is perfectly level.

## 3 <br> After setting, turn adjuster nuts upwards to tighten them and secure adjuster heights.



## 6-4 PREPARING FOR SOFTWARE INSTALLATION

There is no need to work the following procedure if the software has been installed.
Proceed to 6-5 "CONNECTING THE POWER CABLE AND EARTH."

## WARNING

- When connecting the DVD cable connector, check the orientation carefully and connect securely. The connector must be connected in the proper direction. If it is connected in the wrong direction or indiscriminately at an incline so that a load is applied, the connector or its terminal pins could break, causing a shortcircuit or fire.
- Be careful not to damage the DVD cable by getting it caught between objects, etc. Doing so may cause a short circuit or fire.
- Connect the DVD drive to the RINGWIDE before connecting the power. Adhere strictly to the proper sequence in performing work. Failing to do so may cause electrical shock or short circuit.


## stop IMPORTANT

The NH6P connector of the DVD cable is not used. Do not connect it to any open connectors.

In preparation for software installation, connect the RINGWIDE to the DVD drive with DVD cable. For safety purposes and in order to prevent malfunctions, connect the DVD drive before connecting the power cable to the cabinet.

You will need the installation cable provided as well as a DVD drive and DVD cable, sold separately.

Connect the installation cable to the back of the DVD drive.


Connect the DVD cable to the back of the DVD drive. The NH6P connector is not used.


3
Remove the 2 truss screws, unlock the front door L with the master key, and then take it off.


Connect the 2 connectors to the RINGWIDE. The NH6P connector is not used. Also, the USB MINI A connector may be connected to either of ports USB1 and USB2.


Thread the DVD cable and the installation cable through the U-shaped opening.


Refer to Step 3 and work in reverse order to attach the front door L. Be careful not to damage the cables.

## 6-5 CONNECTING THE POWER CABLE AND EARTH

## WARNING

- Use the power supply equipped with an earth leakage breaker. Use of power supply without such a breaker could result in fire if there is a current leakage.
- Have available a securely grounded indoor earth terminal. This product is equipped with a earth terminal. Connect it to a earth terminal in the room with the earth cable. Without proper grounding, customers could be electrocuted and product operations might not always be stable.
- Do not expose the power cable or earth cable. If these are exposed, customers could stumble over them, for instance, and easily damage them. Additionally, if these lines are damaged, there could be a risk of electrical shock or short circuit. When laying wiring across the floor, always use safety covers to protect the cables.
- After laying out the power cable on the floor, be sure to always protect it. If the power cable is left exposed, it can easily be damaged, resulting in electrical shock.
- For safety reasons, be sure to first connect the power cable to the product. If the power cable is first connected to the power plug, an accident such as an electric shock or short circuit may occur.
- The supplied power cable, an accessory of this product is a bipolar earth type for CEE Specifications. If it is not compatible with the socket outlet to be used, prepare the power cable ( $10 \mathrm{~A}-250 \mathrm{~V}$ ) with an appropriate plug which is compatible with the socket outlet used.

If grounding has been established with the earth cable inside the power cable, do not perform grounding with the AC unit earth terminal. Conversely, if the AC unit earth terminal has been used for grounding, do not establish ground with the earth cable in the power cable. Otherwise there could be faulty or erroneous operations.

At the time of shipment, the power cable with the plug shown below is supplied as an accessory.

## SOCKET OUTLET SIDE



## AC CABLE CONNECTOR SIDE



The AC Unit has Main Switch, Circuit Protector and the Inlet which connects the power cable.
The accessory power cable has a earth cable inside it.
Connect the power cable to the AC unit then insert the power cable plug into a "power outlet with earth terminal." If there is no "power outlet with earth terminal," be sure to establish ground by some other means; for example, by connecting the AC unit earth terminal to a earth cable with a earth mechanism prepared separately.

1 Confirm that the main switch is at OFF.


2
Fully insert the power cable connector on the side opposite the power plug into the AC unit inlet.


Fully insert the power cable plug into the outlet.

The power cable is laid out indoors. Protect the power cable by attaching cable cover to it.


## 6-6 SOFTWARE INSTALLATION

There is no need to work the following procedure if the software has been installed.
Proceed to 6-7 "ASSEMBLING CHECK."

## WARNING

- Be careful not to damage the DVD cable by getting it caught between objects, etc. Doing so may cause a short circuit or fire.
- The following explanation assumes that the product has been assembled properly as explained above. If there is an error or if the product operates in a manner other than as indicated below, turn off the power supply immediately. Failure to do so may result in a fire or electrical shock.
- Looking directly at the laser of the DVD drive may cause eye injuries. Do not look inside the DVD drive.


## CAUTIONS REGARDING USE OF DVD DRIVE AND DVD CABLE

## stop IMPORTANT

- Do not use or store the DVD drive or DVD cable in any of the following locations, as this may result in serious damage.
[Do not use in these locations]
- Anywhere which may vibrate or shock the equipment
- In direct sunlight
- In damp or dusty places
- In places with a sharp change in temperature
- Close to anything that gives off heat (a heater, etc.)
- Close to anything with a strong magnetic field (magnets, monitor, speakers, radio, etc.)
- Anywhere that is likely to get wet (kitchen, etc.)
- Anywhere with a slope or incline
- Anywhere with corrosive gas in the air (chlorine, hydrogen sulfide, ammonia, sulfur dioxide, etc.)
- Anywhere with strong static electricity
[Do not use in these locations]
- Close to anything that is highly retentive of heat (carpet, sponge, cardboard, etc.)
- Anywhere that blocks the DVD drive air vent.


## stop IMPORTANT

- The DVD drive is a delicate piece of equipment. Avoid the following.
- Dropping the DVD drive or exposing it to impact.
- Getting water or other liquids on it, or placing small items on top of it.
- Placing large or heavy items on top of it.
- Drinking or smoking close to the DVD drive.
- Do not turn off the power to the DVD drive when its access lamp is on or flashing, as this could cause damage to the device.
- Do not allow any foreign materials, such as liquids, metals or smoke inside the DVD drive.
- Use a soft, dry cloth to wipe off any dirt or marks on the DVD drive.
- If you need to use a cleaning agent, always use a "neutral" agent diluted in water.
- Never use products or cleaning agents containing benzene, alcohol, thinners, etc.
- Do not touch the lens inside the DVD drive. Doing so may prevent it from reading accurately.
- The chip components on IC boards can be damaged by electrostatic discharge from the human body. Before handling an IC board, always neutralize any static charge in the body by touching a grounded metal surface.
- After the power supply is engaged, the DVD drive tray will not come out for about 30 seconds even if you press the switch. This is due to DVD drive initialization.
- The DVD drive tray can come out or return only while the power supply is engaged. The tray cannot be opened or closed while the power is off.
- After software has been installed, be sure to store the DVD software kit, DVD drive and DVD cable at a secure location.
- If for any reason installation cannot be completed, an error is displayed. Refer to the RINGWIDE Service Manual and take corrective action.


## HANDLING THE DVD

## stop IMPORTANT

- Do not use a DVD with a damaged front. This may cause a malfunction.
- Insert the DVD into the DVD drive with the label facing upwards.
- Do not get fingerprints or dust particles on the disc. Contaminated discs may lower audio and video quality, and may result in read malfunctions.

- When cleaning the disc, do not use volatile chemicals (benzene, thinner, etc.), cleaning sprays, or antistatic agents.
- Do not use a cracked, warped, or damaged DVD. Do not attach papers or seals onto the DVD to avoid scratching it. Do not use a DVD with signs of peeled seals, tape, etc. If such a DVD is placed in the DVD drive, malfunctions, such as the inability to remove the DVD from the drive, may result.
- When cleaning a heavily contaminated disc, use a clean cloth that has been soaked in water and squeezed. After wiping, remove any remaining moisture with a clean, dry cloth.

How to Hold a DVD


## SOFTWARE INSTALLATION

Installation takes about 15 minutes. If you observe a phenomenon not described in this manual after 30 minutes have passed, contact the customer service center listed in this manual. If an OS update is necessary, it will be performed simultaneously with the software update and the system will automatically reboot. The screen will indicate when a reboot is in progress. Performing an OS update and rebooting the system requires additional time.

## 1 Refer to 6-4 "PREPARING FOR SOFTWARE INSTALLATION" and connect the RINGWIDE to the DVD drive with DVD cable.



Turn the power switch on the cabinet connected to the DVD drive to ON.

The RINGWIDE startup image on the screen.

Wait for at least 1 minute. The monitor of the cabinet connected to the DVD drive will display "Please Insert Disc."

Remove the 1 thumbscrew, and then remove DVD drive case lid.


Press the DVD drive switch. The DVD drive tray comes out. Set the DVD from the DVD software kit into the tray. Always have the DVD label side facing upward.


Press the DVD drive switch to have the tray return. Software installs automatically from the DVD to the RINGWIDE. Do not turn off power to the cabinet during the installation.


When the advertising screen is displayed, the initialization operation is complete.

Press the DVD drive switch to have the tray come out, and then remove the DVD.

Press the DVD drive switch to have the tray return. When the power is cut off the tray will not move.

Turn the power on the cabinet off.

Refer to 6-4 "PREPARING FOR SOFTWARE INSTALLATION" and work in reverse order to remove the DVD drive.

Refer to Step 5 and work in reverse order to attach the case lid. Store the DVD drive, DVD cable, software installation, and DVD software kit in a location free from dust and cigarette smoke.

## 6-7 ASSEMBLING CHECK

Using TEST MODE, verify points such as the proper assembly of the machine. Also verify normal operation of the RINGWIDE, boards which have been connected, and the product's various input and output devices.

The following inspections; 6-7-1 "SPEAKER VOLUME SETTING" to 6-7-6 "LED ADJUSTMENT" should be conducted regularly as part of a monthly inspection. However, 6-7-2 "MONITOR TEST" and 6-7-7 "CONTROLLER ADJUSTMENT" should be conducted once per week.


## 6-7-1 SPEAKER VOLUME SETTING

After turning the power on, the SOUND ADJUSTMENTS screen will be displayed for 30 seconds (this can be skipped by pressing the START button). BGM is played through the main speakers, and voices and gunfire effects through the controller speakers. Adjust the MAIN VOLUME Knob and/or the CONTROLLER VOLUME Knob so that the sounds played can be heard clearly while holding the controller unit.
After the SOUND ADJUSTMENTS screen has finished, it will switch to the advertising screen and the game will start.


## 6-7-2 MONITOR TEST

When MONITOR TEST is chosen from SYSTEM TEST MENU screen, a screen to test the monitor will be displayed. Though the monitor is pre-adjusted at the time of shipment from the factory, view the test screen to determine whether or not adjustment is necessary. If so, refer to 13-3 "ADJUSTING THE LCD" and adjust the LCD.


COLOR BAR screen


CROSS HATCH screen

## 6-7-3 SPEAKER TEST

When SPEAKER TEST is chosen from SYSTEM TEST MENU screen, a screen to test each of the speakers will be displayed. The LEFT, RIGHT, REAR LEFT and REAR RIGHT SPEAKER are the only speakers which can be checked by just changing their respective settings to ON and OFF. (See RINGWIDE Service Manual.)

| SPEAKER TEST |  |  |
| :---: | :---: | :---: |
| LEFT SPEAKER |  |  |
| RIGHT SPEAKER | OFF |  |
| REAR LEFT SPEAKER | OFF |  |
| REAR RIGHT SPEAKER | OFF |  |
| CENTER SPEAKER | OFF |  |
| WOOFER SPEAKER | OFF |  |
| -> EXIT |  |  |
| SELECT WITH SERVICE BUTTON |  |  |
| AND PRESS TEST BUTTON |  |  |

## MONITOR TEST screen

Table of corresponding parts

| LEFT SPEAKER | Main speaker L |
| :--- | :--- |
| RIGHT SPEAKER | Main speaker R |
| REAR LEFT SPEAKER | 1P controller speaker |
| REAR RIGHT SPEAKER | 2P controller speaker |
| CENTER SPEAKER | Not used. |
| WOOFER SPEAKER | Not used. |

## 6-7-4 INPUT TEST

When INPUT TEST is chosen from GAME TEST MENU screen, a screen to test the game's switches will be displayed. Confirm each input device is functioning correctly.

## [NORMAL]

- When the control unit is turned towards the screen, the word "OUT" beside "SCREEN " will change to "IN."
- If other input devices are operated, the word "OFF" beside the device name will change to "ON."
(See 11-3.)

|  | INPUT TEST |  |
| :---: | :---: | :---: |
| PLAYER | 1 | 2 |
| TRIGGER | OFF | OFF |
| ACTION | OFF | OFF |
| CHANGE | OFF | OFF |
| SIGHT-X | $* *$ | $* *$ |
| SIGHT-Y | $* *$ | $* *$ |
| SCREEN | OUT | OUT |
| START | OFF | OFF |
| SERVICE | OFF |  |
| TEST | OFF |  |
|  |  |  |
| PRESS TEST AND SERVICE BUTTON TO EXIT |  |  |

## INPUT TEST screen

## 6-7-5 OUTPUT TEST

When OUTPUT TEST is chosen from GAME TEST MENU screen, a screen to test lamps and their wiring connections will be displayed. Confirm each output device is functioning correctly.

## [NORMAL]

- When the TEST Button is being pressed, the selected item will change from "OFF" to "ON" and the corresponding output device will operate.
- If the TEST Button is released for an item that is "ON," the device will change to "OFF" and stop operating. (See 11-4.)


OUTPUT TEST screen

## 6-7-6 LED ADJUSTMENT

When LED ADJUSTMENT is chosen from the GAME TEST MENU screen, a screen for adjusting the LED will display. Berore actual operation, confirm that both the color display and color display switching in COLOR PATTERN are functioning normally. (See 11-6.)


LED ADJUSTMENT screen

## 6-7-7 CONTROLLER ADJUSTMENT

When CONTROLLER ADJUSTMENT is chosen from the GAME TEST MENU screen, a screen for adjusting the control units will display.
Before actual operation, it is absolutely necessary to conduct a game to confirm whether or not adjustment is needed. Adjustment is conducted at the factory, but readjustment may be necessary since the product is dismantled for shipping. (See 11-7.)

NOTE: Strong lighting located near the LCD, other machines in the surrounding area, and other objects may have an effect on the controller adjustment.


CONTROLLER ADJUSTMENT screen

## 6-7-8 SETTING THE INTERFERENCE PREVENTION WIRING

## $\triangle$ WARNING

- This work should be performed by the site maintenance individual or other skilled professional. Work performed by non-technical personnel can cause malfunctioning.
- In order to prevent electric shock and short circuit hazards, be sure to turn the power off before performing work.
- Be careful not to damage the cables. Damaged cables may cause electric shock or short circuit or present a risk of fire.

The following game machines employ a same or similar type of sensor. If interference happens to the sensors, operation of the games may be mutually disturbed.

- THE HOUSE OF THE DEAD 2, U/R type, DX type and Super DX type
- DEATH CRIMSON, U/R type and DX type
- THE LOST WORLD, U/R type, DX type and Super DX type
- BRAVE FIRE FIGHTERS
- SAMBA DE AMIGO
- CONFIDENTIAL MISSION, U/R type and DX type
- SHAKATTO TAMBOURINE
- LUPIN THE 3RD THE SHOOTING, U/R type and DX type
- THE MAZE OF THE KINGS, U/R type and DX type
- THE HOUSE OF THE DEAD 3, U/R type and DX type
- VIRTUA COP 3, U/R type and DX type
- GHOST SQUAD, U/R type and DX type
- THE HOUSE OF THE DEAD, 4 DX type and SPECIAL type
- 2SPICY
- RAMBO
- Ai Sareru Yori Ai Shitai
- SEGA GOLDEN GUN
- OPERATION G.H.O.S.T.

When the game machines of a same or similar type are installed side by side, their sensors may interfere with each other. To reject the interference, follow the procedure below.

Turn the power switch OFF.
Remove the 2 truss screws, unlock the front door L with the master key, and take it off.


## 3 <br> There is an interference prevention cable on the lower level inside the front door L . <br> Remove the interference prevention cable.



Refer to Step 2 and work in reverse order to attach the front door L .

If several of the same type of game machines are to be installed beside each other, they should be lined up alternating between ones with the interference prevention cable connected and ones that with the cable removed. Be sure to keep the removed interference prevention cable.

## 7 PRECAUTIONS WHEN MOVING THE MACHINE

## WARNING

- When moving the machine, be sure to pull out the plug from the power supply. Moving the machine with the plug still inserted can cause the power cable to be damaged, resulting in a fire and/or electric shock.
- Never disassemble the unit in ways other than those described in this manual. Doing so can cause accidents such as electric shocks, short circuits, and fires.
- When moving the machine on the floor, retract the adjusters, and ensure that the casters make contact with the floor. Pay careful attention so that the casters do not run over power cable and earth cables. Damaging the power cable can cause an electric shock and/or short circuit.
- When lifting the cabinet, be sure to hold the grips and the bottom part. Lifting the cabinet by holding other portions may damage parts and installation portions due to the empty weight of the cabinet, and may cause personal injury.
- Ensure that casters are not placed on a sloped or otherwise unstable surface where they could move under their own weight.
- When tilting the cabinet to move it across a sloped or stepped area, always use at least two people. Attempting such an operation alone can lead to accident or injury.
- When moving the components separately, take care concerning the direction you push the front cabinet in. These elements may fall over, causing damage or an accident.


## CAUTION

- Do not push on or hold the product by parts made of plastic or glass. Doing so could cause these parts to break, and broken pieces may cause personal injury.
- When moving the cabinet, do not hold or push any parts other than those designated. Careless handling could cause these parts to break, and broken pieces may cause personal injury.
- If the machine is going to be moved somewhere on a different level, disassemble it into the individual units before doing so. If the machine is tilted or the cabinet is set on an uneven surface, the joints may break.
- When moving the cabinet, do not hold it by the control unit or pull on the control unit. Doing so could damage the parts or cause them to become deformed.


## sTop IMPORTANT

- Do not stack parts that have been separated or disassembled indiscriminately. The surface of the parts could be damaged or deformed. Significant deformations can result in improper operation and breakdowns.
- Do not lean separated or disassembled parts against a wall or other surface indiscriminately. The parts could be deformed. Accidents could also occur should the parts fall over.
- Moving casters over the floor surface can damage the floor, depending on its material. Have available a mat for moving casters over the floor. If there is a rug or carpet on the floor, remove it before moving the unit.
- Do not allow ropes to come in contact with the surface of the machine directly or they may scratch it. Put some kind of protective material under the rope where it will touch the machine.

To move the unit on the floor, pull in the adjustors and have the casters contact the floor.


Always disconnect if the unit is to be moved through areas with low overhead space or areas with a step.


Do not push the product holding the shaded areas.


## 8 GAME DESCRIPTION

## 8-1 HOW TO PLAY

> When you insert coins, they will be counted in the credit display at the bottom of the screen. When you insert enough coins for a game, the message at the bottom will change from "INSERT COIN(S)" to "PRESS START BUTTON," and the start buttons on both sides will flash. Up to 24 credits can be counted at once. Coins inserted after 24 credits are recorded will not be counted or returned. However, the number of coins inserted will be counted in the data display and the coin meter. (See 11-2.)

NOTE: The number of credits required for a game can be set in SYSTEM TEST MODE. (See Chapter 10.)

Which START button you press determines which side you play on. Once you press the start button, the game begins.

Once the game starts, the video demonstration will play, followed by the 1 title, and then it will go to the actual game.

## 8-2 GAME SCREENS

The score, ammo remaining, life and shooting mode of the player playing on the left (PLAYER 1) are shown at the left side of the screen, while those of the player playing on the right (PLAYER 2) are shown at the right side of the screen. Credits are always displayed at the bottom of screen. If there is no player, the required number of credits is displayed instead.


## 8-3 RELOADING

When the player fires all ammo remaining, the gun will be empty. The player can then reload the weapon by aiming it outside the screen. The player can reload this way even if there are still bullets left.
The gun is also reloaded automatically when the trigger is pulled with no ammo remaining. However, this type of reload takes longer than a normal reload.

## 8-4 SWITCHING SHOOTING MODE

The player can switch shooting mode during gameplay using the shot selector.


The types of shooting mode and their features are as follows.

| FULL AUTO | Bullets are fired continuously as long as the trigger is held. <br> You have limited ammunition. The number of rounds remaining is displayed to the <br> side of the shooting mode. (See 8-2.) <br> The number of rounds can be increased by scoring critical hits or obtaining items. |
| :--- | :--- |
| 3-SHOT BURST | Pulling the trigger once fires a burst of 3 rounds in a row. <br> You have unlimited ammunition. |
| SEMI AUTO | Pulling the trigger once fires 1 shot only. <br> You have unlimited ammunition. |

When shooting mode is switched, the player's crosshair is changed to the applicable shooting mode crosshair.


## 8-5 RTO (REALTIME TACTICAL ORDER)

While progressing through the game, the RTO icon will sometimes be displayed at the top of the screen. By pressing the action button while the RTO icon is displayed, the player can issue tactical orders to their teammates.

NOTE: Giving tactical orders via the RTO icon makes it easier to progress through the game, but in some cases the player will earn a higher score for progressing without giving tactical orders.


RTO screen

## 8-6 ITEMS

Various items appear when the player shoots item boxes in the background. The player can then gain the effects of those items by shooting them.


ITEM BOX


LIFE RECOVERY


FULL AUTO AMMO INCREASE

## 8-7 EVENTS

Various events occur in the course of the game.
An explanation of the control method for the event will be displayed before the event begins.
Successfully completing events will lead to an increase in the mission success rate (the evaluation displayed after clearing the mission), and the player can earn a higher score.


EVENTS screen

## 8-8 BATTLES WITH BOSSES

A unique boss awaits the player at the end of each stage.
When the boss begins an attack, a cancel gauge will sometimes appear.
The boss's attack can be avoided by forcing the cancel gauge down to zero.


BOSS BATTLE screen 1

Shooting the boss drains the boss's LIFE gauge.
Attacking the boss's weak point drains the boss's LIFE gauge significantly.
When the boss's LIFE gauge reaches zero, the boss is defeated.


BOSS BATTLE screen 2

## 8-9 GAME OVER

If both players run out of LIFE, the game ends.

If you want to join the game during play, insert coins and press the START button at any time. If there are enough credits remaining to play, the START button on the side with no one playing flashes continuously. Join the game by pressing the flashing START button.

When all LIFE is lost, the continue message is displayed. If you wish to continue, insert the required number of coins and press the START button again. If there are enough credits remaining to CONTINUE, you can join again by pressing the START button.

NOTE: The number of credits required to continue can be set in SYSTEM TEST MODE. (See Chapter 10.)

If your total points rank among the top 50 after completing all the stages in the game, you can enter your name.

## 8-10 CONTINUE PLAY BONUS

The player receives body armor as a continue play bonus when they choose to continue. Body armor will take the damage from 1 enemy attack while equipped.

NOTE: This feature can be set in GAME TEST MODE. (See 11-5.)


## 9 SWITCH UNIT AND COIN METER

## WARNING

Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.

## CAUTION

When opening/closing or attaching/removing the doors or the other parts, be careful that your hands or fingers do not get caught in anything.

## stop IMPORTANT

- When you enter the TEST MODE, fractional coin and bonus adder data is erased.
- Removing the coin meter circuitry renders the game inoperable.

In TEST MODE, the switch unit in the coin chute door is operated.
Unlock and open the coin chute door. Inside is a switch unit.
Adjust the sound to the optimum volume, taking into consideration the environmental requirements of the installation location.

## SWITCH UNIT



| TEST Button <br> (TEST) | Initiate TEST MODE. <br> Within TEST MODE, use this button to confirm menu selections. |
| :--- | :--- |
| SERVICE Button <br> (SERVICE) | Makes it possible to enter credits for service without increasing the coin <br> meter. Becomes the button to select items in Test Mode. |
| MAIN VOLUME Knob <br> (MAIN VOLUME) | Controls the volume for the main speakers to the left and right of the <br> front cabinet. Turn the knob to the right to increase speaker volume. |
| CONTROLLER VOLUME Knob <br> (CONTROLLER VOLUME) | Controls the volume for the speakers to the 1P/2P control unit. Turn the <br> knob to the right to increase speaker volume. |

## COIN METER

After using a special-purpose key to unlock the cashbox door, the coin meter can be found at the bottom of the cashbox.


## 10 SYSTEM TEST MODE

## stop IMPORTANT

- Read the RINGWIDE Service Manual that comes with the product for details on the SYSTEM TEST MODE. However, you should perform the settings for this product according to the manual you are reading.
- The details of changes to TEST MODE settings are saved when you exit from TEST MODE by selecting EXIT from the SYSTEM TEST MODE menu. Be careful because if the power is turned off before that point, changes to the settings will be lost.
- Use with the specified settings. If settings other than those specified are used, inappropriate operations or malfunction may occur.

Press the TEST Button to enter TEST MODE and bring up the SYSTEM TEST MENU screen.
For up-to-the-present operating data, see BOOKKEEPING in GAME TEST MODE.
In the SYSTEM TEST MODE, the main activities include checking RINGWIDE information and actions and the

## COIN ASSIGNMENTS

| COIN CHUTE TYPE | COMMON |
| :--- | :--- |
| SERVICE TYPE | COMMON |

The GAME COST SETTING screen in COIN ASSIGNMENTS appears as follows:


## Menu Items

| $*$ credit (s) to start | Set the number of credits required to start the game. |
| :--- | :--- |
| $*$ credit (s) to continue | Set the number of credits required to continue. |

## NETWORK SETTING

| DHCP | ENABLE |
| :--- | :--- |

## 11 GAME TEST MODE

## stop IMPORTANT

- To change settings in the GAME TEST MODE, simply making changes on the setting screen will not be effective. Complete the TEST MODE in normal fashion.
- Use with the specified settings. If settings other than those specified are used, inappropriate operations or malfunction may occur.

Press the TEST Button to enter TEST MODE and bring up the SYSTEM TEST MENU screen. (See Chapter 9.) SERVICE Button to select "GAME TEST MODE," then press the TEST Button to bring up the GAME TEST MENU screen.

## 11-1 GAME TEST MENU



GAME TEST MENU screen

## ■Controls

- Press the SERVICE Button to select menu item.
- Press the TEST Button to comfirm the selected item.
- Selecting EXIT and pressing the TEST Button, the SYSTEM TEST MENU screen reappears.

■Menu Items

| BOOKKEEPING | Displays all recorded game data. |
| :--- | :--- |
| INPUT TEST | Test each input device used for game. |
| OUTPUT TEST | Test each output device used for game. |
| GAME ASSIGNMENTS | Adjust all game settings. |
| LED ADJUSTMENT | Settings for the full-color LEDs surrounding the monitor. |
| CONTROLLER ADJUSTMENT | Adjusts aim settings for control units. |
| BACKUP DATA CLEAR | Erases all types of game records. |

## 11-2 BOOKKEEPING

Each game record can be viewed.


BOOKKEEPING $1 / 3$ screen

## ■Controls

Press the TEST Button to move to BOOKKEEPING $2 / 3$ screen.

## ■Menu Items

| COIN CHUTE \#1 | Number of coins inserted in coin chute 1. |
| :--- | :--- |
| COIN CHUTE \#2 | Number of coins inserted in coin chute 2. |
| TOTAL COINS | Total Number of coins inserted in coin chute 1 and 2. |
| COIN CREDITS | Number of credits for coins inserted. |
| SERVICE CREDITS | Number of credits entered with the SERVICE Button. |
| TOTAL CREDITS | Total number of all credits. |



## BOOKKEEPING $2 / 3$ screen

## Controls

Press the TEST Button to move to BOOKKEEPING $3 / 3$ screen.
■Menu Items

| NUMBER OF GAMES | Total number of games played for 1P and 2P. |
| :--- | :--- |
| NUMBER OF GAME START | Total number of games played from the start for 1P and 2P. |
| NUMBER OF GAME JOIN | Total number of games joined partway through for 1P and 2P. |
| NUMBER OF CONTINUE | Total number of continues for 1P and 2P. |
| TOTAL TIME | The cabinet's total operating time. |
| PLAY TIME | Amount of time game has been played. |
| AVERAGE PLAY TIME | Average play time for one game. |
| LONGEST PLAY TIME | Longest play time for one game. |
| SHORTEST PLAY TIME | Shortest play time for one game. |

```
BOOKKEEPING 3/3
\begin{tabular}{lll}
\(0 \mathrm{M} 00 \mathrm{~S}-0 \mathrm{M} 29 \mathrm{~S}\) & \(*\) \\
\(0 \mathrm{M} 30 \mathrm{~S}-0 \mathrm{M} 59 \mathrm{~S}\) & \(*\) \\
\(1 \mathrm{M} 00 \mathrm{~S}-1 \mathrm{M} 29 \mathrm{~S}\) & \(*\) \\
\(1 \mathrm{M} 30 \mathrm{~S}-1 \mathrm{M} 59 \mathrm{~S}\) & \(*\) \\
\(2 \mathrm{M} 00 \mathrm{~S}-2 \mathrm{M} 29 \mathrm{~S}\) & & \(*\) \\
\(2 \mathrm{M} 30 \mathrm{~S}-2 \mathrm{M} 59 \mathrm{~S}\) & & \(*\) \\
& \(:\) & \\
& &
\end{tabular}
```

```
9M 00S - 9M 29S *
```

9M 00S - 9M 29S *
9M 30S - 9M 59S *
9M 30S - 9M 59S *
OVER 10M 00S *
PRESS TEST BUTTON TO EXIT

```

\section*{BOOKKEEPING \(3 / 3\) screen}

\section*{■Controls}

Press the TEST Button to return to the GAME TEST MENU screen.

\section*{■Menu Items}

This displays play times on a scale from 0M00S to 9 M 59 S based on 30 -second intervals. All play times 10 minutes or over are included in the item OVER 10M00S.

The moment the START button is pressed is considered to be the start of the game, and Game Over or Continue to be the end.
(A continue is considered to be a new game. Even if the player keeps continuing and clears the game, the time from game start to finish is not taken as their play time.)

\section*{11-3 INPUT TEST}

Select INPUT TEST to display the following screen and check the status of input devices. This test should be used periodically to check that each input device is functioning correctly.
\begin{tabular}{|ccc|}
\hline & INPUT TEST & \\
PLAYER & 1 & 2 \\
TRIGGER & OFF & OFF \\
ACTION & OFF & OFF \\
CHANGE & OFF & OFF \\
SIGHT-X & \(\star *\) & \(\star *\) \\
SIGHT-Y & \(\star \star\) & \(\star *\) \\
SCREEN & OUT & OUT \\
START & OFF & OFF \\
SERVICE & OFF & \\
TEST & OFF & \\
PRESS TEST AND & SERVICE BUTTON & TO EXIT \\
\hline
\end{tabular}

INPUT TEST screen

\section*{■Controls}
- The SCREEN setting is normal if it changes from OUT to IN when the control units are pointed at the screen.
- Input devices are working correctly if the corresponding menu item switches from OFF to ON when the device is operated.
- Press the TEST Button and the SERVICE Button simultaneously to return to GAME TEST MENU screen.

■Menu Items
\(\left.\)\begin{tabular}{|l|l|}
\hline TRIGGER & \begin{tabular}{l} 
This will say ON when the triggers on the control units are being pulled and \\
OFF when they are released.
\end{tabular} \\
\hline ACTION & \begin{tabular}{l} 
This will say ON when the action buttons on the control units are being pulled \\
and OFF when they are released.
\end{tabular} \\
\hline CHANGE & \begin{tabular}{l} 
This will say ON when the shot selectors on the control units are being pulled \\
and OFF when they are released.
\end{tabular} \\
\hline SIGHT-X & This shows the aim location for the X direction on the control units. \\
\hline SIGHT-Y & This shows the aim location for the Y direction on the control units.
\end{tabular}\(\left|\begin{array}{l}\text { This will say IN when the control units are aimed inside the screen and OUT } \\
\text { when they are aimed outside the screen. }\end{array}\right|\)\begin{tabular}{ll} 
This will say ON when the START buttons are being pressed and OFF when \\
they are released.
\end{tabular} \right\rvert\, \begin{tabular}{l} 
This will say ON when the SERVICE button is being pressed and OFF when \\
it is released.
\end{tabular}


\section*{11-4 OUTPUT TEST}

This screen is for confirming the proper operation of each output device used by the game. Periodically use this screen to check the status of each output device.


\section*{OUTPUT TEST screen}

\section*{■Controls}
- Press the SERVICE Button to select menu item.
- When the TEST Button is being pressed, the selected item will change from OFF to ON and the corresponding output device will operate.
- When the TEST Button is released, the selected item will change from ON to OFF and the corresponding output device will cease operation.
- Select EXIT and press the TEST Button to return to the GAME TEST MENU screen.

\section*{■Menu Items}
\begin{tabular}{|l|l|}
\hline \(\mathbf{1 P} / \mathbf{2 P}\) START LAMP & 1P/2P START Button lamp \\
\hline \(\mathbf{1 P} / \mathbf{2 P}\) RECOIL & \begin{tabular}{l} 
Activates the solenoid in \(1 \mathrm{P} / 2 \mathrm{P}\) control unit. Reverts to OFF after one \\
activation.
\end{tabular} \\
\hline \(\mathbf{1 P} / \mathbf{2 P}\) HOLDER LAMP & \(1 \mathrm{P} / 2 \mathrm{P}\) controller holder lamp \\
\hline BILLBOARD & Lamp of the billboard above the monitor. \\
\hline
\end{tabular}


\section*{11-5 GAME ASSIGNMENTS}

Adjust all game settings.
\begin{tabular}{|cc|}
\hline \multicolumn{2}{|c|}{ GAME ASSIGNMENTS } \\
DIFFICULTY & NORMAL \\
LIFE & 4 \\
REACTION & ON \\
ADVERTISE SOUND & ON \\
DAMAGE EFFECT & ON \\
ARMOR & ON \\
DRESS CODE & OFF \\
SWIPE CARD TO PLAY & OFF \\
\(\rightarrow\) EXIT & \\
SELECT WITH SERVICE BUTTON \\
AND PRESS TEST BUTTON \\
\hline
\end{tabular}

GAME ASSIGNMENTS screen

\section*{Controls}
- Press the SERVICE Button to select menu item.
- Press the TEST Button to change the value of the selected item.
- Select EXIT and press the TEST Button to return to the GAME TEST MENU screen.

\section*{■Menu Items}
\begin{tabular}{|c|c|c|}
\hline DIFFICULTY & \multicolumn{2}{|l|}{\begin{tabular}{l}
Sets the level of difficulty.(Default setting: NORMAL) \\
There are 5 levels: VERY EASY, EASY, NORMAL, HARD, VERY HARD.
\end{tabular}} \\
\hline LIFE & \multicolumn{2}{|l|}{The number of LIFE(s) the player will start the game with. (Default setting: 4) Can be set between 2 and 7 .} \\
\hline & \multicolumn{2}{|l|}{Sets recoil from the \(1 \mathrm{P} / 2 \mathrm{P}\) control unit when firing the gun to ON/OFF. (Default setting: ON)} \\
\hline REACTION & ON & When firing the gun, the \(1 \mathrm{P} / 2 \mathrm{P}\) control unit will recoil. \\
\hline & OFF & When firing the gun, the \(1 \mathrm{P} / 2 \mathrm{P}\) control unit will not recoil. \\
\hline ADVERTISE SOUND & \multicolumn{2}{|l|}{Turns sound ON/OFF in advertise mode. (Default: ON) There are 5 levels : ON, \(7 / 10,5 / 10,3 / 10\), OFF.} \\
\hline \multirow{3}{*}{DAMAGE EFFECT} & \multicolumn{2}{|l|}{Switches effects when the enemy characters take damage ON/OFF. (Default setting: ON)} \\
\hline & ON & Damage effects will be displayed. \\
\hline & OFF & Damage effects will not be displayed. \\
\hline \multirow{3}{*}{ARMOR} & \multicolumn{2}{|l|}{\begin{tabular}{l}
Sets the giving of body armor as a continue bonus when the player chooses to continue to ON/OFF. \\
(Default setting: ON)
\end{tabular}} \\
\hline & ON & Body armor will be provided when the player continues. \\
\hline & OFF & Body armor will not be provided when the player continues. \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline \multirow{3}{*}{DRESS CODE} & \multicolumn{2}{|l|}{\begin{tabular}{l}
Sets whether female soldier designs will be included in boss images to ON/ OFF. \\
(Default setting: OFF)
\end{tabular}} \\
\hline & ON & Female soldier designs will not be included in boss images. \\
\hline & OFF & Female soldier designs will be included in boss images. \\
\hline \multirow{3}{*}{SWIPE CARD TO PLAY} & \multicolumn{2}{|l|}{\begin{tabular}{l}
Sets the changing of the INSERT COIN(S) display to SWIPE CARD TO PLAY to ON/OFF. \\
(Default setting: OFF)
\end{tabular}} \\
\hline & ON & The INSERT COIN(S) display will be changed to SWIPE CARD TO PLAY. \\
\hline & OFF & The INSERT COIN(S) display will not be changed. \\
\hline
\end{tabular}

\section*{11-6 LED ADJUSTMENT}

Conduct adjustment of the full-color LEDs surrounding the monitor.


\section*{LED ADJUSTMENT screen}

\section*{■Controls}
- Press the SERVICE Button to select menu item.
- Press the TEST Button to change the value of the selected item.
- Select EXIT and press the TEST Button to return to the GAME TEST MENU screen.

■Menu Items
\begin{tabular}{|c|c|c|}
\hline MAX R & \multicolumn{2}{|l|}{Adjusts the brightness of red LEDs from 0.1 to 1.0 in gradients of 0.1 . (Default setting: 1.0)} \\
\hline MAX G & \multicolumn{2}{|l|}{Adjusts the brightness of green LEDs from 0.1 to 1.0 in gradients of 0.1 . (Default setting: 0.9)} \\
\hline MAX B & \multicolumn{2}{|l|}{Adjusts the brightness of blue LEDs from 0.1 to 1.0 in gradients of 0.1 . (Default setting: 0.7)} \\
\hline SET DEFAULT & \multicolumn{2}{|l|}{Returns the LED color shades to their defaults.} \\
\hline COLOR PATTERN & \multicolumn{2}{|l|}{Switches the LED display color pattern: WHITE; BLUE; RED; GREEN; BLACK TO WHITE.} \\
\hline \multirow{4}{*}{BOARD STATE} & \multicolumn{2}{|l|}{Displays status of LED board.} \\
\hline & READY & Usable status \\
\hline & NOT READY & Undergoing formatting status \\
\hline & NO LED BOARD & Unusable status \\
\hline
\end{tabular}

\section*{11-7 CONTROLLER ADJUSTMENT}

This screen allows for the adjustment of the control unit's crosshair settings which are used during gameplay.


CONTROLLER ADJUSTMENT screen

\section*{■Controls}
- Press the SERVICE Button or START Button to select menu item.
- Select EXIT (WITH SAVE) and press the TEST Button to save the values you have set and return to the GAME TEST MENU screen.

\section*{■Menu Items}
\begin{tabular}{|l|l|}
\hline TOP* & \begin{tabular}{l} 
Sets the crosshair value for the upper limit of the Y axis. Aim at the + mark at the top of the \\
screen and pull the trigger to confirm setting.
\end{tabular} \\
\hline LEFT* \(^{\text {CENTER X* }}\) & \begin{tabular}{l} 
Sets the crosshair value for the left limit of the X axis. Aim at the + mark at the left of the screen \\
and pull the trigger to confirm setting.
\end{tabular} \\
\hline \begin{tabular}{l} 
Sets the crosshair value for the center of the X axis. Aim at the + mark in the center of the \\
screen and pull the trigger to confirm setting.
\end{tabular} \\
\hline CENTER Y* & \begin{tabular}{l} 
Sets the crosshair value for the center of the \(Y\) axis. Aim at the + mark in the center of the \\
screen and pull the trigger to confirm setting.
\end{tabular} \\
\hline BOTTOM* & \begin{tabular}{l} 
Sets the crosshair value for the lower limit of the Y axis. Aim at the + mark at the bottom of the \\
screen and pull the trigger to confirm setting.
\end{tabular} \\
\hline RIGHT* & \begin{tabular}{l} 
Sets the crosshair value for the right limit of the X axis. Aim at the + mark at the right of the \\
screen and pull the trigger to confirm setting.
\end{tabular} \\
\hline CHECK & Displays the newly adjusted crosshair settings on-screen. \\
\hline CANCEL & Returns the newly adjusted crosshair settings to the previous settings. \\
\hline DEFAULT & Set the values for the control units to default. \\
\hline
\end{tabular}
*Values on the left are the previous settings, and values on the right are the new settings.

\section*{11-8 BACKUP DATA CLEAR}

Delete various game data.
\begin{tabular}{|l|}
\hline BACKUP DATA CLEAR \\
YES (CLEAR) \\
\(\rightarrow\) NO (CANCEL) \\
SELECT WITH SERVICE BUTTON \\
AND PRESS TEST BUTTON
\end{tabular}

BACKUP DATA CLEAR screen (1/2)
\begin{tabular}{c} 
BACKUP DATA CLEAR \\
COMPLETED \\
PRESS TEST BUTTON TO EXIT \\
\hline
\end{tabular}

\section*{BACKUP DATA CLEAR screen (2/2)}

\section*{■Controls}
- Press the SERVICE Button to select menu item.
- Selecting YES (CLEAR) and pressing the TEST Button will clear all data, and "COMPLETED" will be displayed. At this point, press the TEST Button to return to the GAME TEST MENU screen.

\section*{12 CONTROL PANEL}

\section*{\(\triangle\) WARNING}
- Before starting to work,, be sure to turn the power off. Working without turning the power off can cause an electric shock or short circuit.
- Be careful not to damage the cables. Damaged cables may cause electric shock or short circuit or present a risk of fire.

\section*{12-1 REMOVING THE CONTROL PANEL}

1 Turn the power switch OFF.

\section*{2 \\ Use an Allen wrench to remove the 4 slim head hexagon socket head screws.}


Support the front of the control panel, and lift the rear towards you. At this point, the connector on the back of the control panel is still attached, so do not force it.


Disconnect the 1 connector and take off the control panel.


\section*{12-2 REPLACING THE DENOMINATION SHEET}

Refer to 12-1 "REMOVING THE CONTROL PANEL" to take off the control panel.

Peel off the tape on the rear of the control panel, and remove the sheet that is already in place on the denomination sheet location.


Use adhesive tape (etc.) to attach the denomination sheet to the denomination sheet location.

Refer to 12-1 "REMOVING THE CONTROL PANEL" and work in reverse order to attach the control panel.

\section*{13-1 CAUTIONS REGARDING SAFE HANDLING OF LCD}

\section*{WARNING}
[Responding to breakdown or abnormality]
- If you notice smoke or an odd smell, immediately unplug the power cable from the power plug. Continuing to use the product may cause a fire or an electric shock. After making sure the smoke has stopped, contact the point-of purchase.
- If nothing displays on the screen, immediately unplug the power cable from the power plug. Continuing to use the product may cause a fire or an electric shock. Contact the point-of-purchase and request an inspection.
- If water or foreign objects get inside the monitor, immediately unplug the power cable from the power plug. Continuing to use the product may cause a fire or electric shock. Contact the point-of-purchase and request an inspection.
- If the monitor is dropped or the cabinet is damaged, immediately unplug the power cable from the power plug. Continuing to use the product may cause fire or an electric shock. Contact the point-of-purchase and request an inspection.
[During operation]
- Do not attempt to repair, remodel, or disassemble the monitor. The monitor contains high-voltage parts and attempting the above actions may cause a fire or electric shock. Contact the point-of-purchase to request inspection, adjustment, or repair.
- Do not allow foreign objects to get inside the monitor. If metal or paper objects enter the monitor through the air vents, they may cause a fire, electric shock, or a short circuit.

\section*{\(\triangle\) CAUTION}
- Do not tap or strike the surface of the LCD, as doing so may break the glass and cause injury. If the glass breaks and the liquid crystal leaks out, do not touch the liquid. The liquid can cause damage if it comes into contact with eyes or skin. aaShould the liquid crystal come into contact with eyes or skin, wash the affected area thoroughly with clean water and immediately consult a physician. If the liquid crystal comes into contact with clothing, immediately wash it off with clean water. If it comes into contact with any equipment other than this product, wipe it off without touching it directly.
- Make sure to perform appropriate adjustments. Do not operate the product when the screen is flickering, distorted, or experiencing other abnormalities. Images from an improperly adjusted screen could cause players and other customers to experience dizziness, headaches, and other ailments.

\section*{13-2 CLEANING THE LCD}

\section*{stop IMPORTANT}
- Remove smears by using a dry, soft cloth (flannels, etc.). Do not use a coarse gauze, etc.
- For smear removing solvent, alcohol (ethanol) is recommended. When using chemical detergent, be sure to follow instructions below:
- Dilute chemical detergent with water and dip a soft cloth in and thenthoroughly wring it to wipe smears off.
- Do not use a chemical detergent containing an abradant, powder or bleaching agent.
- Do not use alkaline chemical detergents such as "glass cleaner" available on the market or solvents such as thinner, etc.
- Do not rub or scratch the LCD with hard items such as brushes, scrub brush, etc.

Clean the LCD once a week.

\section*{13-3 ADJUSTING THE LCD}

\section*{WARNING}
- This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.
- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.

\section*{A CAUTION}

When opening/closing or attaching/removing the doors or the other parts, be careful that your hands or fingers do not get caught in anything.

\section*{stop IMPORTANT}

All adjustment values are set accurately at the time of shipping from the factory.
Do not readjust these values needlessly or apply adjustments not specified in this manual. The display may not appear properly if the values are incorrect.

Use this unit with the Scale value of the LCD set to "W."
When performing an automatic adjustment, do so while displaying the cross-hatch screen from MONITOR TEST in TEST MODE. (See 6-7-2.)
Remove the 8 screws and open the back door. The adjuster board will appear. Work with at least 2 people during the removal process. Perform adjustment with the adjuster board removed from the LCD, having passed the cable through the opening on the rear of the cabinet, closed the back door, and turned the power on.


\section*{OPERATION INSTRUCTION}

This is an explanation of the basic operation methods to use when making the various adjustments.
Be careful not to enter the wrong input by mistake, as doing so may alter display settings and cause the screen to stop displaying properly.

\begin{tabular}{|l|l|}
\hline \begin{tabular}{l} 
AUTO key \\
(AUTO)
\end{tabular} & Automatic adjustment/move up. \\
\hline \begin{tabular}{l} 
MENU/ENTER key \\
(MENU/ENTER)
\end{tabular} & Turns MENU display on/switches pages \\
\hline \begin{tabular}{l} 
MINUS key \\
\((-)\)
\end{tabular} & \begin{tabular}{l} 
Decreases the value of the selected setting/selects OSD control options/ turns \\
CONTRAST screen on
\end{tabular} \\
\hline \begin{tabular}{l} 
PLUS key \\
\((+)\)
\end{tabular} & \begin{tabular}{l} 
Increases the value of the selected setting/selects OSD control options/ turns \\
BRIGHTNESS screen on
\end{tabular} \\
\hline \begin{tabular}{l} 
MODE key \\
(MODE)
\end{tabular} & Enter selected item/move down. \\
\hline
\end{tabular}

Press the MENU/ENTER key for all types of adjustments and settings excluding brightness and contrast.

The menu screen will be displayed.

Press the PLUS and MINUS keys to move the cursor to the item to be adjusted/changed and press the MODE key to select it.

3
The selected bar will turn red. Press AUTO and MODE keys to switch betweenitems, and adjust the values of the various items using the PLUS and MINUS keys.

Settings will be recorded upon leaving the menu screen by pressing the MENU/ENTER key after finishing adjustments.

\section*{LIST OF SETTINGS}

Screen display position is pre-adjusted at the factory, but can be changed as desired. Do not adjust settings that are labeled "Use standard factory setting."


■Menu Items
\begin{tabular}{|l|l|}
\hline Display Adjust & Adjusts the display. \\
\hline H.Position & Adjusts the horizontal position of the screen. \\
\hline V.Position & Adjusts the vertical position of the screen. \\
\hline Clock & Adjusts the horizontal size of the screen. (Use standard factory setting.) \\
\hline Phase & Adjusts the screen phase. (Use standard factory setting.) \\
\hline Color Adjust & Adjusts the screen color intensity. \\
\hline Menu Select & Adjusts menu settings. \\
\hline OSD Language & Sets the language used in menus. (Use standard factory setting.) \\
\hline OSD Time Out & Sets menu timeout time. \\
\hline OSD Position & Sets menu screen position. \\
\hline OSD Transparency & Sets menu screen transparency. \\
\hline Auto Setting & Turns the auto-setting function ON/OFF. \\
\hline Recall & Resets setting values to their defaults. \\
\hline Scale & \begin{tabular}{l} 
Sets aspect ratio. \\
(Use this unit with Scale set to "W")
\end{tabular} \\
\hline Input Signal Section & Selects the input signal. (Use standard factory setting.) \\
\hline
\end{tabular}

\section*{EXAMPLE SETTINGS}

The following examples demonstrate the controls for adjusting the "Brightness," "V.Position" and "OSD Position" settings. Use these examples as a reference when adjusting other settings.

\section*{■ADJUSTING THE BRIGHTNESS}

1
Press the PLUS key to bring up the BRIGHTNESS screen.


BRIGHTNESS screen
Use the PLUS and MINUS keys to adjust the brightness value. When finished, press the MENU/ENTER key to close the MENU screen.

■ADJUSTING THE V.POSITION
1 Press the MENU/ENTER key to bring up the MENU screen.


MENU screen


OSD CONTROL screen

Press the AUTO and MODE keys to select V.POSITION and then use the PLUS and MINUS keys to adjust the V.Position value. When finished, press the MENU/ENTER key to return to the OSD CONTROL screen and then press the MENU/ENTER key again to close the MENU screen.


■ADJUSTING THE OSD POSITION

Press the MENU/ENTER key to bring up the MENU screen.


MENU screen

Use the PLUS and MINUS keys to select Menu select and then press the MODE key to enter the OSD CONTROL screen.


Press the AUTO and MODE keys to select OSD POSITION and then use the PLUS and MINUS keys to adjust the position. When finished, press the MENU/ENTER key to return to the OSD CONTROL screen and then press the MENU/ENTER key again to close the MENU screen.


\section*{OSD POSITION screen}

\section*{13-4 REPLACING THE LCD}

\section*{WARNING}
- When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.
- This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.
- Be careful not to damage the cables. Damaged cables may cause electric shock or short circuit or present a risk of fire

\section*{CAUTION}
- When LCD has been replaced, be sure to perform appropriate adjustment. For operation of this machine, do not leave monitor's flickering or deviation as is. Images from an improperly adjusted screen could cause players and other customers to experience dizziness, headaches, and other ailments.
- When assembling, be sure to use multiple persons. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Be sure to allocate enough space for assembly work (at least \(3 \mathrm{~m} \times 2 \mathrm{~m}\) ). Small spaces make work more difficult, and may cause accidents. There is also a risk of unexpected personal injury or parts damage.

\section*{1 Turn the power switch OFF.}


3 Disconnect the 1 connector.


4
Use a short phillips screwdriver to remove the 2 screws, and lift the monitor mask to take it off. When performing this task, use 2 or more workers.


5 Remove the 3 screws and take off the glass support.
NOTE: Be sure to support the glass. Once the glass support is removed, there is a risk that the glass will fall out.


Spread out protective material measuring \(1,500 \mathrm{~mm}(59 \mathrm{in})\) by \(1,000 \mathrm{~mm}(39.4 \mathrm{in})\) or greater on the floor. When doing so, ensure that no screws or other types of protruding objects have fallen to the ground.

Using 2 or more workers, place the glass slowly on the protective material.


Using 2 or more workers,remove the 8 truss screws and take off the back door.

Disconnect the 2 connectors. When doing so, remove the D-SUB15P connector after first loosening its fastening screws.


Remove the 4 screws and take off the LCD unit. At this point, work while supporting the LCD from the front of the cabinet.


Spread out protective material measuring \(1,500 \mathrm{~mm}(59 \mathrm{in})\) by \(1,000 \mathrm{~mm}(39.4 \mathrm{in})\) or greater on the floor. When doing so, ensure that no screws or other types of protruding objects have fallen to the ground.

1 Hold the designated places with at least 3 people and place the LCD unit slowly on the protective material with its glass side facing down.


13 Remove the 4 screws and take off the monitor bracket.


14 Replace the LCD. Refer to Step 2 to 13 and work in reverse order to attach the new LCD unit. Be sure to hold the designated places while taking care not to trap your hand or fingers. Also, be careful not to damage the cables.

NOTE: If the holes do not align when attaching a new LCD unit, loosen the monitor bracket's 16 screws and adjust them.


\footnotetext{
15
Be sure to perform appropriate adjustment of the LCD. (See 13-3.)
}

\section*{14 CONTROL UNIT}

\section*{WARNING}
- Before starting to work, be sure to turn the power off. Working without turning the power off can cause an electric shock or short circuit.
- Be careful not to damage the cables. Damaged cables may cause electric shock or short circuit or present a risk of fire.
- Exercise due caution in performing soldering procedures. If soldering iron is handled carelessly, there could be fires or burns.

\section*{CAUTION}
- When fastening plastic parts, be careful not to tighten screws and nuts excessively. Failure to observe this may damage the parts and cause injury due to fragments resulting from damage.
- After the unit has been disassembled and reassembled again, check carefully to be sure that there are no gaps or rattling at the junctions and that the trigger can be operated smoothly. If there are gaps or rattling, or if operation is not satisfactory, the players could get fingers or hands caught, resulting in injury.
- Be sure to inspect control unit surfaces for cracks and damage. Players could be injured if they play when the unit is cracked or damaged.
- Assemble so that there is no gap between the \(L\) and \(R\) covers. If there is a gap or rattling, the players could get fingers or hands caught, resulting in injury.

\section*{stop IMPORTANT}
- Do not cut the tie that holds the cables together inside the control unit. Doing so can lead to connection failures with the connectors inside the unit. If the tie must be cut to replace cables or perform other such work, make sure that they are returned to the original position and tied together again.
- Once the product has been disassembled, use slack preventive agent (product No.: 090-0012). Coat screws with suitable amounts of this agent and then tighten them. If this agent is not used, the product might start rattling or come apart.
- Use the slack preventive agent prescribed in these instructions. If any other agent is used, there could be chemical changes that inhibit the use of screws and part surfaces could be damaged.
- Be careful not to damage or lose small parts or screws.
- When a part has been replaced, be sure to always make adjustments and check conditions in TEST MODE.

If the control unit does not operate satisfactorily and adjustments in TEST MODE are ineffective, it could be that parts inside the control unit have been damaged. Follow the steps given below to remove the control unit, then take it apart and replace parts.

To replace parts in the control unit, remove the speaker unit and detach the \(L\) and \(R\) covers of the outer part. Because internal parts are inserted on the R cover side, work with the R cover facing downward.


\section*{14-1 REMOVING THE CONTROL UNIT}

Remove the \(1 \mathrm{P} / 2 \mathrm{P}\) control unit.


1 Turn the power off.

\section*{2}

Remove the 2 truss screws and take off the lid upper.


Disconnect the 1 connector.
NOTE: The SM18P connectors are stamped with the letter 1Pand 2P. Disconnect the appropriate connector.


4 Remove the 4 screws and pull out the control unit connector. Be careful not to damage the cable.


Remove the 2 truss screws and the cable clamp.
NOTE: When attaching, pay attention to the length of the cable between the cable clamp position and the control unit.


\section*{14-2 REMOVING THE CONTROLLER SUPPORT}

\section*{1}

Refer to 14-1"REMOVING THE CONTROL UNIT " and take off the control unit.

Using an Allen wrench, remove the 6 hexagon socket head screws, and take off the 4 controller supports.
NOTE:When reattaching reinforcement parts, always refer to the fiture to ensure that screws are not put into the wrong places. Also, regularly check that the screws have not loosened over time.


\section*{14-3 REMOVING THE SCOPE}

1 Refer to 14-1 "REMOVING THE CONTROL UNIT" and take off the control unit.
2 Remove the 2 screws and take off the lens cap.


3
Remove the 7 screws and take off the scope body L.



5 Disconnect the 1 connector.


6
Remove the scope body R from the control unit. At this point, the speaker net and speaker come loose easily, so be careful not to lose them.


\section*{14-4 REPLACING THE MICROSWITCH}

There are microswitches for the trigger and shot selector and action button inside the control unit.

1 Refer to 14-2 "REMOVING THE CONTROLLER SUPPORT" and 14-3 "REMOVING THE SCOPE," take off the controller support and scope body.

Place cover R face down on the work surface and remove the 15 screws to take off the cover L .


Remove the microswitch from the R cover.


4 Remove the soldered part and then remove the microswitch.


Solder and attach the new microswitch. Protect the soldered part with heat-shrinkable tubing.

Refer to Step 1 to 4 and work in reverse order to reassemble the control unit. Be careful not to tighten screws excessively.

Carry out an input test, controller adjustment and speaker test, and adjust the operation of each of the components.
(See 6-7-3, 11-3, 11-7.)

\section*{14-5 REPLACING THE SENSOR UNIT}

Refer to 14-2 "REMOVING THE CONTROLLER SUPPORT" and 14-3 "REMOVING THE SCOPE," take off the controller support and scope body.

Refer to Step 2 of 14-4 "REPLACING THE MICROSWICH" and take off the cover L.

Lift the sensor unit from the cover R and disconnect the 1 connector.


Replace the sensor unit.

Refer to Step 1 to 3 and work in reverse order to reassemble the control unit. Be careful not to tighten screws excessively.

Carry out an input test, controller adjustment and speaker test, and adjust the operation of each of the components.
(See 6-7-3, 11-3, 11-7.)

\section*{14-6 REPLACING THE SOLENOID}

1 Refer to 14-2 "REMOVING THE CONTROLLER SUPORT" and 14-3 " REMOVING THE SCOPE," take off the controller support and scope body.

Refer to Step 2 of 14-4 "REPLACING THE MICROSWICH" and take off the cover L.
3 Disconnect the 1 connector.


4
Remove the 4 screws and take off the solenoid. Be careful not lose the spring and other small parts.


Remove the 8 screws and replace the solenoid.
NOTE: When attaching it, use a thread sealant.


Refer to Step 1 to 5 and work in reverse order to reassemble the control unit. Refer to the figure and be careful with the order in which the small parts are attached and the direction the side with the solenoid cable faces. Attaching the parts the wrong way may result in malfunction of the unit or pinching of the cable. Be careful not to tighten screws excessively.


Carry out an input test, controller adjustment and speaker test, and adjust the operation of each of the components.(See 6-7-3, 11-3, 11-7.)

\section*{15 COIN SELECTOR}

\section*{WARNING}
- This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.
- Before performing the work, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit. In the case work should be performed in the status of power on, this manual always states to that effect.

\section*{CAUTION}

When attaching or removing doors, be careful that your hand or finger does not get caught in anything.

\section*{stop IMPORTANT}
- Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- After cleaning the coin selector, insert a regular coin in the normal working status and ensure that the selector correctly functions.
- The coin selector is a precision device. Careless handing could result in damaged parts, poor connection of electronic circuits, etc.
- Never apply machine oil, etc. to the coin selector.
- Do not open the lid more than 90 degrees. Doing so will place undue force on the hinge which could break it.
- Do not disassemble or take out undesignated parts.

\section*{15-1 COIN INSERTION TEST}

Carry out a coin insertion test once per month. At the same time, check the following points:Does the coin meter count properly?Do coins drop into the cashbox correctly?Are coins rejected when inserted while holding down the REJECT button?Are extra coins and incorrect coins properly returned?



\section*{15-2 CLEANING THE COIN SELECTOR}

\section*{STOP IMPORTANT}
- Under no circumstances may the cloth be so wet that fluid runs into the device. Otherwise the PCB will be damaged.
- Do not use any solvents or scouring agents that will attack the plastic material of the device.

The coin selector should be cleaned once every 3 months.
When cleaning, follow the procedures below:

1 Turn the power switch OFF.
2
Unlock the coin chute door and open it.


Loosen the screw to raise the lever and open the coin selector cover and then remove the coin selector.



Open the gate and remove/clean dust using a soft cloth dipped in water or diluted chemical detergent and then wrung dry.


After wiping, use a dry cloth, etc. to dry the coin selector completely.

\section*{15-3 REMOVING THE JAMMED COIN}

If the coin does not come out when pressing the reject button, open the service door and then open the coin selector gate. After removing the jammed coin, insert a normal coin and make sure the selector works properly.

\section*{15-4 TROUBLESHOOTING THE COIN SELECTOR}

\section*{Fault Finding}

Malfunctions can occur in all electronic devices. These do not always have to be faults in the device. In many cases the reason is improper connections or incorrect settings. Therefore, first of all check, whether the malfunction can simply be remedied using the following table:
\begin{tabular}{|l|l|l|}
\hline \multicolumn{1}{|c|}{ PROBLEMS } & \multicolumn{1}{c|}{ CAUSE } & \multicolumn{1}{c|}{ COUNTERMEASURES } \\
\hline \multirow{4}{*}{\begin{tabular}{l} 
Coin selector does not \\
accept coin
\end{tabular}} & No Power Supply & \begin{tabular}{l} 
• Connect ribbon cable to coin selector \\
and machine correctly. \\
- Supply machine with voltage.
\end{tabular} \\
\cline { 2 - 3 } & \begin{tabular}{l} 
Return lever/button pressed/got \\
stuck
\end{tabular} & \begin{tabular}{l} 
Make sure, that return lever/button is not \\
inadvertently pressed.
\end{tabular} \\
\cline { 2 - 3 } & Coin runway dirty & \begin{tabular}{l} 
Open the gate and clean the coin selector. \\
(See 15-2.)
\end{tabular} \\
\cline { 2 - 3 } & Coin inhibited & \begin{tabular}{l} 
Refer to SR3 or G-13 coin selector \\
manual whcih can be found online.
\end{tabular} \\
\hline \begin{tabular}{l} 
Coin selector accepts coin \\
but no credit is given
\end{tabular} & Coin does not exit from the device & \begin{tabular}{l} 
Make sure that the coin outlet is not \\
jammed by foreign objects or devices \\
connected to the bottom of the coin \\
selector.
\end{tabular} \\
\hline
\end{tabular}

If a problem not described in this manual occurs, do not make further attempts to resolve the problem yourself. Immediately turn off the power and contact the office listed in this manual or the point-of-purchase for this product. Any unguided attempts to solve such problems may lead to a serious accident.

\section*{15-5 ADJUSTING THE PRICE OF PLAY}

This product comes equipped with a SR3 or G-13 coin selector. To adjust the price of play all credit setting are adjusted via the excel credit board.

The CREDIT SETTINGS within the SYSTEM TEST MODE must be set to 1 coin 1 credit to allow the excel credit board to function correctly.

\section*{EXCEL CREDIT BOARD}


DIL switch 3 (Regional Settings)
Adjust these switches to specify the type of coin selector used and currency. (Default : SW1 and SW2 ON - SR3 in parallel mode, Sterling.)
\begin{tabular}{|l|l|}
\hline SERVICE BUTTON & Provides a SERVICE CREDIT when pressed. \\
\hline STATUS LED & Flashes when functioning. \\
\hline CN5 & To coin selector. (SR3/G-13) \\
\hline \begin{tabular}{l} 
DIL SWITCH 1 \\
(Credit Settings)
\end{tabular} & Adjust to required price of pay. \\
\hline \begin{tabular}{l} 
DIL SWITCH 3 \\
(Regional Settings)
\end{tabular} & Adjust to mech type and currency. \\
\hline
\end{tabular}

15-5-1 REGIONAL AND ACCEPTOR SETTINGS (DIL SWITCH 3)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multicolumn{20}{|l|}{Excel Credit Board Mode Settings DIL Switch 3} \\
\hline \multirow[t]{2}{*}{Country} & \multirow[t]{2}{*}{Setting} & \multicolumn{6}{|l|}{Switch 3 Setting} & \multicolumn{8}{|l|}{Coin Selector Programming} & \multicolumn{4}{|l|}{C120/SR3 Only} \\
\hline & & SW1 & SW2 & SW3 & SW4 & SW5 & SW6 & COIN1 & COIN2 & COIN3 & COIN4 & COIN5 & COIN6 & COIN7 & COIN8 & COIN9 & COIN10 & COIN11 & COIN12 \\
\hline UK & Coin Controls C220 Parallel & OFF & OFF & OFF & OFF & & & £1 & \[
\begin{aligned}
& \text { 50p } \\
& \text { new }
\end{aligned}
\] & 20p & 10p & - & \[
\begin{aligned}
& 50 \mathrm{p} \\
& \text { old }
\end{aligned}
\] & - & - & & & & \\
\hline UK & Coin Controls C220 Binary & ON & OFF & OFF & OFF & & & £1 & \[
\begin{aligned}
& 50 \mathrm{p} \\
& \text { new }
\end{aligned}
\] & 20p & 10p & - & 50 p
old & - & £2 & & & & \\
\hline UK & Coin Controls C220 Binary & OFF & ON & OFF & OFF & & & £1 & \[
\begin{gathered}
50 \mathrm{p} \\
\text { new }
\end{gathered}
\] & 20p & 10p & - & £2 & - & \[
\begin{aligned}
& 50 \mathrm{p} \\
& \text { old }
\end{aligned}
\] & & & & \\
\hline UK & Coin Controls SR3 Parallel & ON & ON & OFF & OFF & & & £1 & \[
\begin{aligned}
& \hline 50 \mathrm{p} \\
& \text { new } \\
& \hline
\end{aligned}
\] & 20p & 10p & - & £2 & - & \[
\begin{aligned}
& 50 \mathrm{p} \\
& \text { old }
\end{aligned}
\] & - & - & - & - \\
\hline \[
\begin{gathered}
\text { UK } \\
\text { Euro }
\end{gathered}
\] & Coin Controls SR3 Parallel & OFF & OFF & ON & OFF & & & \[
\begin{aligned}
& £ 2 \\
& € 2
\end{aligned}
\] & \[
\begin{aligned}
& \text { £1 } \\
& € 1
\end{aligned}
\] & \[
\begin{gathered}
\text { 50p new } \\
50 ф
\end{gathered}
\] & \[
\begin{aligned}
& 20 \mathrm{p} \\
& 20 \phi
\end{aligned}
\] & \[
\begin{aligned}
& 10 \mathrm{p} \\
& 10 \phi
\end{aligned}
\] & - & - & - & \[
\begin{aligned}
& 50 \mathrm{p} \\
& \text { old }
\end{aligned}
\] & - & - & - \\
\hline UK & Mars ME/MS 111 Parallel & ON & OFF & ON & OFF & & & £1 & £2 & 20p & 10p & 50p new & \[
\begin{aligned}
& 50 \mathrm{p} \\
& \text { old }
\end{aligned}
\] & & & & & & \\
\hline UK & G-13 Parallel & OFF & ON & ON & OFF & & & 10p & 20p & 50p & £1 & £2 & - & & & & & & \\
\hline Belgium & Parallel & ON & ON & ON & OFF & & & - & 50 BFr & 20 BFr & 5 BFr & & & & & & & & \\
\hline Holland & Parallel & OFF & OFF & OFF & ON & & & - & 5NLG & 2.5NLG & 1NLG & & & & & & & & \\
\hline Austria & SR3 Parallel & ON & OFF & OFF & ON & & & 20Sch & 10Sch & 5Sch & 1Sch & & & & & & & & \\
\hline Spain & Coin Controls C220 Binary & OFF & ON & OFF & ON & & & 500 Pta & 200Pta & 100Pta & 50Pta & 25Pta & \[
\begin{gathered}
200 \mathrm{Pt} \\
\text { old }
\end{gathered}
\] & \[
\begin{gathered}
50 \mathrm{Pta} \\
\text { old }
\end{gathered}
\] & \[
\begin{gathered}
25 \mathrm{Pta} \\
\text { old }
\end{gathered}
\] & & & & \\
\hline Spain & \begin{tabular}{l}
SR3/G-13 \\
Parallel
\end{tabular} & ON & ON & OFF & ON & & & 500Pta & 200Pta & 100Pta & 50Pta & 25Pta & - & - & 200Pta & - & \[
\begin{gathered}
50 \mathrm{Pta} \\
\text { old }
\end{gathered}
\] & \[
\begin{gathered}
25 \mathrm{Pta} \\
\text { old }
\end{gathered}
\] & - \\
\hline Spain & Coin Controls C220 Parallel & OFF & OFF & ON & ON & & & 100Pta & \[
\begin{gathered}
\text { 50Pta } \\
\text { new }
\end{gathered}
\] & - & \[
\begin{gathered}
25 \mathrm{Pta} \\
\text { new }
\end{gathered}
\] & - & \[
\begin{gathered}
50 \mathrm{Pta} \\
\text { old }
\end{gathered}
\] & - & \[
\begin{gathered}
25 \mathrm{Pta} \\
\text { old }
\end{gathered}
\] & & & & \\
\hline Portugal Euro & Parallel & ON & OFF & ON & ON & & & \[
\begin{gathered}
200 \mathrm{Es} \\
€ 1
\end{gathered}
\] & \[
\begin{gathered}
100 \mathrm{Es} \\
50 \phi \\
\hline
\end{gathered}
\] & 50Es & - & - & - & - & - & & & & \\
\hline & TBA & & & & & OFF & & \multicolumn{5}{|l|}{TBA} & \multicolumn{7}{|l|}{\begin{tabular}{l}
Please Note \\
The excel credit board automatically sets the validator for parallel and binary operation through an output on pin 8 of the 17 way pinstrip. Fot the feature to work it is necessary for the validator interconnecting cable to include at wire at this position
\end{tabular}} \\
\hline & & & & & & ON & & \multicolumn{5}{|l|}{TBA} & \multicolumn{7}{|l|}{} \\
\hline & Channels & & & & & & OFF & \multicolumn{5}{|l|}{Direct Mode} & \multicolumn{7}{|l|}{} \\
\hline & & & & & & & ON & \multicolumn{5}{|l|}{2 channel Mode} & \multicolumn{7}{|l|}{} \\
\hline
\end{tabular}

\footnotetext{
Note: These switch settings are under constant review and may change due to world currency updates.
Set DIL switch 1 according to the option settings found in the relevant Price of Play Settings Table on the following pages.(See 15-5-2.) Set DIL switch 3 on the excel credit board as shown in the table above corresponding to the country required.
}

\section*{15－5－2 CREDIT SETTINGS（DIL SWITCH 1）}

\section*{STERLING PRICE OF PLAY SETTINGS}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{5}{*}{} & in \(\begin{aligned} & \text { I } \\ & \text { S }\end{aligned}\) & 宸 & \[
4 \stackrel{1}{y_{1}^{\prime}}
\] & T & \[
\stackrel{1}{x_{1}}
\] & \[
\mid
\] & \[
\left\lvert\, \frac{14}{1}\right.
\] &  & \[
\begin{gathered}
1 \\
\hline
\end{gathered}
\] & \[
\stackrel{1}{1}
\] & |r|c|c|c|c| &  & \[
5
\] &  & \[
0
\] & \[
\mid
\] & \[
\left\lvert\, \begin{aligned}
& 14 \\
& 0
\end{aligned}\right.
\] & 荷 &  & \[
\frac{1}{1}
\] & Z & Zo & Z & 2 & \[
\overline{6}
\] & \[
3
\] & Z & Z & Z & Z &  & \[
3
\] & \[
3
\] & Z & Z & Z & Z & Z \\
\hline & －\({ }_{\text {崖 }}\) & 宸 & \[
\frac{I}{5}
\] & \[
\frac{1}{1}
\] & 花 & 茳 & \[
\mid
\] & \[
\frac{I}{5} \frac{1}{5}
\] & \[
\stackrel{4}{1}
\] & \[
\stackrel{1}{1}
\] & Z & Z & \[
2
\] & & \[
3
\] & Z & Z & Z & \[
2
\] & \[
3
\] & \[
\left\lvert\, \begin{gathered}
1 / 1 \\
\hline
\end{gathered}\right.
\] & 住 & 侍 & \[
0
\] &  & \[
\stackrel{a}{I}
\] & 告 & 告 & － & Z & \[
5
\] & \[
6
\] & Z & Z & Z & Z & Z & Z \\
\hline & m & \[
\stackrel{\text { 㞬 }}{0}
\] & \[
5
\] & 采 & \[
\begin{gathered}
1 \\
0 \\
0
\end{gathered}
\] & Z & Z &  & Z & Z & \[
\left\lvert\, \begin{aligned}
& \text { 崩 } \\
& \hline
\end{aligned}\right.
\] & \[
\mid
\] &  &  & \[
c_{0}^{4}
\] & Z & Z & Z &  & \[
3
\] & \[
\left|\begin{array}{c}
1 \\
1 \\
0
\end{array}\right|
\] & 餪 & \[
\mid
\] & IT &  & \[
3
\] & Z & Z & Z & \[
0
\] &  & & \[
\mid
\] & \[
\mid
\] & Z & Z & Z & Z \\
\hline & \(\sim \stackrel{1}{1}\) & 告 & \％ & Z & Z & \[
\mid
\] & \[
\stackrel{1}{\top}
\] & \[
5
\] & z & Z & \[
\mid
\] & 宸 & \[
5
\] & \[
32
\] & Z & \[
\left\lvert\, \begin{aligned}
& \frac{1}{15} \\
& \hline 1
\end{aligned}\right.
\] & 宸 & Z &  & \[
3
\] & \[
\left|\begin{array}{c}
1 \\
د_{0}
\end{array}\right|
\] & 告 & 3 &  & & \[
\begin{array}{|c}
1 \\
x_{0} \\
\hline
\end{array}
\] & 告 & Z & 3 &  & & & Z & Z & \[
\left\lvert\, \frac{1}{\sqrt{x}}\right.
\] & 定 & Z & Z \\
\hline & 宸 & Z & \[
8
\] & \[
\frac{1}{1}
\] & Z & \[
\mid
\] & Z &  & \[
1
\] & Z & |r & Z &  &  & Z & \[
\left\lvert\, \frac{14}{|c|}\right.
\] & Z & \[
\stackrel{1}{1}
\] &  & z & \[
\left|\begin{array}{l}
1 \\
\mathrm{~T}_{0}
\end{array}\right|
\] & Z & 佺 & O & & \[
\frac{1}{1}
\] & Z & 告 & Z &  &  & & 告 & Z & \[
\left\lvert\, \frac{1}{r_{0}}\right.
\] & Z & 告 & Z \\
\hline \multirow{3}{*}{气.} &  &  &  &  &  &  &  &  &  &  &  & \(£ 2=6\) plays＠ 33.3 p per play &  &  &  &  &  &  &  & & \[
\left|\begin{array}{c}
n \\
0 \\
0 \\
n \\
n \\
i \\
1 \\
\sim \\
0
\end{array}\right|
\] & N &  & \[
\underset{4}{4}
\] &  & \[
\left|\begin{array}{c}
n \\
\underset{\sim}{c} \\
\underset{\sim}{n} \\
N \\
11 \\
n
\end{array}\right|
\] &  & 会 & \[
\begin{gathered}
\infty \\
\cdots \\
\cdots \\
m \\
n \\
n \\
n
\end{gathered}
\] & 0 & \[
3
\] &  &  &  &  & \(£ 10=2\) plays＠\(£ 5\) per &  & \\
\hline & \(£ 1=10\) plays &  &  &  &  &  &  &  &  &  &  &  &  &  &  &  &  &  &  &  &  &  & \(\frac{11}{41}\) & 4 & &  & \％ & \％ &  & \[
\sqrt{2}=1
\] & & &  &  &  &  & 家 & 会 \\
\hline & \[
\begin{gathered}
n \\
\frac{n}{2} \\
\frac{2}{2} \\
n \\
\text { in } \\
\text { en }
\end{gathered}
\] &  &  &  &  &  &  &  &  &  &  &  &  &  &  &  & \[
\begin{aligned}
& 2 \\
& 2 \\
& \infty \\
& 0 \\
& 0 \\
& 11 \\
& 0 \\
& 0 \\
& 0
\end{aligned}
\] &  &  & \[
\begin{aligned}
& \text { त्} \\
& \text { a } \\
& 0 \\
& 0 \\
& 0 \\
& 10 \\
& 0 . \\
& 0 .
\end{aligned}
\] & \[
\left|\begin{array}{c}
n \\
\frac{n}{2} \\
n \\
n \\
\vdots \\
\frac{n}{2} \\
\frac{2}{3}
\end{array}\right|
\] &  & ＂1180 & &  &  & \[
\begin{gathered}
-1 \\
11 \\
0 \\
0 \\
n \\
\end{gathered}
\] & ＂ & \[
\begin{aligned}
& \| \\
& \stackrel{11}{2} \\
& 0 \\
& \text { x }
\end{aligned}
\] &  &  &  &  &  & \[
\begin{aligned}
& \text { I } \\
& \frac{3}{2} \\
& 0 \\
& 0 \\
& 0 \\
& 11 \\
& 10 \\
& 04
\end{aligned}
\] &  & 免 & \\
\hline \multirow[t]{2}{*}{تِّ} &  &  &  & \[
\stackrel{\wedge}{\mathbf{N}}
\] & స్సి & － & ి্লি &  & \[
\stackrel{e}{2}
\] & \[
\stackrel{\sim}{\mathrm{e}}
\] & \％ & \(\stackrel{7}{7}\) &  & \[
\stackrel{n}{n}
\] & \[
\stackrel{n}{n}
\] & \[
\stackrel{9}{i n}
\] & \％ & 웅 & \[
\stackrel{c}{0}
\] & \[
\stackrel{\infty}{\infty}
\] & \(\stackrel{\sim}{\infty}\) & ＊ & 4 & & \＃ & \[
\frac{\stackrel{i n}{n}}{\substack{m \\ m}}
\] & ！ & \％ & \％ & \％ & 8 & & 4 & \(\cdots\) & \[
\stackrel{\stackrel{\rightharpoonup}{9}}{\stackrel{\rightharpoonup}{9}}
\] & \(\stackrel{?}{8}\) & \(\stackrel{9}{\text { en }}\) & \\
\hline & & \(\sim\) & & \(m\) & ＋ & n & \(\checkmark\) & － & \(\wedge\) & \(\infty\) & の & － & \(=\) & \(=\) & \(\sim\) & \(\cdots\) & \(\pm\) & 1 & & \(\bigcirc\) & ， & \(\propto\) & 9 & & \％ & ন & N & N & N & \(\sim\) & d &  & へ & － & ते & ¢ & m & N \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \(\cdots\) & & & & & & & O O & ¢ 0 & － 0 & & － 0 & &  &  & 2 3 & 27 & 3 Z & & &  & z \({ }_{\text {z }}\) & & & & & z \(z^{2}\) \\
\hline & \(\rightarrow\) & & ¢ \({ }_{\text {¢ }}\) & & ¢ & & & 容 そ & \％ 3 & \％ 6 & Z & Z \(z^{\text {z }}\) & \％ 0 & 亿 3 &  & ¢ & 荌 & ¢ & 0 & & 㟯る & Z 2 & \％ 2 & Z & z & ठ & z \(z^{\text {z }}\) \\
\hline & \(\cdots\) & \％ & \％ & O & Z & & &  & 落菅 & 部 & 菅 & z Z & z \(z^{\circ}\) & z \({ }^{\text {O }}\) &  & 涼告 & 菏眚 & 菅て & z 2 & \％ & 万告 & 晏告 & 咅晏 & 荌 & z & Z & z \(3^{2}\) \\
\hline & & & ¢ 0 & & & & & 2迢 & Ot & \％ & & 訔蒿 & ¢ \({ }_{\text {¢ }}\) & 亿 3 & \(3{ }^{\text {b }}\) & 㟧 \(\square^{\circ}\) & z\％ & 2 \％ & 害容 & Z & る㟯 & 嵲涼 & 告 & Z & － & 嵩 & z \(z^{2}\) \\
\hline & & & － & \％ & & & & Z \({ }_{\text {㟯 }}\) & & & & & & &  & 20 &  & \％㟯 & & & る告 & 䒨 & \％\({ }^{\circ}\) & & ¢ & Z & \\
\hline & & &  &  &  & &  &  &  &  &  &  &  &  &  &  &  &  &  & &  &  &  &  & & & \[
\left[\begin{array}{l}
\frac{\pi}{0} \\
0 \\
0 \\
0 \\
0
\end{array}\right.
\] \\
\hline & 呂 & &  &  &  & &  &  &  &  &  &  &  &  &  &  &  &  &  & &  & \[
\begin{array}{|c|c}
2 \\
0
\end{array}
\] &  & & & & （10y \\
\hline & & &  &  &  &  &  & \[
\begin{gathered}
2 \\
2
\end{gathered}
\] &  &  &  & \[
\begin{aligned}
& 2 \\
& 0
\end{aligned}
\] & \[
\begin{aligned}
& \text { and } \\
& \text { an } \\
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 0 \\
& 0
\end{aligned}
\] &  &  &  &  &  &  & &  & \[
\left\{\begin{array}{l}
20 \\
0 \\
0 \\
0 \\
0 \\
0 \\
0 \\
0
\end{array}\right.
\] &  & & & & \\
\hline & \％ & － & ご & 先 & & & & 号等 & 等妾 & 筞 & 部 & 令妾 & \％ & & \％ & － & － & － & & & ～ & 0 & \(\cdots\) & & & & \\
\hline & & & & & & & & & & & & & & & － & & & & & & & & & & & & \\
\hline
\end{tabular}

\section*{15-6 SETTING THE COIN SELECTOR}

\section*{15-6-1 SR3 COIN SELECTOR}


SR3 COIN SELECTOR

\section*{SELECTING STERLING / EURO OPTION}

The SR3 (supplied) is programmed to accept UK sterling and the Euro. Factory setting is for the UK sterling. If the configuration needs to change to the Euro, then follow the instructions below for changing over to the Euro and visa versa.

\section*{BANK SELECT}

This function allows you to enable both or individual select banks of coins via switches 7 and 8 on the 8 way DIL switch.
This enables the selection of 2 different currencies, one in each bank, or 12 coins/tokens in both banks from the same country.

To enable/disable the banks set the switches as show below.


Both Banks ON (enabled) - Sterling and Euro's


Bank 1 ON (enabled) and Bank 2 OFF (disabled) - Sterling ONLY


Bank 1 OFF (disabled) and Bank 2 ON (enabled) - Euro's ONLY
Remove power from the SR3 before changing the status on the DIP switch.

\section*{TEACH AND RUN PROGRAMMING}

If the machine is positioned in location where only tokens are used, then the SR3 can be programmed to accept and credit special coins/tokens.
The following instructions below to enable and program the TEACH and RUN facility.

Table 1: Teach and Run Programming Bank 1.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \begin{tabular}{c} 
COIN \\
NUMBER
\end{tabular} & SW1 & SW2 & SW3 & SW4 & SW5 & SW6 \\
\hline \(\mathbf{1}\) & OFF & OFF & OFF & ON & ON & OFF \\
\hline \(\mathbf{2}\) & OFF & OFF & ON & OFF & ON & OFF \\
\hline \(\mathbf{3}\) & OFF & OFF & ON & ON & ON & OFF \\
\hline \(\mathbf{4}\) & OFF & ON & OFF & OFF & ON & OFF \\
\hline \(\mathbf{5}\) & OFF & ON & OFF & ON & ON & OFF \\
\hline \(\mathbf{6}\) & OFF & ON & ON & OFF & ON & OFF \\
\hline
\end{tabular}

Table 2: Teach and Run Programming Bank 2
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \begin{tabular}{c} 
COIN \\
NUMBER
\end{tabular} & SW1 & SW2 & SW3 & SW4 & SW5 & SW6 \\
\hline \(\mathbf{7}\) & OFF & ON & ON & ON & ON & OFF \\
\hline \(\mathbf{8}\) & ON & OFF & OFF & OFF & ON & OFF \\
\hline \(\mathbf{9}\) & ON & OFF & OFF & ON & ON & OFF \\
\hline \(\mathbf{1 0}\) & ON & OFF & ON & OFF & ON & OFF \\
\hline \(\mathbf{1 1}\) & ON & OFF & ON & ON & ON & OFF \\
\hline \(\mathbf{1 2}\) & ON & ON & OFF & OFF & ON & OFF \\
\hline
\end{tabular}

\section*{Teach and Run EXAMPLE. (To teach coin channel 12 for £1)}

1 Switch off the power to the SR3 and set the Program DIL switches to:
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \[
\mathrm{ON}
\] & \[
\begin{aligned}
& \text { MSB } \\
& \text { SW1 }
\end{aligned}
\] & SW2 & SW3 & \[
\begin{aligned}
& \text { LSB } \\
& \text { SW4 }
\end{aligned}
\] & TOTAL & SW5 & SW6 \\
\hline  & ON & ON & OFF & OFF & 12 & ON & OFF \\
\hline
\end{tabular}

\footnotetext{
2
Switch on the power to the SR3.
}

Press the reject lever within 20 seconds. The LED will turn RED.

Start entering \(£ 1\) coins until the LED flashes GREEN, typically after 8 to 10 insertions.
NOTE: If the LED turns GREEN after the 1st coin, then the Teach and Run is DISABLED.
Press the reject lever and the LED will turn GREEN. The coin channel has now been programmed.

Set all switches to the off position.

\section*{15-6-2 G-13 COIN SELECTOR}


G-13 COIN SELECTOR

\section*{SELECTING STERLING / EURO OPTION}

If the coin selector is to access the other memory block and, e.g., accept euro coins instead of British national currency coins, the correct block can be selected using the upper switching block:


Memory Block 0 (UK) Selected


Memory Block 1 (Euro) Selected

To select memory block 0 , move DIL switch S1.10 of the upper switching block to the bottom OFF position, for memory block 1 , move it to the upper ON position.

\section*{TEACH AND RUN PROGRAMMING}

In order to generate new acceptance bands you can teach up to eight coin channels using the lower switching block on the coin selector. You will need at least ten coins of the new type. There is a different switch assignment for the double and single block data-management:

\begin{tabular}{|c|l|c|c|}
\hline DIL SWITCH & \multicolumn{1}{|c|}{ FUNCTION } & OFF & ON \\
\hline S2.1 & Coin Channel 9 & - & Teach \\
\hline S2.2 & Coin Channel 10 & - & Teach \\
\hline S2.3 & Coin Channel 11 & - & Teach \\
\hline S2.4 & Coin Channel 12 & - & Teach \\
\hline S2.5 & Coin Channel 13 & - & Teach \\
\hline S2.6 & Coin Channel 14 & - & Teach \\
\hline S2.7 & Coin Channel 15 & - & Teach \\
\hline S2.8 & Coin Channel 16 & - & Teach \\
\hline S2.9 & Teach Mode & OFF & ON \\
\hline S2.10 & Acceptance Band & Normal & Wide \\
\hline
\end{tabular}

By default, the eight teach channels have been programmed, so that one coin impulse is transmitted to the machine via coin signal line 6 , when a new coin is accepted.

\section*{To reassign a coin type to a coin channel, please proceed as follows:}

If you are using the lower switching block to inhibit individual coins, remember the current switch settings so that you can restore them easily for the normal operating mode at the end.

Set all DIL switches 1-10 toward the bottom to OFF.


2
Set DIL switch S2.9 toward the top to ON.


Now the device is in teach mode to teach the coin channels.


Release the coin channel to be taught ( \(9-16\) or \(25-32\), here: 11 or 27 ) by S 2 setting the appropriate
DIL switch (S2.1-8, here: S2.3) toward the top to ON. (See G-13 manual which can be found online.)


Insert at least 10 coins of the new coin type/token into the coin selector or machine.
After the 10th coin has been inserted, the acceptance gate is operated once (brief clacking sound).
Additional coins can be inserted.

NOTE: You must insert at least 11 coins in devices with a wake-up sensor, as the first coin is only used to wake-up the validator and is not valued.
Now you can save the measured values generated by the inserted coins in either a normal (a) or a wide (b) acceptance band. A wide acceptance band is an appropriate choice when you only have a limited selection of coins at your disposal for the purpose of teaching tokens.

To save with the normal acceptance band: 5a) Set DIL switch S2.9 toward the bottom to OFF. Successful saving is signalled by the acceptance gate attracting once, an error when saving is indicated by the acceptance gate attracting twice (brief clacking sounds), if, for example, the acceptance band of the coins inserted and the acceptance band of an already programmed coin channel overlap.

To abort the operation, first set the DIL switch of the respective coin channel (here: S2.3) and then DIL switch S2.9 toward the bottom to OFF.

\section*{16 REPLACING THE FUSE}

\section*{\(\triangle\) WARNING}
- In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.
- In order to prevent an electric shock, be sure to turn power off and unplug from the socket outlet before performing work by touching the internal parts of the product.
- Be careful not to damage the cable. Damaged cables may cause electric shock or short circuit or present a fire risk.
- Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause fire and electric shock accidents.
- After eliminating the cause of the blowing of fuse, replace the fuse. Depending on the cause of fuse blowing, continued use with the fuse as is blown can cause generation of heat and fire hazard.

\section*{\(\triangle\) CAUTION}

For continued protection against risk of fire, replace only with the same type of fuse having the same electrical ratings.

1 Turn the power switch OFF.


Remove the 2 truss screws, unlock the front door L with the master key, and then take it off.


Replace the fuse.


\section*{17 PERIODIC INSPECTION}

In order to maintain the performance of this product and operate it safely, inspect the following items routinely and perform maintenance. Players operate the control unit and the START button by touching them directly with their hands. Clean the control unit and START button on a regular basis and have hand wipes, etc. available to ensure that players will always fully enjoy the game.

\section*{\(\triangle\) WARNING}
- Have work performed by site maintenance personnel or other qualified individuals. Do not allow people without proper knowledge and technical expertise to work on the product. Otherwise there could be an electric shock or other serious accident. Also, customers could be injured while operating the product.
- Be sure to check once a year to see whether power cables are damaged, the plug is securely inserted, dust has accumulated between the socket outlet and the power plug, etc. Using the product with accumulated dust can cause fire and electric shock.
- Periodically, around once a year, get in touch with the office listed in this manual or the point-of-purchase for this product regarding internal cleaning. Using the product with accumulated dust in the interior can cause a fire or accident. Note that professional cleaning will require a fee.
- There is the danger of accidents involving electrical shorts circuits or fire caused by factors such as the deterioration of insulation in electrical and electronic equipment over time. Check that there are no anomalies such as odors from burning.
- Before starting to work, be sure to turn the power off. Working without turning the power off can cause an electric shock or short circuit.
- Do not use a water jet (high pressure washing device) or hose to clean this product. It was not designed to be cleaned by a water jet. Water could get inside and cause electrocution or short circuits. The product could also be damaged in such a way that it is difficult to repair.
- Clean the RINGWIDE once a year. If the RINGWIDE is used as-is with dust built up inside, it could result in malfunction, fire or other accidents.
\begin{tabular}{|c|c|c|c|}
\hline PERIOD & ITEMS & DESCRIPTION & REFERENCE \\
\hline \multirow[b]{2}{*}{As appropriate} & CABINET SURFACES & Cleaning & As below \\
\hline & CONTROL UNIT SURFACES & Cleaning & As above \\
\hline Daily & CABINET & Confirm that adjusters contact floor. & 6-3 \\
\hline \multirow{3}{*}{Weekly} & CONTROL UNIT & Aim test & 6-7-7, 11-7 \\
\hline & \multirow{2}{*}{LCD} & Screen cleaning & 13-2 \\
\hline & & Check screen adjustment. & 13-3 \\
\hline \multirow{12}{*}{Monthly} & \multirow{2}{*}{FRONT CABINET} & Check speaker volume. & 6-7-1 \\
\hline & & Speaker inspection & 6-7-3, S/M \\
\hline & \multirow{2}{*}{CONTROLLER CABINET} & Check each input device. & 6-7-4, 11-3 \\
\hline & & Check each output device. & 6-7-5, 11-4 \\
\hline & \multirow{4}{*}{CONTROL UNIT} & Check speaker volume. & 6-7-1 \\
\hline & & Speaker inspection & 6-7-3, S/M \\
\hline & & Check each input device. & 6-7-4, 11-3 \\
\hline & & Check each output device. & 6-7-5, 11-4 \\
\hline & LED BOARD & LED Inspection & 6-7-6, 11-6 \\
\hline & \multirow{2}{*}{COIN SELECTOR} & Coin switch inspection & Chapter 15 \\
\hline & & Coin insertion test & 15-1 \\
\hline & RINGWIDE & Setting check & S/M \\
\hline Every 3 months & COIN SELECTOR & Cleaning & 15-2 \\
\hline \multirow{3}{*}{1 year} & RINGWIDE & Cleaning & 19-2 \\
\hline & POWER CABLE & Inspection, Cleaning & 6-5 \\
\hline & CABINET INTERIOR & Cleaning & As above \\
\hline
\end{tabular}

\section*{CLEANING THE CABINET SURFACES}

When the cabinet surfaces become dirty, remove stains with a soft cloth soaked in water or diluted (with water) chemical detergent and then wrung dry. To avoid damaging the finish, do not use such solvents as thinner, benzene, etc. (other than ethyl alcohol) or abrasives (bleaching agent and chemical dust-cloth).
Some general-purpose household, kitchen, and furniture cleaning products may contain strong solvents that degrade plastic parts, coatings, and print. Before using any cleaning product, read the product's cautionary notes carefully and test the product first on a small area that is not highly visible.

\section*{18 TROUBLESHOOTING}

\section*{WARNING}
- This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock. If there are no site maintenance personnel or other skilled professionals available, turn the power off immediately and contact the office given in this manual or from the point-of-purchase.
- When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.
- Be careful not to damage the cables. Damaged cables may cause electric shock or short circuit or present a risk of fire.
- If problems other than those covered in this manual arise, or if no improvements can be noted after measures given in this manual have been taken, do not take measures indiscriminately. Cut off the power immediately and contact the office shown in this manual or the dealer from whom the product was originally purchased. Indiscriminate countermeasures could lead to unforeseeable accidents. They could also result in permanent damages. Also, if the power is left on while there is an abnormality, a fire, electric shock or other serious accident can occur.
- After the cause of circuit protector activation has been removed, have the circuit protector re-engaged. If the unit is used continuously as is, there could be heat generation or fire, depending on the cause of the activation.

\section*{stop IMPORTANT}
- If an error message is displayed, identify the cause right away and take the appropriate countermeasures. Leaving the error unaddressed could result in a breakdown.
- If a problem occurs, first inspect the connection of any wiring connectors.
- 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.

\section*{18-1 TROUBLESHOOTING TABLE}
\begin{tabular}{|c|c|c|}
\hline PROBLEMS & CAUSE & COUNTERMEASURES \\
\hline \multirow[t]{3}{*}{With main switch ON, no activation.} & Power is not supplied. & Insert the power plug all the way into the outlet. \\
\hline & Power supply/voltage is not correct. & Make sure that power supply/voltage is correct. \\
\hline & Circuit protector on AC unit was activated due to temporary overload. & Reset the circuit protector after removing the cause of the overload. (See below) \\
\hline \multirow[t]{2}{*}{No sound is generated from the speaker.} & Volume not properly adjusted. & Adjust the sound volume. (See Chapter 9.) \\
\hline & Board and Amplifier malfunctioning. & Contact the customer service center listed in this manual. \\
\hline \multirow[t]{2}{*}{The color on the LCD is incorrect.} & Screen not properly adjusted. & Adjust the screen settings. (See 6-7-2, 13-3.) \\
\hline & LCD trouble & Replace the LCD. (See 13-4.) \\
\hline \multirow[t]{4}{*}{The control unit sighting is not satisfactory.} & Sights are not aligned due to changes in the surrounding environment. & Perform sighting adjustment in the TEST MODE. (See 6-7-7, 11-7.) \\
\hline & LED board trouble & \begin{tabular}{l}
Check that the LEDs are on. If not, replace them. \\
NOTE: In some cases, it can be easierto check the illumination ofLEDs through a cell phone camera / digital camera. (See 18-2.)
\end{tabular} \\
\hline & Sensor unit trouble & Replace the sensor unit. (See 14-5.) \\
\hline & LED board and LED board cover are contaminated. & Wipe off soiled surfaces. (See 18-2.) \\
\hline \multirow[t]{3}{*}{The control unit does not appear to be operating correctly.} & Microswitch trouble & Use an Input Test to make sure they change between ON and OFF. If they do not, exchange the faulty microswitches. (See 11-3, 14-4.) \\
\hline & LED board trouble & \begin{tabular}{l}
Check that the LEDs are on. If not, replace them. \\
NOTE: In some cases, it can be easier to check the illumination of LEDs through a cell phone camera / digital camera. (See 18-2.)
\end{tabular} \\
\hline & Sensor unit trouble & Replace the sensor unit. (See 14-5.) \\
\hline
\end{tabular}

\section*{CIRCUIT PROTECTOR}

Functions due to the activation of bimetal. To restore the function, wait for approximately one minute or longer until the bimetal cools off. (Press the button.)


\section*{18-2 REPLACING THE LED BOARD}

\section*{\(\triangle\) CAUTION}

Removing or attaching of the mask must be carried out by at least 2 people, one on the left and one on the right. A single person working alone can lead to injury.

If the light from the 4 LEDs (red light) cannot be seen then there is a problem or malfunction.
Follow the steps below to replace eht LED board with a new one.
You can also use the following steps to clean the screen.
\[
1 \text { Turn the power switch OFF. }
\]

3
Disconnect the 1 connector.


4
Use short phillips screwdriver to remove the 2 screws and lift the monitor mask to take it off. When performing this task, use 2 or more workers.



Spread out protective material measuring \(1,500 \mathrm{~mm}(59 \mathrm{in})\) by \(1,000 \mathrm{~mm}(39.4)\) in or greater on the floor. When doing so, ensure that no screws or other types of protruding objects have fallen to the ground.


Using 2 or more workers, place the monitor mask slowly on the protective material with its front side facing down.

7
The mask has the LED boards attached. Remove the 2 U-nuts holding the malfunctioning board, disconnect both connectors. Be careful not lose the plastic washer.


Remove the LED board and replace it with a new one. Make sure it is facing the same way as before.

9
If the problematic LED board is in the corner of the mask, remove the 5 screws and remove the joint bracket.

NOTE: The joint bracket has the same parts are the boards along the straight sections of the mask, and there are 2 types.


10
Remove the 2 U-nuts and disconnect both connectors. Be sure not to lose the plastic washers. NOTE: The LED board closest to the YL8P connector only has a connector connected on one side.


11 Remove the LED board and replace it with a new one. Make sure it is facing the same way as before.
12
Refer to Step 2 to 10 and work in reverse order to attach the lower LED cover.

13 Turn the power switch ON.
14 Refer to 11-7 "CONTROLLER ADJUSTMENT" and perform a controller adjustment.

\section*{19 RINGWIDE}

\section*{\(\triangle\) WARNING}
- This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.
- Before starting to work, be sure to turn the power off. Working without turning the power off can cause an electric shock or short circuit.
- Be careful not to damage the cables. Damaged cables may cause electric shock or short circuit or present a risk of fire.
- This product does not use any connectors other than those connected to and used by the RINGWIDE when it leaves the factory. Do not needlessly connect cables to unused connectors. This could lead to overheating, generation of smoke and burn related injuries.

\section*{\(\triangle\) CAUTION}

When opening/closing or attaching or removing the doors or the other parts, be careful that your hand or finger does not get caught in anything.

\section*{stop IMPORTANT}

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.

\section*{19-1 REMOVING THE RINGWIDE}

1 Turn the power switch OFF.
2 Remove the 2 truss screws, unlock the front door \(L\) with the master key, and then take it off.


3 Undo the 2 cord clamps.


4
Disconnect the 4 connectors. When doing so, remove the D-SUB15P connector after first loosening its fastening screws.


5 Disconnect the 4 connectors.


Remove the 2 wing bolts and pull out the wooden base. Be careful not to damage the cables.


7 Place the wooden base on a flat surface and disconnect the 4 connectors. When doing so, remove the D-SUB15P connector after first loosening its fastening screws.


Remove the 4 screws and take off the RINGWIDE.


\section*{19-2 CLEANING THE RINGWIDE}

\section*{STOP IMPORTANT}

\section*{You should clean the RINGWIDE once per year, or when "Error 0090" or "Error 0091" appear. Dust building up within the RINGWIDE creates the risk of faults such as malfunctions.}

Take the RINGWIDE off once a year and use a vacuum cleaner to clean the areas around the intake and exhaust vents and where it is attached to the cabinet.

1 Refer to 19-1 "REMOVING THE RINGWIDE" and take off the RINGWIDE from the cabinet.


Clean around installment parts of RINDWIDE in the cabinet with a vacuum cleaner. Be careful not to damage the cables.

Refer to 19-1 "REMOVING THE RINGWIDE" and work in reverse order to attach the RINGWIDE.

\section*{19-3 COMPOSITION OF THE RINGWIDE}

\section*{STOP IMPORTANT}
- The RINGWIDE becomes the RINGWIDE for this product once the key chip is inserted.
- Use with the dip switches (DIP SW) on the board at the prescribed settings. If settings do not match the product, an error message will be displayed. In some cases, the game cannot be started.


\section*{DIP SW SETTING}

Use this product with the DIP SW settings shown in the figure below.

<For English messages>

<For Russian messages>

\section*{20 ERROR DISPLAY}

\begin{abstract}
WARNING
- If an error is displayed, have the site maintenance personnel or other qualified individuals resolve it. If someone without specialized or technical knowledge attempts to rectify the problem, electric shock, short circuits or fire may result. If there is no site maintenance personnel or other qualified individuals available, turn the power off immediately, and contact your point-of-purchase or the office listed in this manual.
- If problems other than those covered in this manual arise, or if no improvements can be noted after measures given in this manual have been taken, do not take measures indiscriminately. Cut off the power immediately and contact the office shown in this manual or the dealer from whom the product was originally purchased. Indiscriminate countermeasures could lead to unforeseeable accidents. They could also result in permanent damages.
\end{abstract}

\section*{stop IMPORTANT}
- 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.
- Do not turn the power on and off continuously. Repeatedly turning the power on and off may cause product malfunction or parts damage.
\begin{tabular}{|l|l|}
\hline Display Example & \begin{tabular}{l} 
ERROR 4000 \\
JVS INITIALIZE FAILED
\end{tabular} \\
\hline Cause & There is a possibility that the JVS connectors have not been properly connected. \\
\hline Countermeasures & \begin{tabular}{l} 
Confirm the connection of the JVS connectors, and restart the game board. \\
If no improvements can be noted, contact the office shown in this manual
\end{tabular} \\
\hline
\end{tabular}
\begin{tabular}{|l|l|}
\hline Display Example & \begin{tabular}{l} 
ERROR 4001 \\
WRONG COIN ASSIGNMENTS
\end{tabular} \\
\hline Cause & The coin assignment is wrong. \\
\hline Countermeasures & \begin{tabular}{l} 
Set the COIN ASSIGNMENTS settings in SYSTEM TEST MODE as follows: \\
(See Chapter 10.) \\
COIN CHUTE TYPE: COMMON \\
SERVICE TYPE: COMMON
\end{tabular} \\
\hline
\end{tabular}

\section*{21 DESIGN RELATED PARTS}


\section*{22 PARTS LIST}

From among the parts used for the product, regarding the stickers/sheets such as warning and cautionary displays intended for players, and those describing the name of hazard prevention equipment such as the Emergency Stop Button, etc., the official language applicable to the installation location is employed. These stickers/sheets are important parts from the point of view of safety and should be replaced immediately if soiled or peeled off. The Parts List herein contains only the Parts Nos. of stickers/sheets described in English (with suffixed E or EG or UK).

In the case where the asterisk mark "*" is indicated in the note column of the Parts List, that particular part has the applicable official language available. As such, when placing order, ensure that the corresponding official language is available for that particular part. For example, if you desire the stickers/sheets described in French, suffix FR in lieu of UK.

However, note that if a common expression can be used, only one expression is registered for plural official languages and in this case, only one language is available.

The followings are the suffix character(s) of the Parts No. for the corresponding official language;
\begin{tabular}{clllll} 
E or EG or UK: & English & FR: & French & GM: & German \\
SP: & Spanish & PT: & Portuguese & IT: & Italian \\
DU: & Dutch & SW: & Swedish & NW: & Norwegian
\end{tabular}

Note that Parts List herein does not include the individual parts of assemblies and manufactured items. Be sure to understand that inquiries and placing orders as regards the individual parts below may be unacceptable.
- Assemblies only for finished product sales (such as the printed circuit board on which ICs and fuses are mounted). - Manufactured items incorporated for this product (projectors, monitors, etc.). As a rule, the products listed in Item No. 101 - 199 of the Parts List.
- Units which are assembled by employing welding, riveting and adhesives.

\section*{List Formation Chart}
(1) TOP ASSY GST
 (2) \begin{tabular}{l|l}
- AST-1000 \\
FRSNT CABINET
\end{tabular}
(3) GST-1001
ASSY SUB
AC UNIT
CABINET FRONT
(5) GST-1060 ASSY DOOR L
(6) GST-1070 ASSY BACK DOOR
(7) GST-1080 ASSY SPEAKER
(8) 610-0757-02 FAN UNIT
(9) GST-6001 ASSY WIRE FRONT CABINET
(10) GST-1100
(11) GST-1120
ASSY MONITOR GLASS
(12) GST-1140
ASSY MONITOR MASK
(13) GST-1200 \(\qquad\) (14) GST-1220 UPPER LED UNIT ASSY BILLBOARD LED
(15) GST-1240
SIDE LED UNIT
(16) GST-1260
LOWER LED UNIT
(17) GST-1280
ASSY LOWER LED COVER
(18) GST-1300
ASSY UPPER BOARD
(19) GST-1320
ASSY SIDE BOARD L
(20) GST-1340
ASSY SIDE BOARD R
(21) GST-4000
ASSY MAIN BD
(22) GST-4100 ASSY SUB BD
(23) GST-4200 ASSY PWR SPLY
- (24)
ASSY
CONTROLLER
(25) GST-1501 ASSY SUB
(26) GST-1550-01 CABINET CONTROLLER
(27) 610-0804
METER UNIT SINGLE YL ROHS
(28) GST-6002
(1) TOP ASSY GST


Details of "B"

(1) TOP ASSY GST
(D-2/2)
\begin{tabular}{|c|c|c|c|}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1000 & ASSY FRONT CABINET & \\
\hline 2 & GST-1500 & ASSY CONTROLLER CABINET & \\
\hline 3 & GST-0001 & JoInt brkt & \\
\hline 4 & 421-6690-04 & STICKER 230V (230V AREA) & \\
\hline 201 & 030-000835-SB & HEX BLT BLK W/S M8x35 & \\
\hline 202 & 060-F00800-0B & FLT WSHR BLK M8 & \\
\hline 203 & 050-H00400 & HEX NUT M4 & \\
\hline 204 & 060-S00400 & SPR WSHR M4 & \\
\hline 205 & 060-F00400 & FLT WSHR M4 & \\
\hline \multirow[t]{2}{*}{301} & 600-6619-02 & AC CABLE CONNECT TYPE FOR UK & \\
\hline & 600-8073 & AC CABLE FOR UK WECHE & \\
\hline 401 & 220-5793-2-A001 & KEY MASTER A001 & \\
\hline 402 & SGM-4111Y & KEY BAG & \\
\hline 403 & 420-7353-04 & OWNERS MANUAL GST CE & \\
\hline 404 & 420-7210-01 & SERVICE MANUAL RINGWIDE ENG & \\
\hline 405 & 540-0027 & L-WRENCH FOR HEX SOC 2MM & \\
\hline 406 & 605-0157-100 & WH RNG DC OUT DVD DRIVE 100CM & \\
\hline 407 & 509-5080 & SW MICRO TYPE (SS-5GL2) & \\
\hline 408 & 514-5143-200 & FUSE S.B 200MA250V HBC CE ROHS & \\
\hline 409 & 514-5143-2000 & FUSE S.B2000MA250V HBC CE ROHS & \\
\hline 411 & 421-7308-136 & DENOMINATION SHEET BLANK & \\
\hline 412 & 610-0816-0037 & DVD SOFT KIT GST J/E/R & \\
\hline 1 & 440-WS0002XFR & STICKER W POWER OFF FRN & \\
\hline 1 & 440-WS0002XIT & STICKER W POWER OFF ITL & \\
\hline 1 & 440-WS0002XSP & STICKER W POWER OFF SPN & \\
\hline 1 & 440-WS0002XRU & STICKER W POWER OFF RUS & \\
\hline 1 & 440-CS0186XFR & STICKER C EPILEPSY 40 FRN & \\
\hline 1 & 440-CS0186XIT & STICKER C EPILEPSY 40 ITL & \\
\hline 1 & 440-CS0186XSP & STICKER C EPILEPSY 40 SPN & \\
\hline 1 & 440-CS0186XRU & STICKER C EPILEPSY 40 RUS & \\
\hline 1 & 440-CS0378-FR & STICKER C CONTROLLER FRN & \\
\hline 1 & 440-CS0378-IT & STICKER C CONTROLLER ITL & \\
\hline 1 & 440-CS0378-SP & STICKER C CONTROLLER SPN & \\
\hline 1 & 440-CS0378-RU & STICKER C CONTROLLER RUS & \\
\hline 1 & GST-1521-03 & INSTR SHEET FRN & \\
\hline 1 & GST-1521-04 & INSTR SHEET ITL & \\
\hline 1 & GST-1521-05 & INSTR SHEET SPN & \\
\hline 1 & GST-1521-06 & INSTR SHEET RUS & \\
\hline 1 & 421-12669 & STICKER CE WEEE INDOOR & \\
\hline
\end{tabular}
(2) GST-1000

(2) GST-1000

ASSY FRONT CABINET
\begin{tabular}{|c|c|c|c|}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1001 & ASSY SUB CABINET FRONT & \\
\hline 2 & GST-1100 & ASSY MONITOR & \\
\hline 3 & GST-1120 & ASSY MONITOR GLASS & \\
\hline 4 & GST-1140 & ASSY MONITOR MASK & \\
\hline 5 & GST-1200 & UPPER LED UNIT & \\
\hline 6 & GST-1240 & SIDE LED UNIT & \\
\hline 7 & GST-1260 & LOWER LED UNIT & \\
\hline 8 & GST-1280 & ASSY LOWER LED COVER & \\
\hline 9 & GST-1300 & ASSY UPPER BOARD & \\
\hline 10 & GST-1320 & ASSY SIDE BOARD L & \\
\hline 11 & GST-1340 & ASSY SIDE BOARD R & \\
\hline 12 & GST-4000 & ASSY MAIN BD & \\
\hline 13 & GST-4100 & ASSY SUB BD & \\
\hline 14 & GST-4200 & ASSY PWR SPLY & \\
\hline 15 & GST-1013 & GLASS SUPPORT & \\
\hline 16 & GST-1014 & UPPER UNIT COVER & \\
\hline 17 & GST-1015 & LOWER REFLECTION PLATE & \\
\hline 18 & GST-1016 & BOARD BRKT & \\
\hline 19 & GST-1017 & BOARD SUPPORT L & \\
\hline 20 & GST-1018 & BOARD SUPPORT R & \\
\hline 21 & GST-1019 & UPPER BRKT L & \\
\hline 22 & GST-1020 & UPPER BRKT R & \\
\hline 23 & GST-1021 & LOWER BRKT L & \\
\hline 24 & GST-1022 & LOWER BRKT R & \\
\hline 25 & GST-1023 & BILLBOARD PLATE & \\
\hline 26 & GST-1024 & BILLBOARD SASH & \\
\hline 27 & GST-1025X & UPPER COVER L & \\
\hline 28 & GST-1026X & UPPER COVER R & \\
\hline 29 & GST-1027X & LOWER COVER L & \\
\hline 30 & GST-1028X & LOWER COVER R & \\
\hline 31 & GST-1029 & STICKER NOSE L & \\
\hline 32 & GST-1030 & STICKER NOSE R & \\
\hline 33 & GST-1031 & STICKER FRONT & \\
\hline 34 & GST-1032 & STICKER SIDE L & \\
\hline 35 & GST-1033 & STICKER SIDE R & \\
\hline 36 & GST-1034 & STICKER DOOR L & \\
\hline 37 & GST-1035 & STICKER DOOR R & \\
\hline 38 & 440-WS0002YEG & STICKER W POWER OFF ENG & \\
\hline 39 & 440-CS0186XEG & STICKER C EPILEPSY 40 ENG & \\
\hline 40 & 421-11416 & STICKER CAUTION FORK & \\
\hline 201 & 030-000630-S & HEX BLT W/S M6x30 & \\
\hline 202 & 068-652016 & FLT WSHR 6.5-20 x1.6 & \\
\hline 203 & 000-P00512-W & M SCR PH W/FS M5x12 & \\
\hline 204 & 000-P00420-WB & M SCR PH W/FS BLK M4x20 & \\
\hline 205 & 000-P00416-WB & M SCR PH W/FS BLK M \(4 \times 16\) & \\
\hline
\end{tabular}
(2) GST-1000

\section*{ASSY FRONT CABINET}
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 206 & \(000-\) T00408-0C & M SCR TH CRM M4×8 & \\
207 & \(000-\) P00520-WB & M SCR PH W/FS BLK M5 \(\times 20\) & \\
208 & \(000-\) P00516-WB & M SCR PH W/FS BLK M5x16 & \\
209 & \(032-000430\) & WING BLT M4x30 & \\
210 & \(060-\) F00400 & FLT WSHR M4 & \\
211 & \(060-\) S00400 & SPR WSHR M4 & \\
212 & \(000-\) T00408-0B & M SCR TH BLK M4×8 & \\
213 & \(068-441616-0 B\) & FLT WSHR BLK 4.4-16x1.6 & \\
214 & \(000-\) T00416-0C & M SCR TH CRM M4×16 & \\
215 & \(050-H 00400\) & HEX NUT M4 &
\end{tabular}
(3) GST-1001

(3) GST-1001

ASSY SUB CABINET FRONT
\begin{tabular}{|c|c|c|c|}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1050 & AC UNIT & \\
\hline 2 & GST-1060 & ASSY DOOR L & \\
\hline 3 & GST-1070 & ASSY BACK DOOR & \\
\hline 4 & GST-1080 & ASSY SPEAKER & \\
\hline 5 & 610-0757-02 & FAN UNIT & \\
\hline 6 & GST-1002 & CABINET FRONT & \\
\hline 7 & 117-5464-080 & NUT PLATE 2-M8-080 & \\
\hline 8 & GST-1004 & HOLDER BRKT L & \\
\hline 9 & GST-1005 & HOLDER BRKT R & \\
\hline 10 & GST-1006 & DOOR R & \\
\hline 11 & GST-1007 & BACK LID & \\
\hline 12 & GST-1008 & FAN STAY & \\
\hline 13 & GST-1009 & MASK GUIDE & \\
\hline 14 & GST-1010 & MASK BRKT & \\
\hline 15 & GST-1011 & LOWER COVER BRKT & \\
\hline 16 & ARC-1006 & LEG BRACKET & \\
\hline 17 & 117-5233-91 & PLATE LEG BRACKET BLACK & \\
\hline 18 & 117-5465 & CASTER NUT PLATE & \\
\hline 19 & 117-5098-91 & TNG RETAINER PLATE & \\
\hline 20 & 253-5460-01 & AIR VENT BLACK & \\
\hline 21 & 253-5396-91 & CABINET HANDLE & \\
\hline 22 & 105-5639 & EARTH PLATE & \\
\hline 23 & 837-15093-01 & IC BD LED DRVR CONT RS232 & \\
\hline 101 & 601-5699x & LEG ADJUSTER BOLT M16X75 & \\
\hline 102 & 601-12677 & CASTER D75H97 FREE ML-330N & \\
\hline 103 & 560-5599 & XFMR 100-240V 100V 7.5A EI & \\
\hline 104 & 280-5009-02-91 & CORD CLAMP 21 CN & \\
\hline 105 & 280-5208 & HARNESS LUG CC-1007 & \\
\hline 106 & 270-5117 & FERRITE CORE TDK ZCAT3035-1330 & \\
\hline 201 & 000-T00420-0B & M SCR TH BLK M4x 20 & \\
\hline 202 & 000-T00430-0B & M SCR TH BLK M \(4 \times 30\) & \\
\hline 203 & 000-P00416-WB & M SCR PH W/FS BLK M \(4 \times 16\) & \\
\hline 204 & 050-F00400 & FLG NUT M4 & \\
\hline 205 & 011-T03512 & TAP SCR TH \(3.5 \times 12\) & \\
\hline 206 & 030-000830-S & HEX BLT W/S M \(8 \times 30\) & \\
\hline 207 & 060-F00800 & FLT WSHR M8 & \\
\hline 208 & 030-000630-SB & HEX BLT BLK W/S M6x30 & \\
\hline 209 & 011-P00325 & TAP SCR PH \(3 \times 25\) & \\
\hline 210 & 050-H01600-3 & HEX NUT TYPE3 M16 & \\
\hline 211 & 000-P00520-W & M SCR PH W/FS M5x20 & \\
\hline 212 & 011-F00312 & TAP SCR \#1 FH 3x12 & \\
\hline 213 & 050-H00400 & HEX NUT M4 & \\
\hline 214 & 060-S00400 & SPR WSHR M4 & \\
\hline 215 & 060-F00400 & FLT WSHR M4 & \\
\hline 216 & 068-441616-0B & FLT WSHR BLK 4.4-16x1.6 & \\
\hline
\end{tabular}
(3) GST-1001

ASSY SUB CABINET FRONT
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 217 & \(068-552016\) & FLT WSHR 5.5-20 x1.6 & \\
301 & GST-6001 & ASSY WIRE FRONT CABINET & \\
302 & GST-60071X & WH XFMR IN & \\
303 & GST-60072X & WH XFMR OUT & \\
304 & GST-60073X & WH AC CABINET & \\
305 & GST-60074 & WH AC FAN & \\
306 & GST-60075 & WH LED CTRL BD ID & \\
307 & GST-60076 & WH AC GAME BD & \\
308 & \(600-6972-0820\) & WIRE HARN EARTH ID5 0820MM & \\
309 & \(600-8116-1300\) & WH 40U ID5 1300MM & \\
310 & \(600-8097-100-11\) & CA 3.5PLUG 3P X2 100CM SS YG & \\
311 & \(600-8020-100-11\) & CA 3.5PLUG 3P X2 100CM SS YG & \\
312 & \(600-8097-100-12\) & CA 3.5PLUG 3P X2 100CM SS BK & \\
& \(600-8020-100-12\) & CA 3.5PLUG 3P X2 100CM SS BK & \\
313 & \(600-8098-200\) & ASSY RGB CA D-SUB 15P 200CM & \\
& \(600-7009-2000\) & ASSY RGB CA D-SUB 15P 2000MM & \\
& \(600-8099-150\) & CABLE 200 & ASSY RGB CA D-SUB 15P 200CM \\
& \(600-7141-91-150\) & CABLE JVS TYPE A-B 150CM &
\end{tabular}
(4) GST-1050

AC UNIT

(4) GST-1050
(D-2/2) AC UNIT
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1051 & AC BRKT & \\
2 & \(421-7468-02\) & STICKER C.P W/PIC & \\
3 & \(421-8202\) & STICKER EARTH MARK & \\
4 & SRC-1542 & INLET SUPPORT \\
101 & \(214-0202\) & AC INLET PANEL TYPE & \\
102 & \(512-5046-91-05\) & C.P 5A CE UL NRW10-5A-TK2421 \\
103 & \(509-6102-\) V-B & SW ROCKER J8 V-B AJ8202BF & \\
104 & \(270-5115\) & NOISE FILTER 15A GT-215J & \\
105 & \(280-7881\) & CORD CLAMP SR10 CN & \\
& & & \\
201 & \(000-P 00406-\) WB & M SCR PH W/FS BLK M4x6 & \\
202 & \(050-H 00400\) & HEX NUT M4 & \\
203 & FAS-600040 & SPR WSHR STN M4 & \\
204 & FAS-600033 & FLT WSHR STN M4 & \\
205 & FAS-000266 & M SCR PH STN M4x8 & \\
301 & GST-60001 & WH AC UNIT IN & \\
302 & GST-60002 & WH AC UNIT OUT \\
303 & GST-60003 & WH AC UNIT EARTH &
\end{tabular}
(5) GST-1060

ASSY DOOR L

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1061 & DOOR L & \\
2 & DP-1148X & LKG TNG & \\
3 & \(117-0062\) & PLATE LOCK RETAINER & \\
101 & \(220-5793-1-A 001\) & CLY LOCK MASTER W/O KEY A001 &
\end{tabular}
(6) GST-1070

ASSY BACK DOOR

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1071 & BACK DOOR & \\
2 & \(253-5460-01\) & AIR VENT BLACK & \\
201 & \(000-T 00420-0 B\) & M SCR TH BLK M4x20
\end{tabular}
(7) GST-1080

ASSY SPEAKER

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1081 & WOODEN BASE SPKR & \\
2 & GST-1082 & SPEAKER BRKT & \\
101 & \(130-5265\) & SPEAKER BOX W/WOOFER & \\
201 & \(000-\) P00416-W & M SCR PH W/FS M4×16 & \\
202 & \(000-\) P00525-W & M SCR PH W/FS M5x25 & \\
203 & \(068-552016\) & FLT WSHR \(5.5-20 \times 1.6\) &
\end{tabular}
(8) 610-0757-02

FAN UNIT


NOTE: Use thread sealant on screw components.
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & \(105-5561-91\) & FAN BRKT & \\
101 & \(260-0011-03-91\) & AXIAL FLOW FAN AC100V 50-60HZ \\
102 & \(601-8543\) & FAN GUARD & \\
201 & \(000-P 00312-W\) & M SCR PH W/FS M3x12
\end{tabular}
(9) GST-6001

\section*{ASSY WIRE FRONT CABINET}
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 101 & \(601-0460\) & PLASTIC TIE BELT 100 M/M & \\
301 & GST-61001 & WH ELEC DC EXT & \\
302 & GST-61002 & WH LED UNIT PWR & \\
303 & GST-61003 & WH IO BD DC EXT & \\
304 & GST-61004 & WH SPEAKER & \\
305 & GST-61005 & WH COIN EXT & \\
306 & GST-61006 & WH SW BD EXT & \\
307 & GST-61007 & WH CONTROL PANEL EXT & \\
308 & GST-61008 & WH HOLDER LAMP EXT & \\
309 & GST-61009 & WH LED CTRL BD PWR IN & \\
310 & GST-61010 & WH BILLBOARD EXT & \\
311 & GST-61011 & WH MASK EXT & \\
312 & GST-61012 & WH LED CTRL BD SIG & \\
313 & GST-61013 & WH CONTROLLER 1P EXT & \\
314 & GST-61014 & WH CONTROLLER 2P EXT & \\
315 & 600-8116-0550 & WH 40U ID5 0550MM &
\end{tabular}
(10) GST-1100

ASSY MONITOR

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1101 & MONITOR BRKT UPPER & \\
2 & GST-1102 & MONITOR BRKT L & \\
3 & GST-1103 & MONITOR BRKT R & \\
4 & GST-1104 & MONITOR BRKT LOWER & \\
101 & \(200-6197\) & LCD DSPL 55 TYPE Y & \\
201 & \(000-\) P00408-W & M SCR PH W/FS M4x8 & \\
202 & \(000-\) P00512-W & M SCR PH W/FS M5x12 &
\end{tabular}
(11) GST-1120

ASSY MONITOR GLASS

\begin{tabular}{cll}
\hline ITEM NO. & PART NO. & DESCRIPTION
\end{tabular} NOTE

(12) GST-1140

ASSY MONITOR MASK
\begin{tabular}{cll}
\hline ITEM NO. & PART NO. & DESCRIPTION \\
\hline & NOTE \\
1 & GST-1141 & UPPER MASK \\
2 & GST-1142 & SIDE MASK \\
3 & GST-1143 & LOWER MASK \\
4 & GST-1144 & MONITOR SPONGE A \\
5 & GST-1145 & MONITOR SPONGE B \\
6 & HDF-0534 & MASK JOINT BRKT L \\
7 & HDF-0535 & MASK JOINT BRKT R \\
8 & JPT-1082Y & IR COVER \\
& & \\
101 & \(838-15119\) & LED BD HFN G.SENSE GLG \\
102 & \(280-7881\) & CORD CLAMP SR10 CN \\
& & \\
201 & \(000-\)-P00408-W & M SCR PH W/FS M4x8 \\
202 & \(050-\)-00300 & U NUT M3 \\
203 & \(069-000034-P N ~\) & FLT WSHR PLASTIC BLK 3-8×1 \\
204 & FAS-680016 & FLT WSHR NI 3-10x0.5 \\
205 & \(050-H 00400\) & HEX NUT M4 \\
206 & \(060-S 00400\) & SPR WSHR M4 \\
207 & \(060-F 00400\) & FLT WSHR M4 \\
& & \\
301 & GST-60041 & WH MASK1 \\
302 & GST-60042 & WH MASK2 \\
303 & GST-60043 & WH MASK3
\end{tabular}
(13) GST-1200

UPPER LED UNIT

\begin{tabular}{cll}
\hline ITEM NO. & PART NO. & DESCRIPTION \\
\hline 1 & GST-1220 & NOTE \\
2 & GST-1201 & ASSY BILLBOARD LED \\
3 & \(837-15141\) & LED BD RGB X15 SPI GST S \\
4 & GST-1202 & UPPER UNIT SPONGE A \\
5 & GST-1203 & UPPER UNIT SPONGE B \\
6 & GST-1204 & UPPER UNIT SPONGE C \\
7 & GST-1205 & UPPER UNIT SPONGE D \\
& & \\
101 & \(280-7881\) & CORD CLAMP SR10 CN \\
& & \\
201 & \(050-F 00400\) & FLG NUT M4 \\
202 & \(000-P 00306-W B\) & M SCR PH W/FS BLK M3x6 \\
203 & \(050-H 00400\) & HEX NUT M4 \\
204 & \(060-S 00400\) & SPR WSHR M4 \\
205 & \(060-F 00400\) & FLT WSHR M4 \\
301 & GST-60053 & \\
302 & GST-60054 & WH LED PWR DAISY CHAIN \\
303 & GST-60055 & WH LED SIG DAISY CHAIN \\
304 & GST-60056 & WH LED UNIT PWR OUT \\
305 & GST-60059 & WH UPPER LED PWR IN \\
306 & GST-60060 & WH UPPER LED SIG IN
\end{tabular}
(14) GST-1220

\section*{ASSY BILLBOARD LED}

\begin{tabular}{cll}
\hline ITEM NO. & PART NO. & DESCRIPTION
\end{tabular} NOTE
(15) GST-1240

SIDE LED UNIT

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1241 & SIDE UNIT BASE & \\
2 & GST-1242 & SIDE UNIT SASH & \\
3 & GST-1243 & SIDE UNIT COVER & \\
4 & GST-1244 & SIDE UNIT INSIDE COVER & \\
5 & \(837-15141\) & LED BD RGB X15 SPI GST S & \\
6 & \(837-15142\) & LED BD RGB X5 SPI GST S & \\
& & & \\
101 & \(280-7881\) & CORD CLAMP SR10 CN & \\
201 & \(000-T 00408-0 B\) & M SCR TH BLK M4x8 & \\
202 & \(000-\) P00306-WB & M SCR PH W/FS BLK M3x6 & \\
203 & \(050-H 00400\) & HEX NUT M4 \\
204 & \(060-S 00400\) & SPR WSHR M4 & \\
205 & \(060-F 00400\) & FLT WSHR M4 & \\
301 & GST-60053 & WH LED PWR DAISY CHAIN & \\
302 & GST-60054 & WH LED SIG DAISY CHAIN & \\
303 & GST-60057 & WH LED UNIT PWR IN & \\
304 & GST-60058 & WH LED UNIT SIG IN &
\end{tabular}
(16) GST-1260

LOWER LED UNIT

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1261 & LOWER LED BRKT & \\
2 & \(837-15141\) & LED BD RGB X15 SPI GST S & \\
101 & \(280-7881\) & & \\
& & CORD CLAMP SR10 CN & \\
201 & \(000-P 00306-\) WB & M SCR PH W/FS BLK M3x6 & \\
202 & \(050-H 00400\) & HEX NUT M4 \\
203 & \(060-\) S00400 & SPR WSHR M4 & \\
204 & \(060-\) F00400 & FLT WSHR M4 & \\
301 & GST-60051 & WH LOWER LED PWR IN & \\
302 & GST-60052 & WH LOWER LED SIG IN & \\
303 & GST-60053 & WH LED PWR DAISY CHAIN & \\
304 & GST-60054 & WH LED SIG DAISY CHAIN & \\
305 & GST-60055 & WH LED UNIT PWR OUT & \\
306 & GST-60056 & WH LED UNIT SIG OUT &
\end{tabular}
(17) GST-1280

ASSY LOWER LED COVER

(18) GST-1300

ASSY UPPER BOARD

(19) GST-1320

ASSY SIDE BOARD L

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1321 & SIDE BOARD L & \\
2 & GST-1322 & SIDE BOARD COVER & \\
3 & GST-1323 & SIDE REFLECTION PLATE & \\
4 & GST-1324 & STICKER PILLAR \\
201 & \(000-P 00420-W B\) & M SCR PH W/FS BLK M4×20 & \\
202 & \(011-T 03510\) & TAP SCR TH 3.5×10
\end{tabular}
(20) GST-1340

ASSY SIDE BOARD R


NOTE: 1. Wiring prohibited in shaded areas in the diagram.
(21) GST-4000

ASSY MAIN BD
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-4001 & WOODEN BASE MAIN BD & \\
2 & \(847-0001\)-02 & ASSY CASE WDE W 1GB EXP & \\
& & \\
101 & \(400-5483\) & SW REGU EADP-130CF A DELTA & \\
102 & \(280-6681\) & L-LOCK LT-320PCG & \\
103 & \(280-5009-02-91\) & CORD CLAMP 21 CN & \\
104 & \(280-5208\) & HARNESS LUG CC-1007 & \\
& & & \\
201 & \(000-\) P00416-W & M SCR PH W/FS M4x16 & \\
202 & \(011-\) F00312 & TAP SCR \#1 FH 3x12 & \\
203 & \(011-T 03516\) & TAP SCR TH 3.5x16 & \\
204 & \(011-T 03512\) & TAP SCR TH 3.5x12 & \\
205 & \(000-P 00306-W\) & M SCR PH W/FS M3x6 & \\
301 & \(600-8030-0300\) & WH WDE PWR VH8P TO VH8P 300MM & \\
302 & GST-60022X & WH GAME BD DC OUT & \\
303 & GST-60023 & WH LED CTRL BD SIG OUT & \\
304 & GST-60024 & WH AC SW RGLTR DELTA &
\end{tabular}

(22) GST-4100
(D-2/2)
ASSY SUB BD
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline & & \\
2 & GST-4101 & WOODEN BASE SUB BD \\
3 & \(837-14572\) & I/O CONTROL BD 3 FOR JVS COM \\
3 & \(839-1243 R\) & FUSE BD CTF \\
4 & \(839-1383\) & CLASS D 10W STEREO AMP MAXIM \\
5 & \(105-5670\) & FUSE STICKER PLATE \\
6 & \(421-12216-0200\) & STICKER FUSE LF215 T 0.2A \\
7 & \(421-12216-2000\) & STICKER FUSE LF215 T 2A \\
8 & \(440-C S 0282\) YEG & STICKER C FUSE REPLACEMENT ENG \\
& & \\
101 & \(838-15118-91\) & IC BD G.SENSE HF(OMC-GZH200HF) \\
102 & \(838-14988\) & 2CH 30W AUDIO AMP ST \\
103 & \(280-5009-02-91\) & CORD CLAMP 21 CN \\
104 & \(280-5208\) & HARNESS LUG CC-1007 \\
& & \\
201 & \(011-P 00325\) & TAP SCR PH 3x25 \\
202 & \(011-F 00312\) & TAP SCR \#1 FH 3x12 \\
203 & \(011-T 03512\) & TAP SCR TH 3.5x12 \\
& & \\
301 & GST-60031 & WH IO BD DC IN \\
302 & GST-60032 & WH ELEC DC IN \\
303 & GST-60033 & WH SENSOR BD DC IN \\
304 & GST-60034 & WH IO BD OUTPUT \\
305 & GST-60035 & WH IO BD SIG \\
306 & GST-60036 & WH MASK OUT \\
307 & GST-60037 & WH SOUND OUT \\
308 & GST-60038 & WH CONTROLLER 1P \\
309 & GST-60039 & WH CONTROLLER 2P \\
310 & RMB-60047 & WH SENSOR FREQ ELEC BD
\end{tabular}

(23) GST-4200

ASSY PWR SPLY
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-4201 & WOODEN BASE PWR SPLY \\
2 & \(105-5639\) & EARTH PLATE & \\
101 & \(400-5464-07505\) & SW REGU VS75B-5 \\
102 & \(400-5464-05012\) & SW REGU V550B-12 \\
103 & \(400-5464-07524\) & SW REGU VS75B-24 \\
104 & \(838-14551\) & DISTRIBUTION BD \\
105 & \(280-6681\) & L-LOCK LT-320PCG \\
106 & \(280-5009-02-91\) & CORD CLAMP 21 CN \\
107 & \(280-5208\) & HARNESS LUG CC-1007 \\
108 & \(270-5117\) & FERRITE CORE TDK ZCAT3035-1330 \\
& & \\
201 & \(000-P 00306-W\) & M SCR PH W/FS M3x6 \\
202 & \(011-\) P00325 & TAP SCR PH 3x25 \\
203 & \(011-\) T03516 & TAP SCR TH 3.5x16 \\
204 & \(011-F 00312\) & TAP SCR \#1 FH 3x12 \\
205 & \(011-T 03512\) & TAP SCR TH 3.5x12 \\
206 & \(050-H 00400\) & HEX NUT M4 \\
207 & \(060-S 00400\) & SPR WSHR M4 \\
208 & \(060-F 00400\) & FLT WSHR M4 \\
& & \\
301 & GST-60011 & WH AC IN \\
302 & GST-60012 & WH AC OUT \\
303 & GST-60013 & WH AC SW RGLTR \\
304 & GST-60014X & WH ELEC DC OUT \\
305 & GST-60015X & WH LED UNIT PWR OUT
\end{tabular}

(24) GST-1500

ASSY CONTROLLER CABINET
\begin{tabular}{|c|c|c|c|}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1501 & ASSY SUB CABINET CONTROLLER & \\
\hline 2 & GST-1600 & ASSY LED & \\
\hline 3 & GST-2000 & ASSY CTRL PANEL & \\
\hline 4 & GST-2100-01 & CONTROL UNIT W/SUPPORT & \\
\hline 6 & GST-1509 & LED COVER & \\
\hline 7 & GST-1510 & CONTROLLER HOLDER L & \\
\hline 8 & GST-1511 & CONTROLLER HOLDER R & \\
\hline 9 & GST-1512 & STICKER UPPER SIDE L & \\
\hline 10 & GST-1513 & STICKER UPPER SIDE R & \\
\hline 11 & GST-1514 & STICKER LOWER SIDE L & \\
\hline 12 & GST-1515 & STICKER LOWER SIDE R & \\
\hline 13 & GST-1516 & STICKER CONTROLLER 1P & \\
\hline 14 & GST-1517 & STICKER CONTROLLER 2P & \\
\hline 15 & GST-1518 & STICKER SCOPE 1P & \\
\hline 16 & GST-1519 & STICKER SCOPE 2P & \\
\hline 17 & GST-1520 & STICKER CTRL CABI FRONT & \\
\hline 18 & GST-1521-01 & INSTR SHEET ENG & \\
\hline 19 & 253-5366 & CASH BOX & \\
\hline 20 & 105-5635 & TNG LKG FOR 220-5830 & \\
\hline 21 & 421-11416 & STICKER CAUTION FORK & \\
\hline 22 & 440-CS0378-EG & STICKER C CONTROLLER ENG & \\
\hline 23 & CPT-1017 & CABLE CLAMP & \\
\hline 101 & 220-5830 & COIN 2DR FR SUZO 65-0200-070F & \\
\hline 102 & 220-5793-1-A001 & CLY LOCK MASTER W/O KEY A001 & \\
\hline 104 & 310-5029-F20 & SUMITUBE F F 20MM & \\
\hline 105 & 280-5009-02-91 & CORD CLAMP 21 CN & \\
\hline 106 & 280-7881 & CORD CLAMP SR10 CN & \\
\hline 201 & FAS-290070 & HEX SKT ELH CAP SCR STN M \(4 \times 16\) & \\
\hline 202 & FAS-600015 & FLT WSHR CRM M4 & \\
\hline 203 & 060-S00400-0C & SPR WSHR CRM M4 & \\
\hline 204 & 000-P00425-W & M SCR PH W/FS M4x25 & \\
\hline 205 & 031-000425-0B & CRG BLT BLK M \(4 \times 25\) & \\
\hline 206 & 050-F00400 & FLG NUT M4 & \\
\hline 207 & 008-T00420-0B & TMP PRF SCR TH BLK M \(4 \times 20\) & \\
\hline 208 & 008-T00425-0B & TMP PRF SCR TH BLK M \(4 \times 25\) & \\
\hline 209 & 008-T00408-0B & TMP PRF SCR TH BLK M \(4 \times 8\) & \\
\hline 210 & 050-H00400 & HEX NUT M4 & \\
\hline 211 & 000-T00416-0C & M SCR TH CRM M \(4 \times 16\) & \\
\hline 301 & SRC-60113 & WH COIN LAMP UK & \\
\hline 1 & 220-5831 & CASH DOOR FOR 220-5830 & \\
\hline 1 & 220-5769 & ELEC C.C SR3 FOR CE & \\
\hline
\end{tabular}
(25) GST-1501
(D-1/2)
ASSY SUB CABINET CONTROLLER

(25) GST-1501

ASSY SUB CABINET CONTROLLER
\begin{tabular}{|c|c|c|}
\hline ITEM NO. & PART NO. & DESCRIPTION NOTE \\
\hline 1 & GST-1550-01 & SW UNIT CE \\
\hline 2 & 610-0804 & METER UNIT SINGLE YL ROHS \\
\hline 3 & GST-1502 & CONTROLLER CABINET \\
\hline 4 & GST-1503 & CASTER PLATE \\
\hline 5 & GST-1504 & JOINT NUT PLATE \\
\hline 6 & GST-1505 & LID \\
\hline 7 & GST-1506 & FOOT BASE \\
\hline 8 & GST-1507 & CONTROLLER HOOK \\
\hline 9 & GST-1508 & HOLDER BRKT \\
\hline 12 & 105-5592-05 & CHUTE PLATE SR3 SHORT \\
\hline 13 & 105-5637-01 & LOCK BRKT W FOR CE \\
\hline 14 & 117-5464-060 & NUT PLATE 2-M8-060 \\
\hline 101 & 601-5699x & LEG ADJUSTER BOLT M16X75 \\
\hline 102 & 601-11954 & CASTER 50MM CONSULT-004 FREE \\
\hline 103 & 601-11953 & CASTER 50MM CONSULT-003 FIX \\
\hline 104 & 280-5009-02-91 & CORD CLAMP 21 CN \\
\hline 201 & 000-P00420-WB & M SCR PH W/FS BLK M \(4 \times 20\) \\
\hline 202 & 011-T03512 & TAP SCR TH \(3.5 \times 12\) \\
\hline 203 & 000-T00430-0B & M SCR TH BLK M4x30 \\
\hline 204 & 030-000830-SB & HEX BLT W/S BLK M \(8 \times 30\) \\
\hline 205 & 068-852216-0B & FLT WSHR BLK 8.5-22x1.6 \\
\hline 206 & 000-F00416 & M SCR FH M \(4 \times 16\) \\
\hline 207 & 011-F00312 & TAP SCR \#1 FH \(3 \times 12\) \\
\hline 209 & 050-F00400 & FLG NUT M4 \\
\hline 210 & 000-P00416-WB & M SCR PH W/FS BLK M \(4 \times 16\) \\
\hline 211 & 050-H01600 & HEX NUT M16 \\
\hline 212 & 030-000612-S & HEX BLT W/S M6x12 \\
\hline 213 & 030-000630-S & HEX BLT W/S M6x30 \\
\hline 214 & 050-H00400 & HEX NUT M4 \\
\hline 215 & 060-S00400 & SPR WSHR M4 \\
\hline 216 & 060-F00400 & FLT WSHR M4 \\
\hline 217 & 000-P00408 & M SCR PH M \(4 \times 8\) \\
\hline 218 & 068-441616-0B & FLT WSHR BLK 4.4-16x1.6 \\
\hline 301 & GST-6002 & ASSY WIRE CONTROLLER CABINET(25) \\
\hline
\end{tabular}
(26) GST-1550-01 SW UNIT CE

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & \(105-5669-02\) & SW BRKT CE FOR 2VOL & \\
2 & \(421-12866\) & STICKER SW PANEL FOR 2VOL & \\
3 & \(421-9168-01\) & STICKER COIN METER & \\
101 & \(838-15159-01\) & SW \& VOL X2 BD 1K 1K & \\
102 & \(838-14402\) & ELEC COIN BD EXCEL & \\
103 & \(280-6681\) & L-LOCK LT-320PCG & \\
104 & \(220-5797-01\) & MAG CNTR 4P MZ674-DC12V-D28 & \\
105 & \(280-5009-02-91\) & CORD CLAMP 21 CN & \\
201 & \(000-\)-00306-W & M SCR PH W/FS M3x6 & \\
202 & \(000-P 00312-W\) & M SCR PH W/FS M3X12 & \\
301 & GST-60101 & WH SW BD & \\
302 & GST-60102 & WH EXCEL BD &
\end{tabular}
(27) 610-0804

METER UNIT SINGLE YL ROHS


ITEM NO. PART NO. DESCRIPTION NOTE

1 OCN-1521X METER BRKT
2 421-9168-01 STICKER COIN METER

101 220-5798-01 MAG CNTR 4P MZ674-DC5V-D41 JC
(28) GST-6002

ASSY WIRE CONTROLLER CABINET
This is comprised of the following wire harnesses. ASSY drawing is not available.
\begin{tabular}{cll}
\hline ITEM NO. & PART NO. & DESCRIPTION
\end{tabular} NOTE
(29) GST-1600

ASSY LED

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-1601 & LED BRKT \\
2 & GST-1602 & LED PLATE & \\
101 & \(838-14972-04\) & LED BD WHITE 3x4BLOCK & \\
102 & \(280-7896-05\) & SPACER WN-05G (HIROSUGI) \\
103 & \(280-7881\) & CORD CLAMP SR10 CN \\
201 & \(000-P 00416-W\) & M SCR PH W/FS M4x16 & \\
202 & \(000-P 00406-W B\) & M SCR PH W/FS BLK M4x6 & \\
301 & GST-60131 & WH HOLDER LAMP & \\
302 & \(600-8116-1600\) & WH 40U ID5 1600MM
\end{tabular}
(30) GST-2000

ASSY CTRL PANEL

\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-2001 & CTRL PANEL PLATE & \\
2 & \(421-12617-01\) & LED STICKER 12V & \\
101 & \(509-6287\) & SW BLC-TN-BK-C-CR T103-R-12V & \\
301 & GST-60111 & WH CONTROL PANEL &
\end{tabular}
(31) GST-2100-01

\section*{CONTROL UNIT W/SUPPORT}


NOTE: 1. In (202) and (203), the screws attached to
(1) should first be removed before attaching.
2. The tightening torque is \(\mathrm{M} 3: 0.65 \mathrm{~N} \cdot \mathrm{~m}\).
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GST-2100 & CONTROL UNIT & \\
2 & GST-2151 & CONT SUPPORT BRKT A & \\
3 & GST-2152 & CONT SUPPORT BRKT B & \\
4 & GST-2153 & CONT SUPPORT BRKT C & \\
5 & GST-2154 & CONT SUPPORT BRKT D & \\
& & & \\
201 & FAS-290122 & HEX SKT SCR FH STN M3×8 & \\
202 & FAS-290123 & HEX SKT SCR FH STN M3x16 & \\
203 & FAS-290124 & HEX SKT SCR FH STN M3x20 &
\end{tabular}

(32) GST-2100
\begin{tabular}{|c|c|c|c|}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 1 & GLG-2130X & SENSOR UNIT (OMJ-GZH200HFXA) & \\
\hline 2 & GST-2101 & COVERL & \\
\hline 3 & GST-2102 & COVER R & \\
\hline 4 & GST-2104 & MAIN TRIGGER & \\
\hline 5 & GST-2105 & SUB TRIGGER & \\
\hline 6 & GST-2106 & SELECTOR & \\
\hline 7 & CTF-2107 & SELECTOR HOLDER & \\
\hline 8 & CTF-2108 & SELECTOR JOINT & \\
\hline 9 & CTF-2109 & PAD BASE & \\
\hline 10 & CTF-2110 & BEARING HOLDER & \\
\hline 11 & CTF-2111 & PAD & \\
\hline 12 & CTF-2112 & SOLENOID FRAME & \\
\hline 13 & CTF-2113 & SHAFT JOINT & \\
\hline 14 & CTF-2114 & PAD FRAME & \\
\hline 15 & CTF-2115 & RECOIL DAMPER & \\
\hline 16 & CTF-2116 & SOLENOID DAMPER & \\
\hline 17 & CTF-2117 & SHAFT DAMPER F & \\
\hline 18 & CTF-2118 & SHAFT DAMPER R & \\
\hline 19 & CTF-2119 & CAP BASE & \\
\hline 20 & CTF-2120 & LIGHT CAP & \\
\hline 21 & CTF-2121 & PAD BEZEL & \\
\hline 22 & CTF-2122 & PAD PIN & \\
\hline 23 & CTF-2123 & TRIGGER SPRING & \\
\hline 24 & CTF-2124 & SELECTOR SPRING & \\
\hline 25 & CTF-2125 & SHAFT & \\
\hline 26 & CTF-2126 & JOINT PIN & \\
\hline 27 & CTF-2127 & SHAFT STOPPER & \\
\hline 28 & CTF-2128 & DAMPER BASE & \\
\hline 29 & CTF-2129 & RETURN SPRING & \\
\hline 30 & GST-2130 & SCOPE BODY L & \\
\hline 31 & GST-2131 & SCOPE BODY R & \\
\hline 32 & GST-2132 & LENS CAP & \\
\hline 33 & GST-2133 & SPEAKER NET & \\
\hline 34 & GST-2134 & BAFFLE & \\
\hline 35 & GST-2135 & BRKT LENS CAP & \\
\hline 36 & GST-2136 & BRKT BAFFLE & \\
\hline 101 & 130-5288 & SPEAKER 8OHM 5.5W NJS & \\
\hline 102 & 124-5113 & SOLENOID DC24V THERMOSTAT & \\
\hline 103 & 509-5080 & SW MICRO TYPE (SS-5GL2) & \\
\hline 104 & 280-5124-03 & NYLON CLAMP NK03 & \\
\hline 105 & 280-5124-04 & NYLON CLAMP NK04 & \\
\hline 106 & 280-5124-05 & NYLON CLAMP NK05 & \\
\hline 107 & 601-0460 & PLASTIC TIE BELT \(100 \mathrm{M} / \mathrm{M}\) & \\
\hline 108 & 310-5029-D20 & SUMITUBE F D 20MM & \\
\hline
\end{tabular}
(32) GST-2100
(D-3/3) CONTROL UNIT
\begin{tabular}{clll}
\hline ITEM NO. & PART NO. & DESCRIPTION & NOTE \\
\hline 201 & FAS-000100 & M SCR PH W/SMALL FS BLK M3x12 \\
202 & \(000-P 00306-S\) & M SCR PH W/S M3x6 \\
203 & FAS-120029 & TAP SCR P-TITE PH 4x8 \\
204 & FAS-120030 & TAP SCR P-TITE PH BLK 4x12 & \\
205 & \(065-E 00400\) & E RING 4MM \\
206 & FAS-600020 & FLT WSHR NORM A M8 \\
207 & FAS-120062 & TAP SCR P-TITE PH 3x10 & \\
301 & GST-60121 & WH CONTROLLER W/SPEAKER & \\
302 & GST-60122 & WH CONTROLLER SPEAKER & \\
303 & CTF-60033 & WH CONTROLLER SW EXT &
\end{tabular}

\section*{23 WIRING DIAGRAM}

This manual does not include the circuit diagram in order to prevent hazards that might arise while the Serviceman is performing work based on his own discretion. Part replacement of the unit (IC Board, Projector, Switch Regulator, etc.) which does not have the circuit diagram can cause shock hazard and parts damage.
Should it be necessary to replace parts for the unit, which does not have the circuit diagram, contact where you purchased the product from for inquiries regarding this matter. Be sure to understand that depending on the specific units and parts, inquiries and placing orders for the specific parts may be unacceptable.






\section*{SEGA AMUSEMENTS OFFICES}

\section*{SEGA AMUSEMENTS U.S.A., INC.}

800 Arthur Avenue, Elk Grove Village, IL 60007-5215, U.S.A.
\[
\begin{array}{ll}
\text { Telephone: } & +1-847-364-9787 \\
\text { Toll free: } & +1-888-877-2669 \\
\text { Facsimile: } & +1-847-427-1065
\end{array}
\]

\section*{SEGA AMUSEMENTS EUROPE, LTD.}

42, Barwell Business Park, Leatherhead Road, Chessington, Surrey, KT9 2NY United Kingdom

Telephone: \(\quad+44\) (0) 2083918090
Facsimile: \(\quad+44\) (0) 2083918099
e-mail: mailbox@sega.co.uk
http://www.sega-amusements.co.uk

\section*{SEGA CORPORATION}

TRC Haneda Building, 2-13-1, Higashikojiya, Ohta-ku, Tokyo 144-0033, Japan

Telephone: +81-3-6863-8401
Facsimile: +81-3-6863-8407```

