420-7353-04

SEGA

SERVICEMAN MANUAL

OPERATION
G.H.O.S.T.™

SEGA

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.

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

THE SOFTWARE.

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

To maintain safety:

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

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

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

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

⚠ **CAUTION**   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.

☐ Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
☐ Are casters and adjusters damaged?
☐ Do the power supply voltage and frequency requirements meet with those of the location?
☐ Are all wiring connectors correctly and securely connected? Unless connected in the correct way, connector connections can not be made accurately. Do not insert connectors forcibly.
☐ Do power 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?

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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.**

⚠ 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.
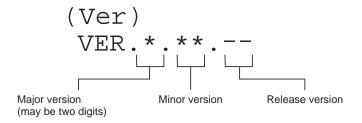
SPECIFICATIONS

Installation space	1,950 mm (76.8 in) [Width] x 1,525 mm (60 in) [Depth]
Height	2,152 mm (85 in)
Weight	300 kg (661.4 lb)
Power, maximum current	573 W, 2.7 A AC 230 V 50 Hz Area 585 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.

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(Ver)
VER.*.**.--
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Major version
(may be two digits)   Minor version   Release version

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.**

1

⚠ 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."**

1

CONCERNING THE STICKER DISPLAY
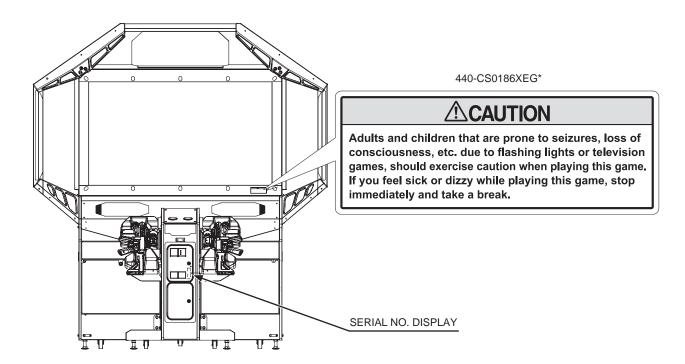
SEGA product has stickers describing serial No. (the product manufacture number) and electrical specifications. Also it has a sticker describing where to contact for repair and for purchasing parts.

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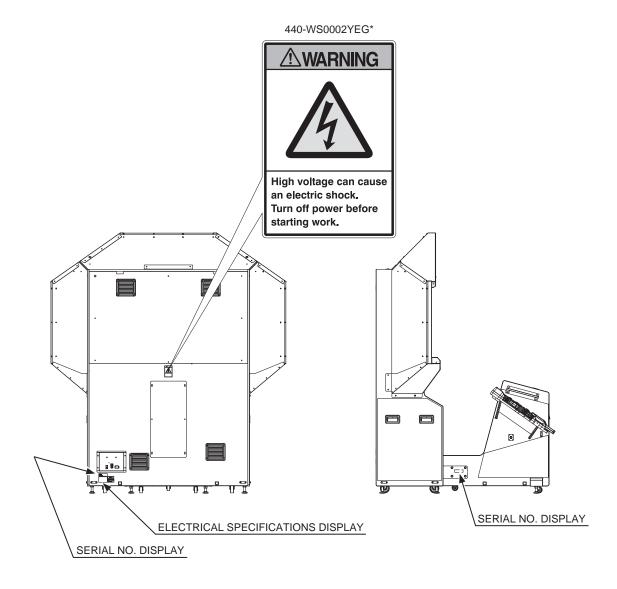
NOTE: The illustrations indicate product liability related warning labels and stickers to be used in the countries where English is the official language. In the countries where a language other than English is used for the official language, the illustrated warning labels and stickers in the applicable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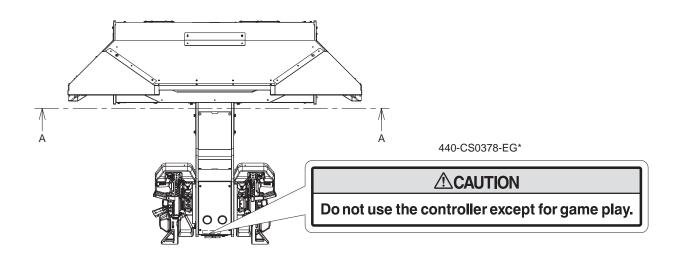
CONCERNING WARNING DISPLAYS

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.

440-CS0186XEG*

⚠CAUTION

Adults and children that are prone to seizures, loss of consciousness, etc. due to flashing lights or television games, should exercise caution when playing this game. If you feel sick or dizzy while playing this game, stop immediately and take a break.

SERIAL NO. DISPLAY

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

1

440-WS0002YEG*

⚠ **WARNING**

High voltage can cause
an electric shock.
Turn off power before
starting work.

ELECTRICAL SPECIFICATIONS DISPLAY

SERIAL NO. DISPLAY

SERIAL NO. DISPLAY

A

A

440-CS0378-EG*

⚠**CAUTION**

Do not use the controller except for game play.

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

440-WS0002YEG*

⚠ WARNING

High voltage can cause an electric shock. Turn off power before starting work.

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

2 PRECAUTIONS REGARDING INSTALLATION LOCATION

2

⚠ 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 30 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 V - 120 V area) and 7 A or higher (AC 220 V - 240 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 V - 240 V area). Using a cable rated lower than the specified rating can cause a fire and electric shock.**
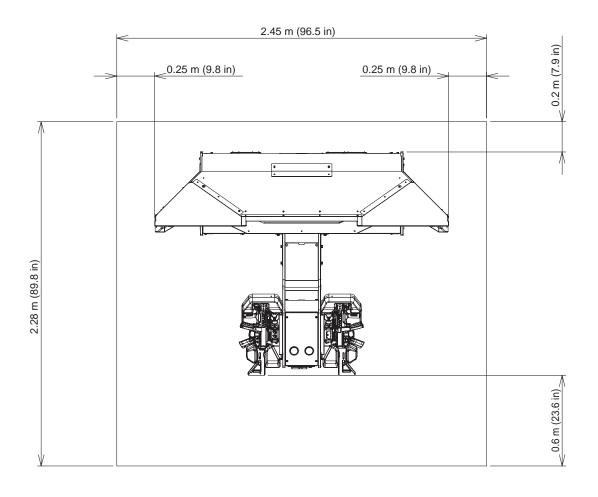
ELECTRICITY CONSUMPTION

2.7 A	Single phase AC 230 V, 50 Hz Area
2.6 A	Single phase AC 240 V, 50 Hz Area

2-2 OPERATION AREA

⚠ WARNING

- **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 m (89.8 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 m (85.8 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 m (31.5 in) in width and 1.89 m (74.4 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.**

2

2.45 m (96.5 in)

0.25 m (9.8 in)   0.25 m (9.8 in)

0.2 m (7.9 in)

2.28 m (89.8 in)

0.6 m (23.6 in)
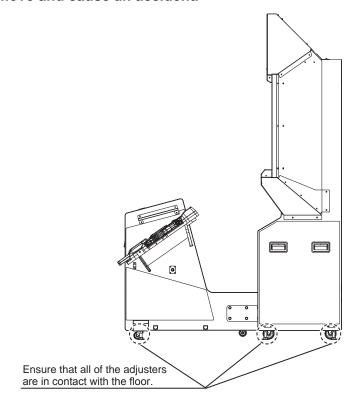
3 PRECAUTIONS REGARDING PRODUCT OPERATION

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

3-1 BEFORE OPERATION

⚠ WARNING
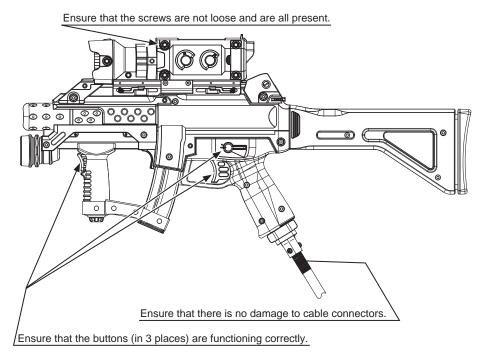
- **To ensure maximum safety for the players and the customers, ensure that where the product is operated has sufficient lighting to allow any warnings to be read. Operation under insufficient lighting can cause bodily contact with each other, hitting accident, and/or trouble between customers.**

- **Check if all of the adjusters are in contact with the surface. If they are not, the cabinet can move and cause an accident.**

Ensure that all of the adjusters are in contact with the floor.

- **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.

⚠ 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.**

Ensure that the screws are not loose and are all present.

Ensure that there is no damage to cable connectors.

Ensure that the buttons (in 3 places) are functioning correctly.

- **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**

3

- **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.**

⚠ 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.**

3

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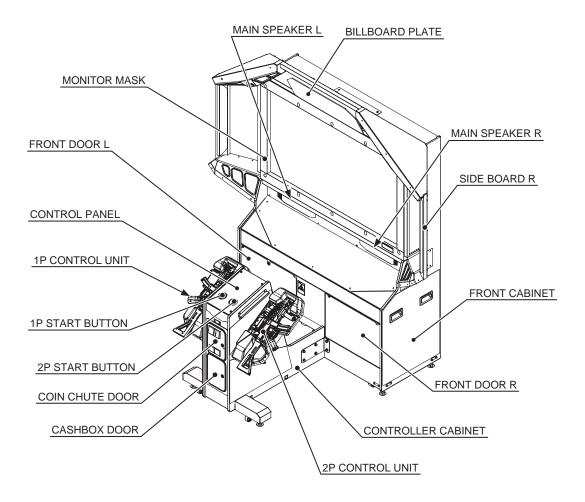
(STOP) IMPORTANT
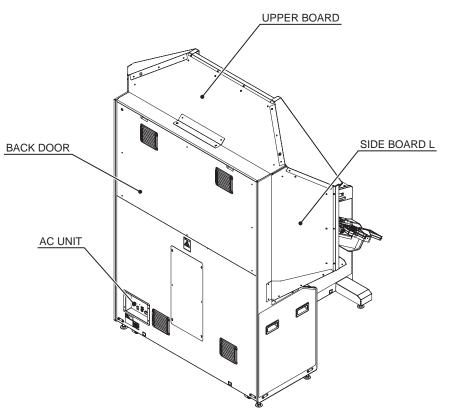
The control units for use on 1P side (left side) and 2P side (right side) are different. Ensure that players do not confuse the right and left side control units when starting play.

4 **PART DESCRIPTIONS**

MAIN SPEAKER L

BILLBOARD PLATE

MONITOR MASK

MAIN SPEAKER R

FRONT DOOR L

SIDE BOARD R

CONTROL PANEL

1P CONTROL UNIT

FRONT CABINET

1P START BUTTON

2P START BUTTON

COIN CHUTE DOOR

FRONT DOOR R

CASHBOX DOOR

CONTROLLER CABINET

2P CONTROL UNIT

UPPER BOARD

BACK DOOR

SIDE BOARD L

AC UNIT

4

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

4

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.	Diagram/Use etc.	Quantity
SERVICEMAN MANUAL 420-7353-04	This manual	1
OWNER'S MANUAL 420-7353-03		1
RINGWIDE SERVICE MANUAL 420-7210-01		1
KEY MASTER 220-5793-2-A001	Open and Close the door	2
KEY	For cash box The keys are placed inside the coin chute box for shipping.	2
ALLEN WRENCH (with opposite side distance of 2 mm) 540-0027		1
POWER CABLE 600-6619-02 or 600-8073		1

Part name/Part no.	Diagram/Use etc.	Quantity
DVD SOFTWARE KIT DVR-0037A		1
MICROSWICH 509-5080	Spare	3
FUSE (200 mA) 514-5143-200	Spare	1
FUSE (2000 mA) 514-5143-2000	Spare	1
DENOMINATION PLATE (BLANK) 421-7308-136		1
WH RNG DC OUT DVD DRIVE 100CM 605-0157-100		1
INSTR SHEET GST-1521-01 GST-1521-03 (France) GST-1521-04 (Italy) GST-1521-05 (Spain) GST-1521-06 (Russia)	See Chapter 21.	1 ea.

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 420-6923-01		1
DVD DRIVE 610-0719-03	For software installation	1
DVD CABLE 605-0094	For software installation	1

5

6 ASSEMBLY AND INSTALLATION

6

⚠ 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.**
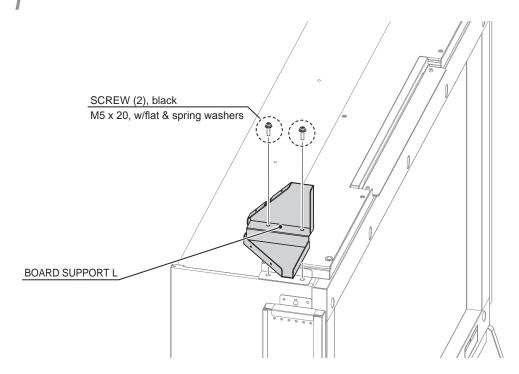
6

TOOLS NECESSARY FOR WORK
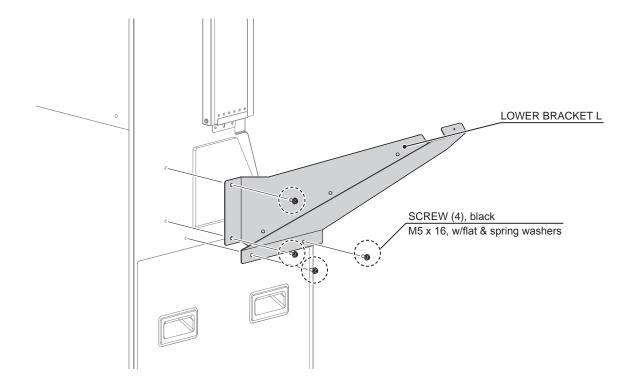
Phillips screwdriver (For M4, M5)	
Box driver (with opposite side distance of 7 mm, for M4 nut)	
Sockets for hexagon bolts and nut or Spanner (with opposite side distance of 13 mm, for M8)	
Key master (Accessory)	
Stepstool	
Glove	

6-1 ASSEMBLING THE FRONT CABINET
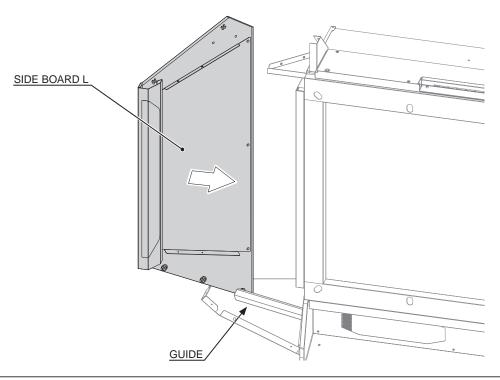
1   Using a stepstool, attach the board support L to the front cabinet with the 2 screws.

SCREW (2), black
M5 x 20, w/flat & spring washers

BOARD SUPPORT L
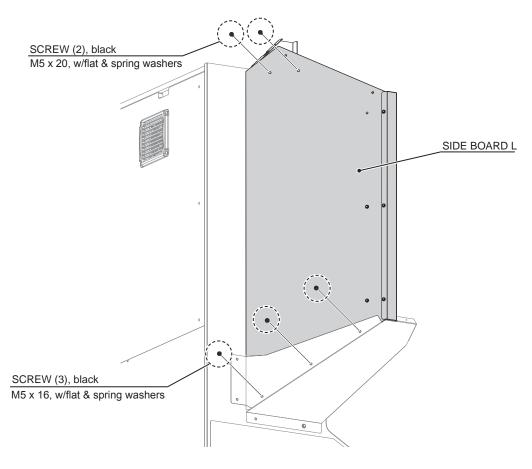
2   Lightly fasten the lower bracket L with the 4 screws.

LOWER BRACKET L

SCREW (4), black
M5 x 16, w/flat & spring washers
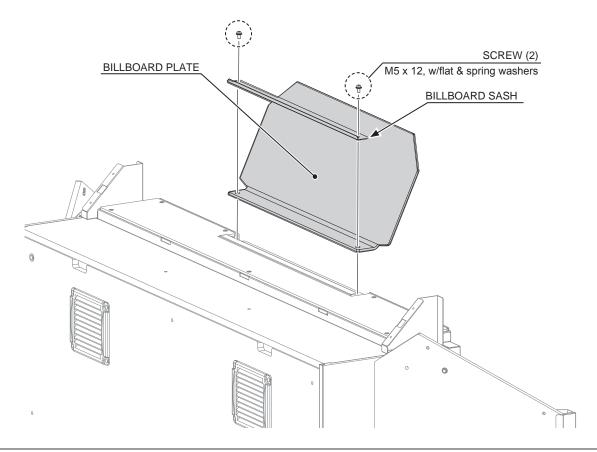
3 Insert side board L so that it is aligned with the guide on lower bracket L.

SIDE BOARD L

GUIDE

4 Lightly fasten the side board L with the 5 screws.

SCREW (2), black
M5 x 20, w/flat & spring washers

SIDE BOARD L

SCREW (3), black
M5 x 16, w/flat & spring washers
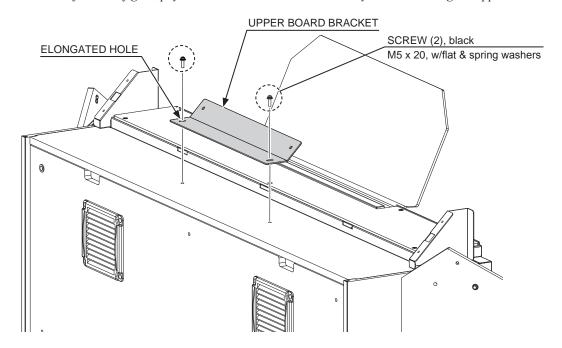
5 Refer to Step 1 to 4, attach the board support R and lightly fasten the lower bracket R and side board R on the opposite side in the same way.

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

SCREW (2)
M5 x 12, w/flat & spring washers

BILLBOARD PLATE

BILLBOARD SASH
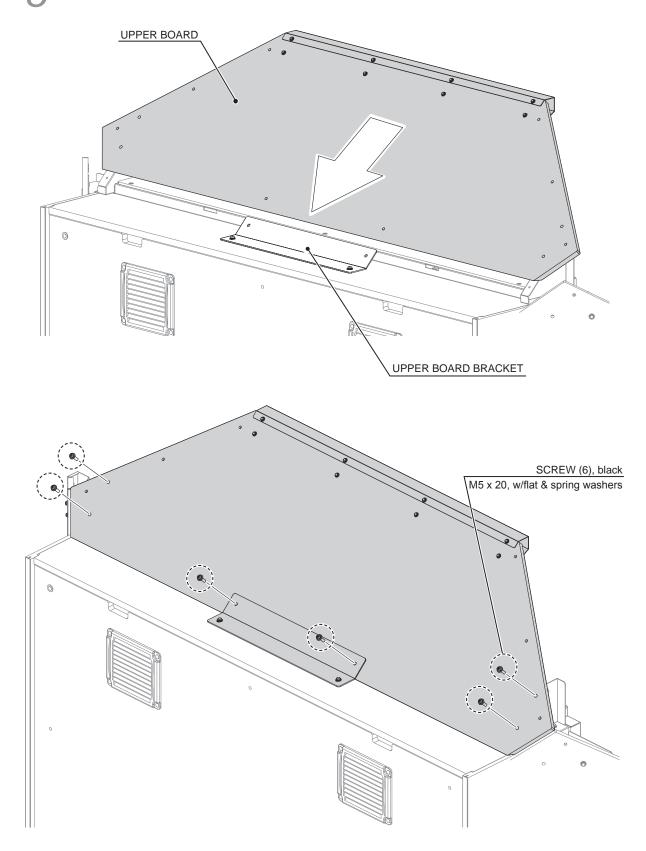
7 Lightly fasten the upper board bracket with the 2 screws.

NOTE: Refer to the figure, pay attention to the direction in which you are attaching the upper board bracket.

UPPER BOARD BRACKET

ELONGATED HOLE

SCREW (2), black
M5 x 20, w/flat & spring washers
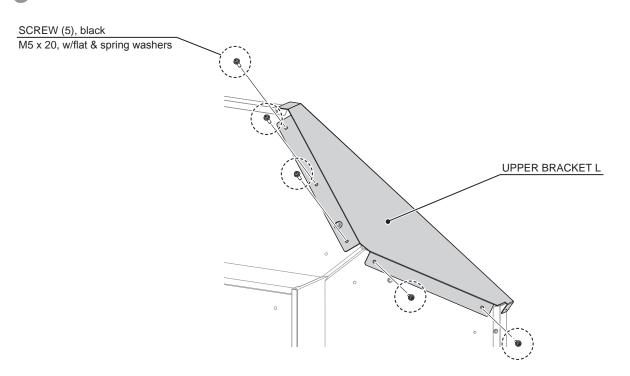
8 Insert the upper board to the upper board bracket and lightly fasten it with the 6 screws.

UPPER BOARD

UPPER BOARD BRACKET

SCREW (6), black
M5 x 20, w/flat & spring washers
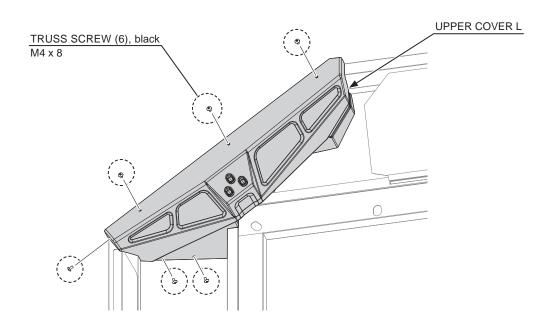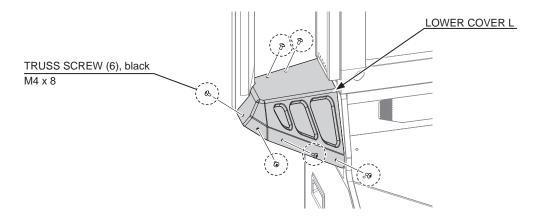
9   Lightly fasten the upper bracket L with the 5 screws.

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

UPPER BRACKET L

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

UPPER COVER L

TRUSS SCREW (6), black
M4 x 8

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

LOWER COVER L

TRUSS SCREW (6), black
M4 x 8

6
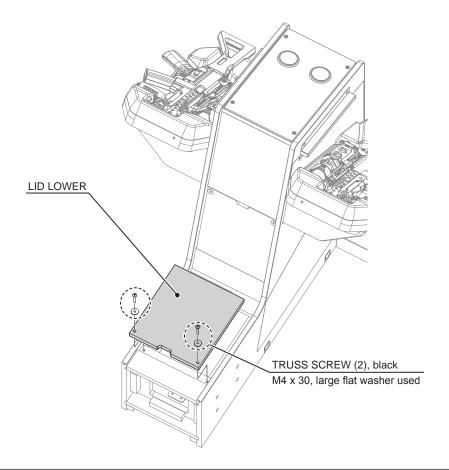
12 Refer to Step 9 to 11, lightly fasten the upper bracket R, upper cover R and lower cover R on the opposite side in the same way.

13 Fully tighten the 60 screws that were lightly tightened in Step 2, 4, 5, 7 to 12.
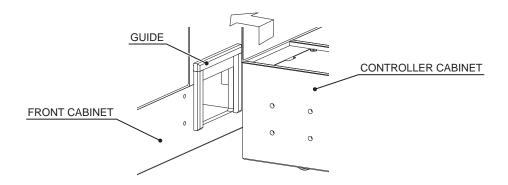
6-2 CONNECTING THE CONTROLLER CABINET TO THE FRONT CABINET

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

LID LOWER

TRUSS SCREW (2), black
M4 x 30, large flat washer used
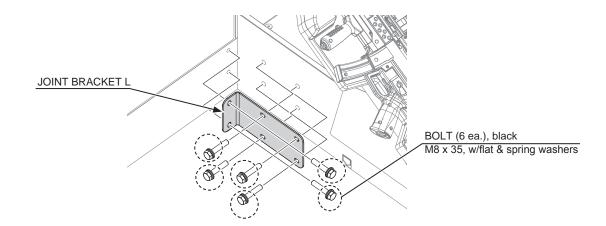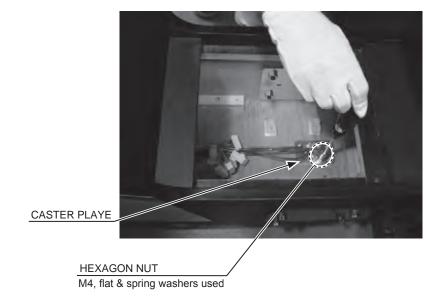
2 While lifting up the controller cabinet, align it so that the guide on the front cabinet fit into the slot on the controller cabinet. Be careful not to damage the cables.

GUIDE

CONTROLLER CABINET

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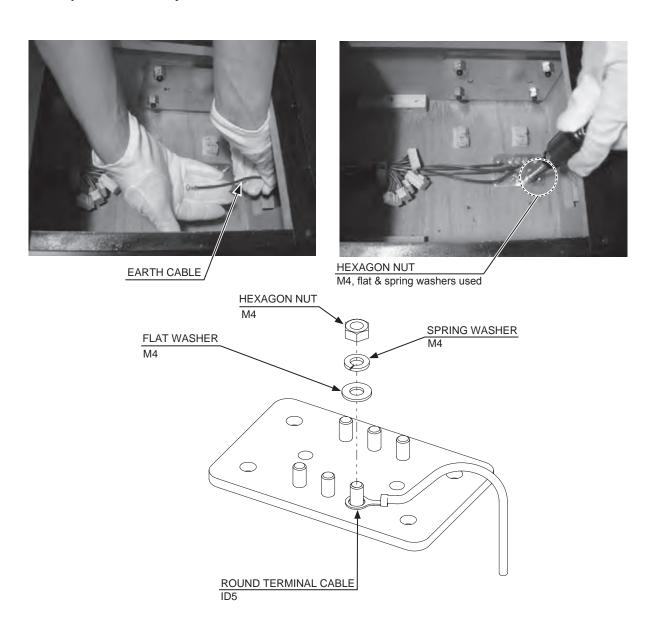
3   Affix front cabinet and controller cabinet by attaching joint brackets L and R with 6 bolts each.

JOINT BRACKET L

BOLT (6 ea.), black
M8 x 35, w/flat & spring washers

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

CASTER PLAYE

HEXAGON NUT
M4, flat & spring washers used
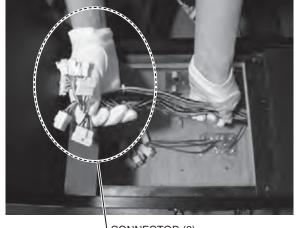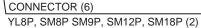
5   Pull through the earth cable from the front cabinet and attach to the caster plate, using the hexagon nut that you removed in Step 4.

EARTH CABLE

HEXAGON NUT
M4, flat & spring washers used

HEXAGON NUT
M4

FLAT WASHER
M4

SPRING WASHER
M4

ROUND TERMINAL CABLE
ID5

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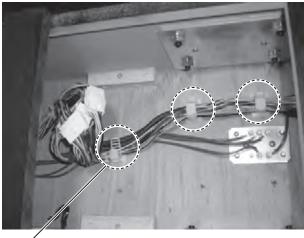
NOTE: The SM18P connectors are stamped with the letters 1P and 2P. Connect each to its corresponding connector.

CONNECTOR (6)
YL8P, SM8P SM9P, SM12P, SM18P (2)

7 Fasten the cable down with the 3 cord clamps.

CORD CLAMP (3)
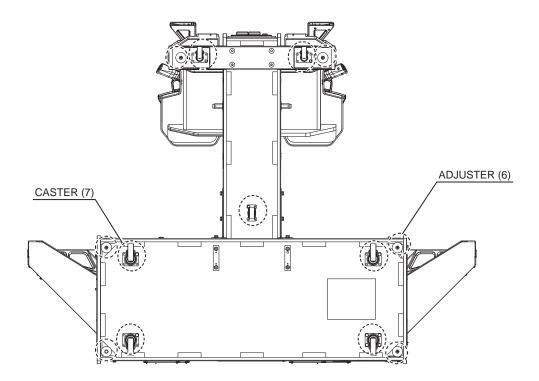
8 Refer to Step 1 and work in reverse order to attach the lid lower.

6
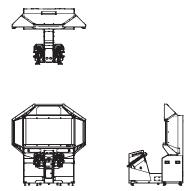
6-3 INSTALLING THE CABINET

⚠ 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.

6

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 mm (0.2 in) between the floor and the casters and adjust the unit so that it will remain level.

ADJUSTER (6)

CASTER (7)
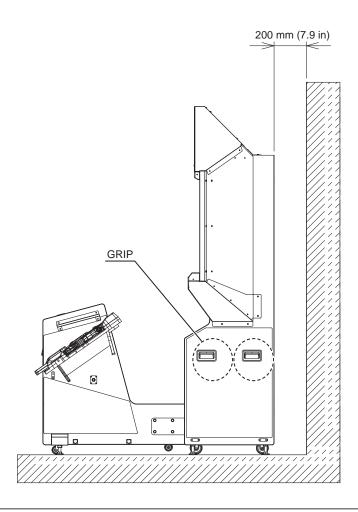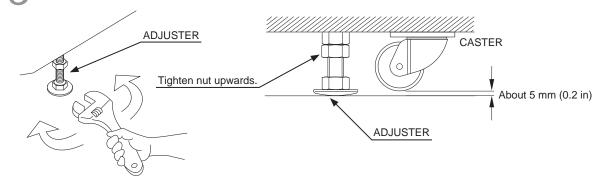
Refer to this figure (scale=1/100) for the layout of the place of installation.

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 mm (7.9 in) space between the back wall and the back of the cabinet for ventilation.

6

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 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.**
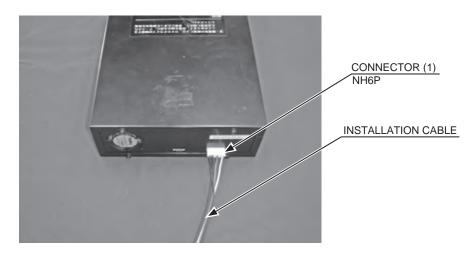
(STOP) IMPORTANT

The NH6P connector of the DVD cable is not used. Do not connect it to any open connectors.
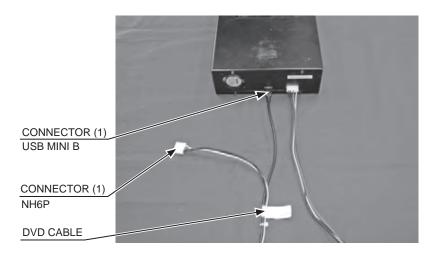
In preparation for software installation, connect the RINGWIDE to the DVD drive with DVD cable. For safety purposes and in order to prevent malfunctions, connect the DVD drive before connecting the power cable to the cabinet.

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

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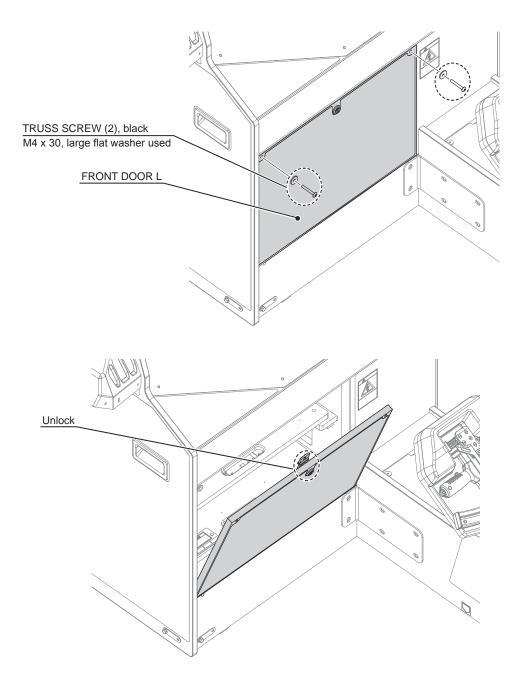
1   Connect the installation cable to the back of the DVD drive.

CONNECTOR (1)
NH6P

INSTALLATION CABLE

2 Connect the DVD cable to the back of the DVD drive. The NH6P connector is not used.
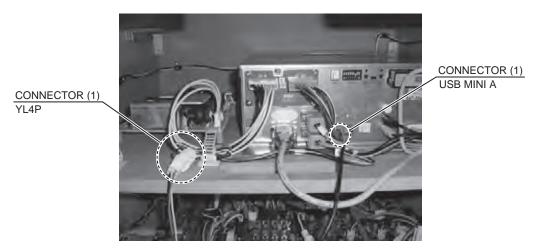
CONNECTOR (1)
USB MINI B

CONNECTOR (1)
NH6P

DVD CABLE

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

TRUSS SCREW (2), black
M4 x 30, large flat washer used

FRONT DOOR L

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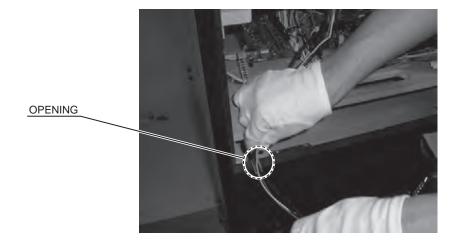
4   Connect the 2 connectors to the RINGWIDE. The NH6P connector is not used. Also, the USB MINI A connector may be connected to either of ports USB1 and USB2.

CONNECTOR (1)
YL4P

CONNECTOR (1)
USB MINI A

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

OPENING

6   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 A - 250 V) with an appropriate plug which is compatible with the socket outlet used.**

(STOP) IMPORTANT

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.
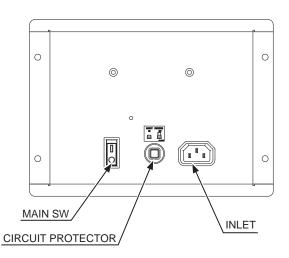
The accessory power cable has a earth cable inside it.
Connect the power cable to the AC unit then insert the power cable plug into a "power outlet with earth terminal."
If there is no "power outlet with earth terminal," be sure to establish ground by some other means; for example, by connecting the AC unit earth terminal to a earth cable with a earth mechanism prepared separately.
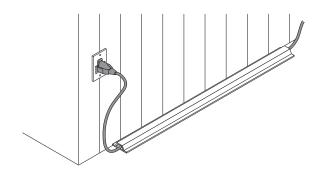
1   Confirm that the main switch is at OFF.

Main SW OFF

MAIN SW

CIRCUIT PROTECTOR

INLET

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

3   Fully insert the power cable plug into the outlet.

4   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**
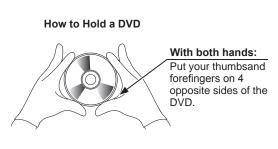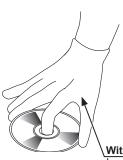
- **Do not use a DVD with a damaged front. This may cause a malfunction.**

- **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.**

Wipe the DVD with a soft cloth, working from the center outwards.

- **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

With both hands:
Put your thumbsand forefingers on 4 opposite sides of the DVD.

With one hand:
Insert your forefinger into the center hole, while placing your thumb and middle finger on opposite sides of the 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.

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

3   The RINGWIDE startup image on the screen.

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

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

THUMBSCREW (1)

CASE LID

6   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.

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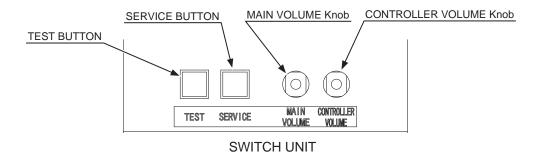
7   Press the DVD drive switch to have the tray return. Software installs automatically from the DVD to the RINGWIDE. Do not turn off power to the cabinet during the installation.

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

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

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

11   Turn the power on the cabinet off.

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

13   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.

SWITCH UNIT

6
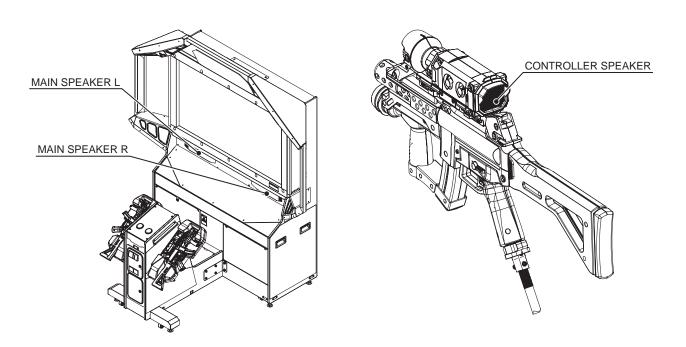
6-7-1 SPEAKER VOLUME SETTING

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.

SOUND ADJUSTMENTS screen

REMAINING TIME

MAIN SPEAKER L

MAIN SPEAKER R

CONTROLLER SPEAKER
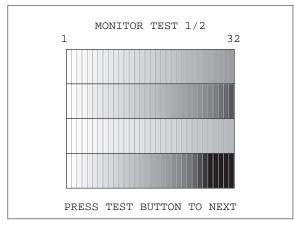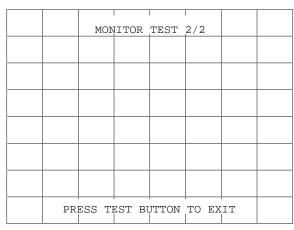
6-7-2 MONITOR TEST

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.

```
        MONITOR TEST 1/2
    1                    32




    PRESS TEST BUTTON TO NEXT
```

COLOR BAR screen

```
        MONITOR TEST 2/2




    PRESS TEST BUTTON TO EXIT
```

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            OFF
    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


        1P START LAMP               OFF
        1P RECOIL                  OFF
        1P HOLDER LAMP             OFF
        2P START LAMP              OFF
        2P RECOIL                  OFF
        2P HOLDER LAMP             OFF
        BILLBOARD                  OFF
     -> EXIT


           SELECT WITH SERVICE BUTTON
             AND PRESS TEST BUTTON
```
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.)

6

```
                        LED ADJUSTMENT


        MAX R                              *
        MAX G                              *
        MAX B                              *
        SET DEFAULT
        COLOR PATTERN                      *
    ->  EXIT


        BOARD STATE                  READY


            SELECT WITH SERVICE BUTTON
              AND PRESS TEST BUTTON
```
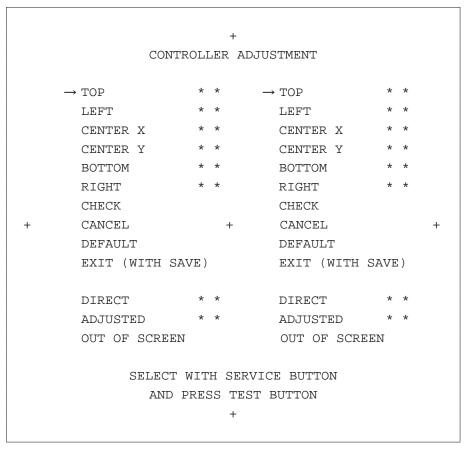
LED ADJUSTMENT screen

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

          → TOP            * *      → TOP            * *
            LEFT           * *        LEFT           * *
            CENTER X       * *        CENTER X       * *
            CENTER Y       * *        CENTER Y       * *
            BOTTOM         * *        BOTTOM         * *
            RIGHT          * *        RIGHT          * *
            CHECK                     CHECK
   +        CANCEL             +       CANCEL                +
            DEFAULT                   DEFAULT
            EXIT (WITH SAVE)          EXIT (WITH SAVE)

            DIRECT         * *        DIRECT         * *
            ADJUSTED       * *        ADJUSTED       * *
            OUT OF SCREEN             OUT OF SCREEN


                SELECT WITH SERVICE BUTTON
                   AND PRESS TEST BUTTON
                              +
```

CONTROLLER ADJUSTMENT screen

6-7-8 SETTING THE INTERFERENCE PREVENTION WIRING

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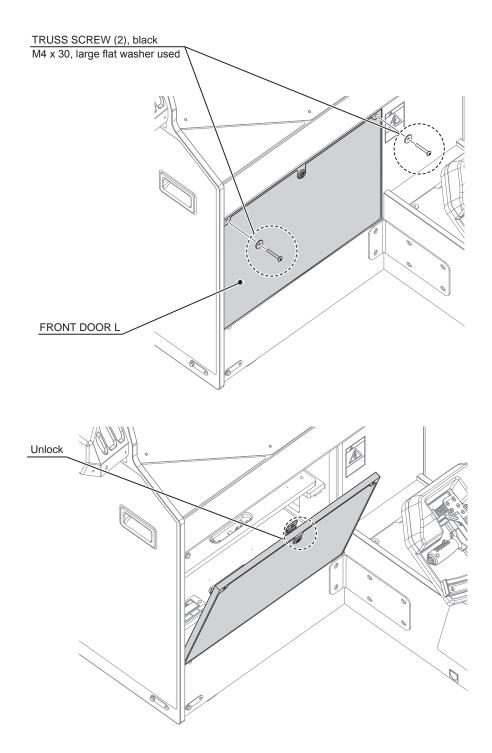
When the game machines of a same or similar type are installed side by side, their sensors may interfere with each other. To reject the interference, follow the procedure below.

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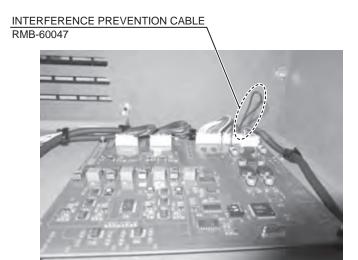
2   Remove the 2 truss screws, unlock the front door L with the master key, and take it off.

TRUSS SCREW (2), black
M4 x 30, large flat washer used

FRONT DOOR L

Unlock

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

INTERFERENCE PREVENTION CABLE
RMB-60047

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

5 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

7

⚠ 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.
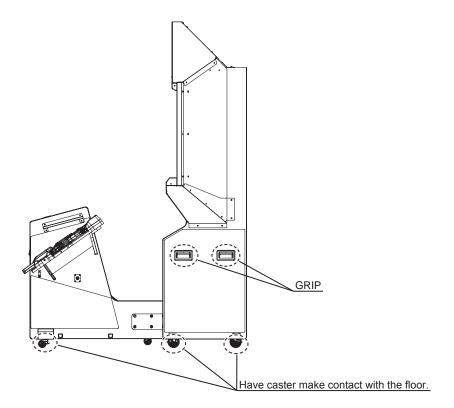
🛑 STOP IMPORTANT

- 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.
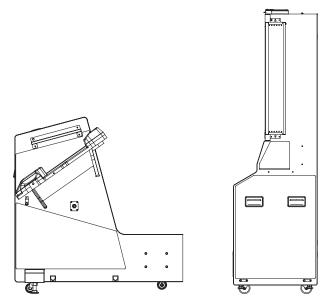
(STOP) **IMPORTANT**

- **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.**

7
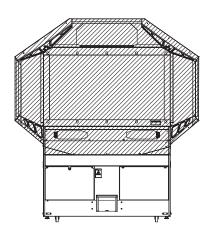
To move the unit on the floor, pull in the adjustors and have the casters contact the floor.

GRIP

Have caster make contact with the floor.
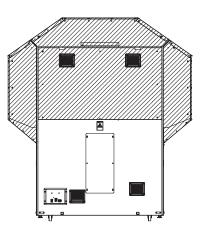
Always disconnect if the unit is to be moved through areas with low overhead space or areas with a step.

7

Do not push the product holding the shaded areas.

8 GAME DESCRIPTION

8-1 HOW TO PLAY

1 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.)*

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

3 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.

GAME screen

SCORE
AMMO REMAINING
LIFE
SHOOTING MODE
CREDITS
CREDITS REQUIRED
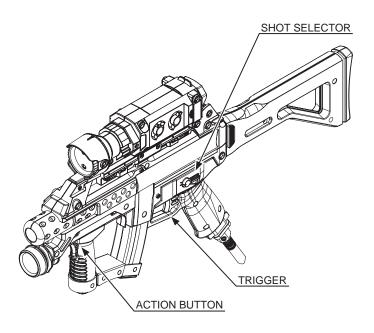
8-3 RELOADING

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.

SHOT SELECTOR

TRIGGER

ACTION BUTTON

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

FULL AUTO	Bullets are fired continuously as long as the trigger is held. You have limited ammunition. The number of rounds remaining is displayed to the side of the shooting mode. (See 8-2.) 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. You have unlimited ammunition.
SEMI AUTO	Pulling the trigger once fires 1 shot only. You have unlimited ammunition.

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

FULL AUTO CROSSHAIR   3-ROUND BURST CROSSHAIR   SEMI AUTO 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 ICON

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'S CANCEL GAUGE   LIFE GAUGE

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'S WEAK POINT PROMPT

BOSS BATTLE screen 2

8-9 GAME OVER

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

1 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.

2 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.)*

3 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.)

CONTINUE PLAY BONUS screen

CONTINUE PLAY BONUS PROMPT

8

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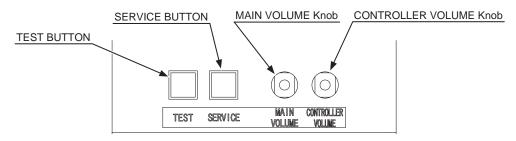
- **When you enter the TEST MODE, fractional coin and bonus adder data is erased.**
- **Removing the coin meter circuitry renders the game inoperable.**

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.
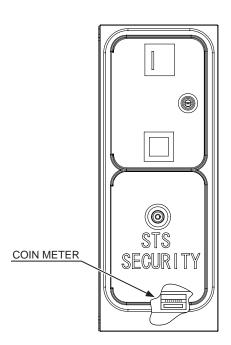
SWITCH UNIT

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

9

COIN METER

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 setting of coin/credit. For details, see the RINGWIDE Service Manual, which is provided with the product. Use the following settings with this product. If the settings are not as specified, error messages may appear and the product may not operate as intended.

10

COIN ASSIGNMENTS

COIN CHUTE TYPE	COMMON
SERVICE TYPE	COMMON

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

```
                      COIN ASSIGNMENTS

                     GAME COST SETTING


            * credit (s) to start

            * credit (s) to continue


       -> EXIT


                 SELECT WITH SERVICE BUTTON

                   AND PRESS TEST BUTTON
```

■**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

10

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


         BOOKKEEPING
         INPUT TEST
         OUTPUT TEST
         GAME ASSIGNMENTS
         LED ADJUSTMENT
         CONTROLLER ADJUSTMENT
         BACKUP DATA CLEAR
      →  EXIT


            SELECT WITH SERVICE BUTTON
              AND PRESS TEST BUTTON
```

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


    COIN CHUTE #1           *
    COIN CHUTE #2           *
    TOTAL COINS            *


    COIN CREDITS           *
    SERVICE CREDITS        *
    TOTAL CREDITS          *


    PRESS TEST BUTTON TO CONTINUE
```

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.

11

```
                    BOOKKEEPING 2/3


    NUMBER OF GAMES                        *
    NUMBER OF GAME START                   *
    NUMBER OF GAME JOIN                    *
    NUMBER OF CONTINUE                     *


    TOTAL TIME                 *D **H **M **S
    PLAY TIME                  *D **H **M **S
    AVERAGE PLAY TIME                *M **S
    LONGEST PLAY TIME                *M **S
    SHORTEST PLAY TIME               *M **S


         PRESS TEST BUTTON TO CONTINUE
```

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.

11

```
                    BOOKKEEPING 3/3


     0M 00S - 0M 29S                        *
     0M 30S - 0M 59S                        *
     1M 00S - 1M 29S                        *
     1M 30S - 1M 59S                        *
     2M 00S - 2M 29S                        *
     2M 30S - 2M 59S                        *
                          :
                          :

     9M 00S - 9M 29S                        *
     9M 30S - 9M 59S                        *
     OVER     10M 00S                       *


            PRESS TEST BUTTON TO EXIT
```

BOOKKEEPING 3/3 screen

■**Controls**

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

■**Menu Items**

This displays play times on a scale from 0M00S to 9M59S 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.)

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.
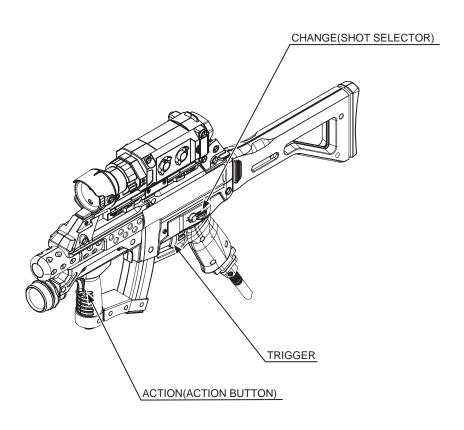
```
                    INPUT TEST


       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
```
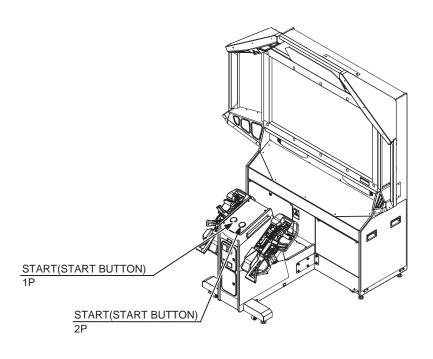
INPUT TEST screen

■**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**

TRIGGER	This will say ON when the triggers on the control units are being pulled and OFF when they are released.
ACTION	This will say ON when the action buttons on the control units are being pulled and OFF when they are released.
CHANGE	This will say ON when the shot selectors on the control units are being pulled and OFF when they are released.
SIGHT-X	This shows the aim location for the X direction on the control units.
SIGHT-Y	This shows the aim location for the Y direction on the control units.
SCREEN	This will say IN when the control units are aimed inside the screen and OUT when they are aimed outside the screen.
START	This will say ON when the START buttons are being pressed and OFF when they are released.
SERVICE	This will say ON when the SERVICE button is being pressed and OFF when it is released.
TEST	This will say ON when the TEST button is being pressed and OFF when it is released.

11

CHANGE(SHOT SELECTOR)

TRIGGER

ACTION(ACTION BUTTON)

11

START(START BUTTON)
1P

START(START BUTTON)
2P

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.
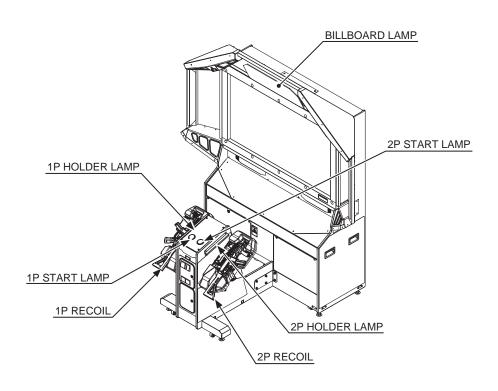
```
                    OUTPUT TEST


      1P  START LAMP                    OFF
      1P  RECOIL                        OFF
      1P  HOLDER LAMP                   OFF
      2P  START LAMP                    OFF
      2P  RECOIL                        OFF
      2P  HOLDER LAMP                   OFF
      BILLBOARD                         OFF
  →  EXIT


        SELECT WITH SERVICE BUTTON
          AND PRESS TEST BUTTON
```
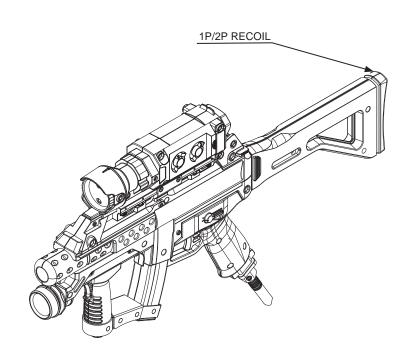
OUTPUT TEST screen

■**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.

■**Menu Items**

1P/2P START LAMP	1P/2P START Button lamp
1P/2P RECOIL	Activates the solenoid in 1P/2P control unit. Reverts to OFF after one activation.
1P/2P HOLDER LAMP	1P/2P controller holder lamp
BILLBOARD	Lamp of the billboard above the monitor.

11

11

BILLBOARD LAMP

2P START LAMP

1P HOLDER LAMP

1P START LAMP

1P RECOIL

2P HOLDER LAMP

2P RECOIL

1P/2P RECOIL

11-5 GAME ASSIGNMENTS

Adjust all game settings.

```
                 GAME ASSIGNMENTS


      DIFFICULTY               NORMAL
      LIFE                     4
      REACTION                 ON
      ADVERTISE SOUND          ON
      DAMAGE EFFECT            ON
      ARMOR                    ON
      DRESS CODE               OFF
      SWIPE CARD TO PLAY       OFF
   →  EXIT


         SELECT WITH SERVICE BUTTON
           AND PRESS TEST BUTTON
```

GAME ASSIGNMENTS screen

■**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**

DIFFICULTY	Sets the level of difficulty.(Default setting: NORMAL) There are 5 levels: VERY EASY, EASY, NORMAL, HARD, VERY HARD.	
LIFE	The number of LIFE(s) the player will start the game with. (Default setting: 4) Can be set between 2 and 7.	
REACTION	Sets recoil from the 1P/2P control unit when firing the gun to ON/OFF. (Default setting: ON)	
	ON	When firing the gun, the 1P/2P control unit will recoil.
	OFF	When firing the gun, the 1P/2P control unit will not recoil.
ADVERTISE SOUND	Turns sound ON/OFF in advertise mode. (Default: ON) There are 5 levels : ON, 7/10, 5/10, 3/10, OFF.	
DAMAGE EFFECT	Switches effects when the enemy characters take damage ON/OFF. (Default setting: ON)	
	ON	Damage effects will be displayed.
	OFF	Damage effects will not be displayed.
ARMOR	Sets the giving of body armor as a continue bonus when the player chooses to continue to ON/OFF. (Default setting: ON)	
	ON	Body armor will be provided when the player continues.
	OFF	Body armor will not be provided when the player continues.

11

DRESS CODE	Sets whether female soldier designs will be included in boss images to ON/OFF. (Default setting: OFF)	
	ON	Female soldier designs will not be included in boss images.
	OFF	Female soldier designs will be included in boss images.
SWIPE CARD TO PLAY	Sets the changing of the INSERT COIN(S) display to SWIPE CARD TO PLAY to ON/OFF. (Default setting: OFF)	
	ON	The INSERT COIN(S) display will be changed to SWIPE CARD TO PLAY.
	OFF	The INSERT COIN(S) display will not be changed.

11

11-6 LED ADJUSTMENT

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

```
                     LED ADJUSTMENT


        MAX R                              *
        MAX G                              *
        MAX B                              *
        SET DEFAULT
        COLOR PATTERN                      *
    →   EXIT


        BOARD STATE                    READY


            SELECT WITH SERVICE BUTTON
              AND PRESS TEST BUTTON
```

LED ADJUSTMENT screen

■**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**
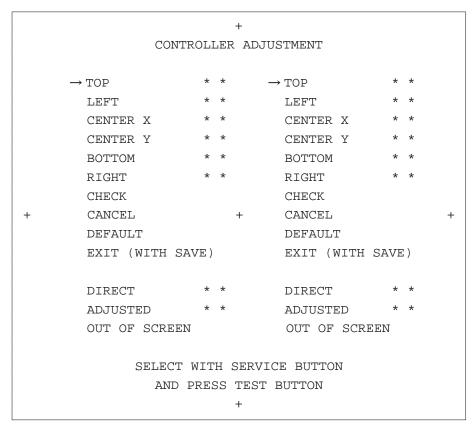
MAX R	Adjusts the brightness of red LEDs from 0.1 to 1.0 in gradients of 0.1. (Default setting: 1.0)	
MAX G	Adjusts the brightness of green LEDs from 0.1 to 1.0 in gradients of 0.1. (Default setting: 0.9)	
MAX B	Adjusts the brightness of blue LEDs from 0.1 to 1.0 in gradients of 0.1. (Default setting: 0.7)	
SET DEFAULT	Returns the LED color shades to their defaults.	
COLOR PATTERN	Switches the LED display color pattern: WHITE; BLUE; RED; GREEN; BLACK TO WHITE.	
BOARD STATE	Displays status of LED board.	
	READY	Usable status
	NOT READY	Undergoing formatting status
	NO LED BOARD	Unusable status

11

11-7 CONTROLLER ADJUSTMENT

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

```
                              +
                    CONTROLLER ADJUSTMENT


        → TOP            * *      → TOP            * *
          LEFT           * *        LEFT           * *
          CENTER X       * *        CENTER X       * *
          CENTER Y       * *        CENTER Y       * *
          BOTTOM         * *        BOTTOM         * *
          RIGHT          * *        RIGHT          * *
          CHECK                     CHECK
     +    CANCEL              +      CANCEL              +
          DEFAULT                   DEFAULT
          EXIT (WITH SAVE)          EXIT (WITH SAVE)


          DIRECT         * *        DIRECT         * *
          ADJUSTED       * *        ADJUSTED       * *
          OUT OF SCREEN             OUT OF SCREEN


                 SELECT WITH SERVICE BUTTON
                   AND PRESS TEST BUTTON
                              +
```

CONTROLLER ADJUSTMENT screen

■**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.

■**Menu Items**

TOP*	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.
LEFT*	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.
CENTER X*	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.
CENTER Y*	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.
BOTTOM*	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.
RIGHT*	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.
CHECK	Displays the newly adjusted crosshair settings on-screen.
CANCEL	Returns the newly adjusted crosshair settings to the previous settings.
DEFAULT	Set the values for the control units to default.

*Values on the left are the previous settings, and values on the right are the new settings.

11

11-8 BACKUP DATA CLEAR

Delete various game data.

```
              BACKUP DATA CLEAR




                 YES (CLEAR)
           →  NO (CANCEL)




         SELECT WITH SERVICE BUTTON
            AND PRESS TEST BUTTON
```

BACKUP DATA CLEAR screen (1/2)

```
              BACKUP DATA CLEAR




                  COMPLETED




          PRESS TEST BUTTON TO EXIT
```

BACKUP DATA CLEAR screen (2/2)

11

■**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.

12 CONTROL PANEL
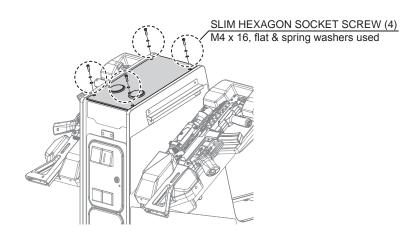
```
                       ⚠ WARNING
```

- **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.**
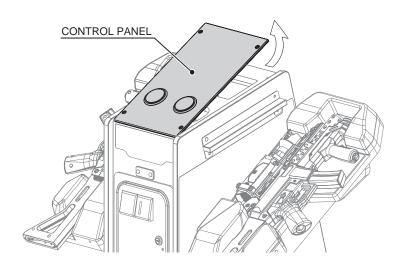
12-1 REMOVING THE CONTROL PANEL

1   Turn the power switch OFF.
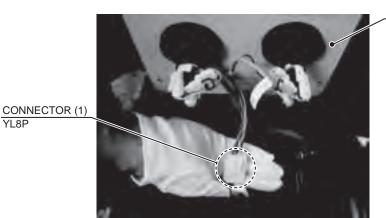
2   Use an Allen wrench to remove the 4 slim head hexagon socket head screws.

SLIM HEXAGON SOCKET SCREW (4)
M4 x 16, flat & spring washers used

3   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.

CONTROL PANEL

12
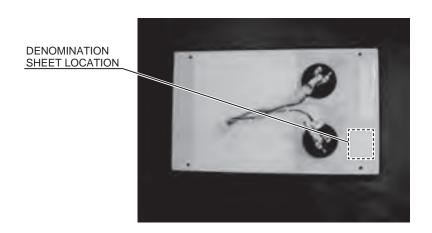
4   Disconnect the 1 connector and take off the control panel.

CONTROL PANEL

CONNECTOR (1)
YL8P

12-2 REPLACING THE DENOMINATION SHEET

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

2   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.

DENOMINATION
SHEET LOCATION

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

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

12

13 LCD

13-1 CAUTIONS REGARDING SAFE HANDLING OF LCD

⚠ 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.**

⚠ 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.**

13-2 CLEANING THE LCD

(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.

13

13-3 ADJUSTING THE LCD

⚠ 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.**

⚠ 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
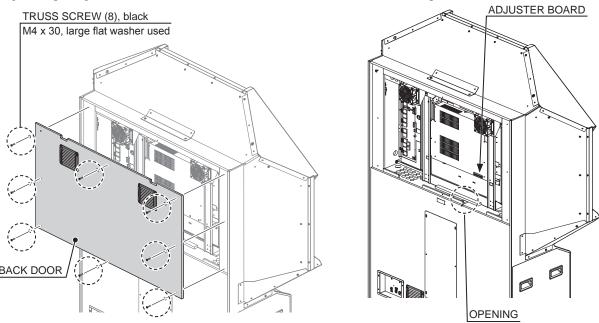
All adjustment values are set accurately at the time of shipping from the factory.

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.

13

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.
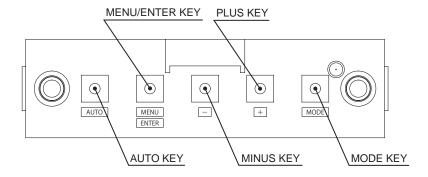
TRUSS SCREW (8), black
M4 x 30, large flat washer used

ADJUSTER BOARD

BACK DOOR

OPENING

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.

MENU/ENTER KEY   PLUS KEY

AUTO KEY   MINUS KEY   MODE KEY
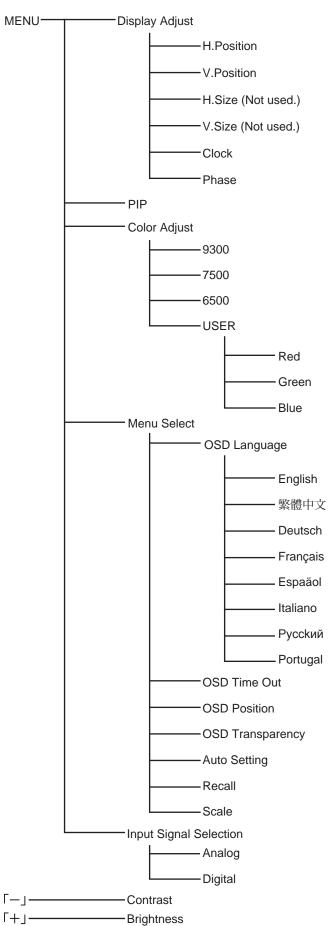
AUTO key (AUTO)	Automatic adjustment/move up.
MENU/ENTER key (MENU/ENTER)	Turns MENU display on/switches pages
MINUS key (-)	Decreases the value of the selected setting/selects OSD control options/ turns CONTRAST screen on
PLUS key (+)	Increases the value of the selected setting/selects OSD control options/ turns BRIGHTNESS screen on
MODE key (MODE)	Enter selected item/move down.

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

1 The menu screen will be displayed.

2 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.

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

13

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 ──── Display Adjust
              ──── H.Position
              ──── V.Position
              ──── H.Size (Not used.)
              ──── V.Size (Not used.)
              ──── Clock
              ──── Phase
        ──── PIP
        ──── Color Adjust
              ──── 9300
              ──── 7500
              ──── 6500
              ──── USER
                      ──── Red
                      ──── Green
                      ──── Blue
        ──── Menu Select
              ──── OSD Language
                      ──── English
                      ──── 繁體中文
                      ──── Deutsch
                      ──── Français
                      ──── Espaäol
                      ──── Italiano
                      ──── Русский
                      ──── Portugal
              ──── OSD Time Out
              ──── OSD Position
              ──── OSD Transparency
              ──── Auto Setting
              ──── Recall
              ──── Scale
        ──── Input Signal Selection
              ──── Analog
              ──── Digital

「－」──── Contrast
「＋」──── Brightness
```

13

■**Menu Items**

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

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.

■**ADJUSTING THE BRIGHTNESS**

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

BRIGHTNESS ▭▭▭▭▭▭▭▭▭▭▭▭ 50

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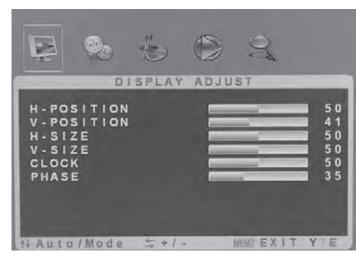
2 Use the PLUS and MINUS keys to adjust the brightness value. When finished, press the MENU/ENTER key to close the MENU screen.

13

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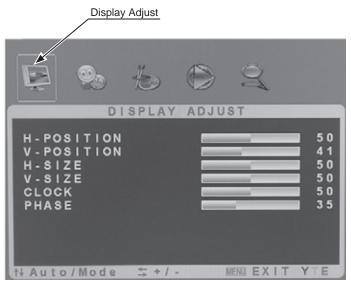
1 Press the MENU/ENTER key to bring up the MENU screen.

MENU screen

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

Display Adjust

OSD CONTROL screen

3 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.
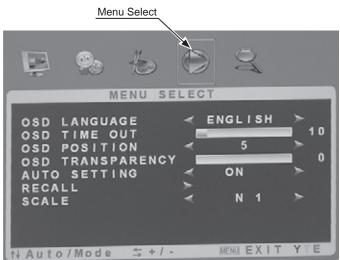
■ADJUSTING THE OSD POSITION

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

MENU screen

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

OSD CONTROL screen

3 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.
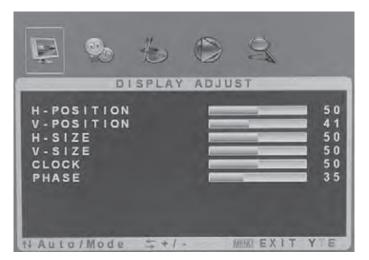

OSD POSITION screen

13
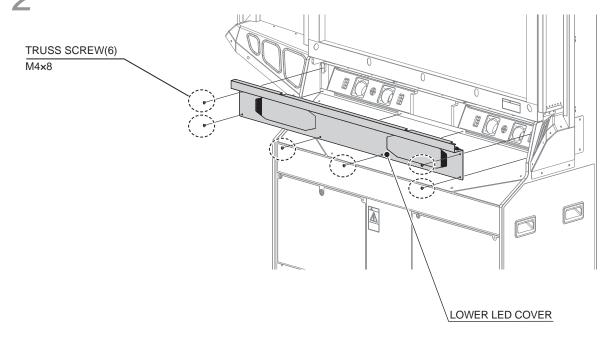
13-4 REPLACING THE LCD

⚠ WARNING
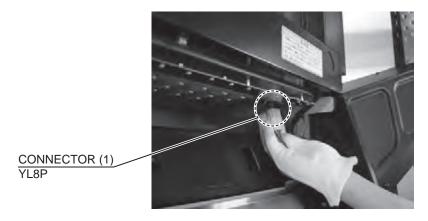
● **When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.**

● **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**

⚠ CAUTION
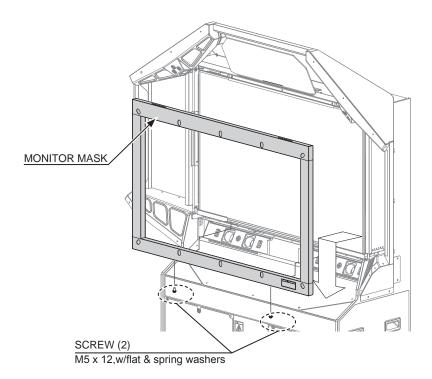
● **When LCD has been replaced, be sure to perform appropriate adjustment. For operation of this machine, do not leave monitor's flickering or deviation as is. Images from an improperly adjusted screen could cause players and other customers to experience dizziness, headaches, and other ailments.**

● **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 m x 2 m). Small spaces make work more difficult, and may cause accidents. There is also a risk of unexpected personal injury or parts damage.**

1 Turn the power switch OFF.

2 Remove the 6 truss screws and take off the lower LED cover.

TRUSS SCREW(6)
M4×8

LOWER LED COVER

3 Disconnect the 1 connector.

CONNECTOR (1)
YL8P

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.

MONITOR MASK

SCREW (2)
M5 x 12,w/flat & spring washers
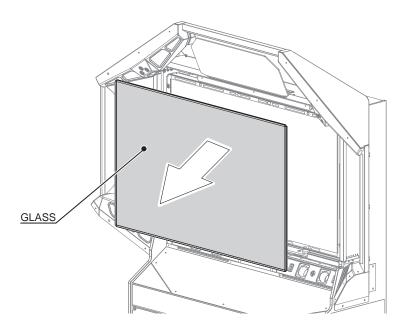
5 Remove the 3 screws and take off the glass support.

NOTE: Be sure to support the glass. Once the glass support is removed, there is a risk that the glass will fall out.
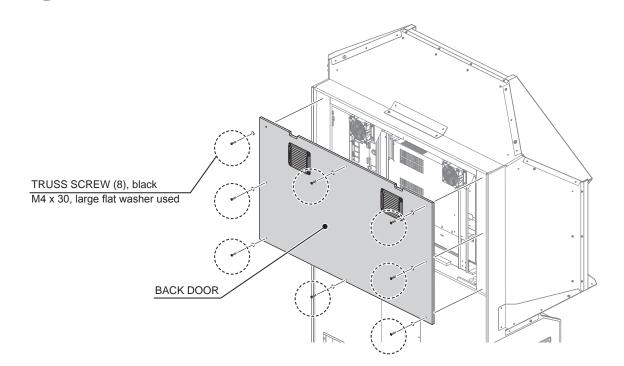
SCREW (3), black
M4 x 20, w/flat & spring washers

GLASS SUPPORT

6 Spread out protective material measuring 1,500 mm(59 in) by 1,000 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.

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

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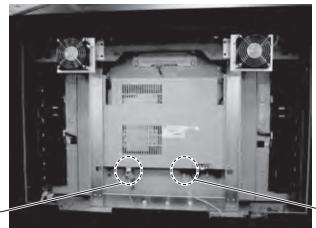
8 Using 2 or more workers, remove the 8 truss screws and take off the back door.

13

TRUSS SCREW (8), black
M4 x 30, large flat washer used

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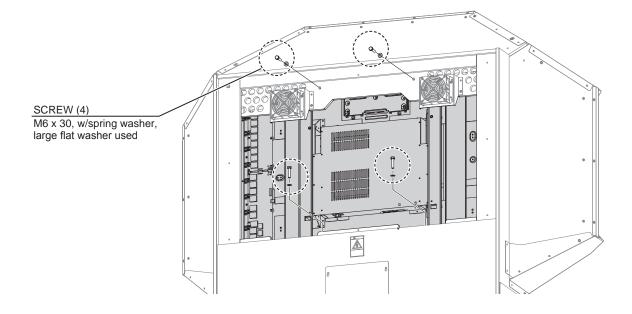
9 Disconnect the 2 connectors. When doing so, remove the D-SUB15P connector after first loosening its fastening screws.

CONNECTOR (1)
VL3P
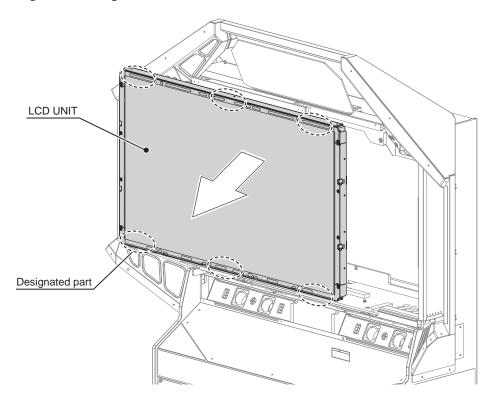
CONNECTOR (1)
D-SUP15P

10 Remove the 4 screws and take off the LCD unit. At this point, work while supporting the LCD from the front of the cabinet.
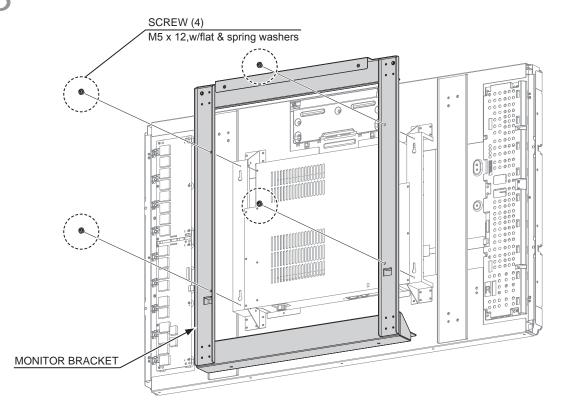
SCREW (4)
M6 x 30, w/spring washer,
large flat washer used

11 Spread out protective material measuring 1,500 mm(59 in) by 1,000 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.

12 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.

LCD UNIT

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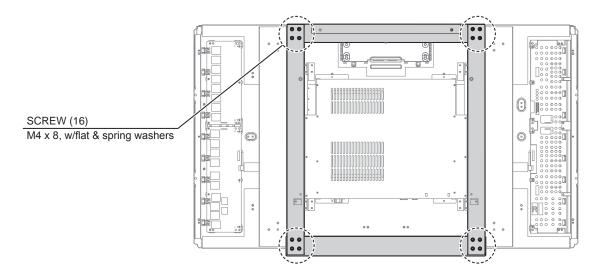
13 Remove the 4 screws and take off the monitor bracket.

13

SCREW (4)
M5 x 12,w/flat & spring washers

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.

SCREW (16)
M4 x 8, w/flat & spring washers

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

13

14 CONTROL UNIT

⚠ 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.**

⚠ CAUTION
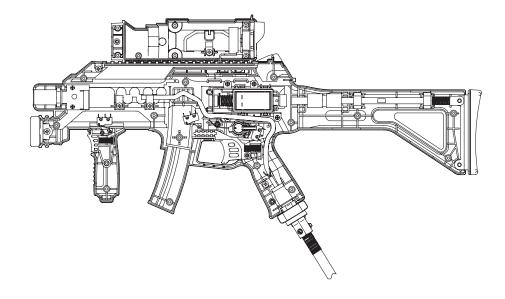
- **When fastening plastic parts, be careful not to tighten screws and nuts excessively. Failure to observe this may damage the parts and cause injury due to fragments resulting from damage.**

- **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.**

(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.**

14
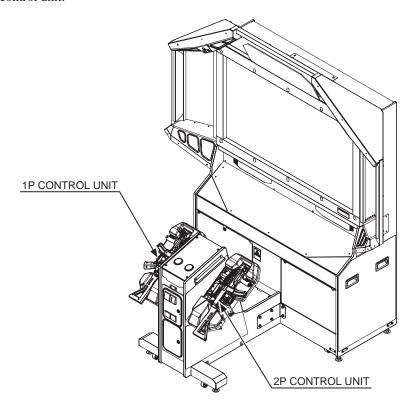
If the control unit does not operate satisfactorily and adjustments in TEST MODE are ineffective, it could be that parts inside the control unit have been damaged. Follow the steps given below to remove the control unit, then take it apart and replace parts.

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.

14
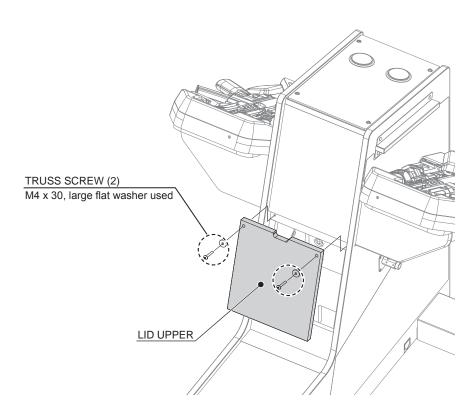
14-1 REMOVING THE CONTROL UNIT

Remove the 1P/2P control unit.
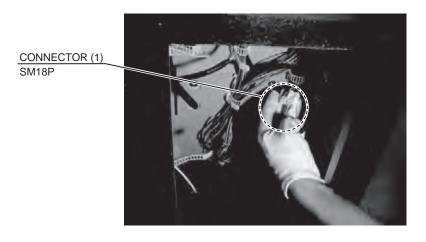
1P CONTROL UNIT

2P CONTROL UNIT

1   Turn the power off.

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

TRUSS SCREW (2)
M4 x 30, large flat washer used

LID UPPER
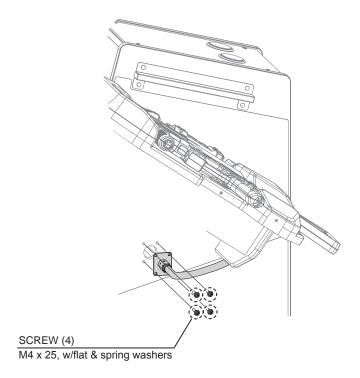
3 Disconnect the 1 connector.

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

CONNECTOR (1)
SM18P
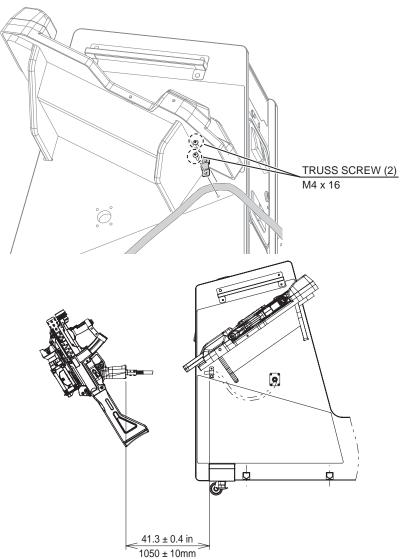
4 Remove the 4 screws and pull out the control unit connector. Be careful not to damage the cable.

14

SCREW (4)
M4 x 25, w/flat & spring washers

5 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.
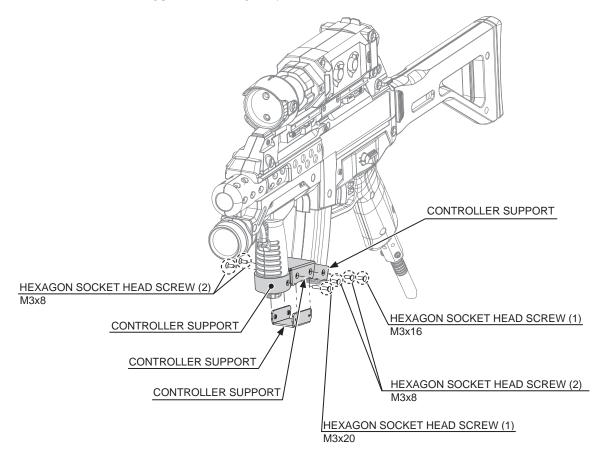
TRUSS SCREW (2)
M4 x 16

41.3 ± 0.4 in
1050 ± 10mm

14-2 REMOVING THE CONTROLLER SUPPORT

1 Refer to 14-1"REMOVING THE CONTROL UNIT " and take off the control unit.
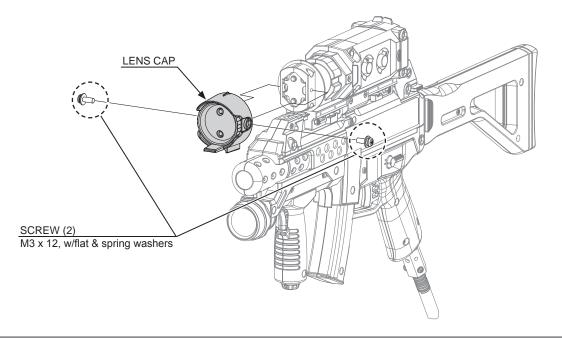
2 Using an Allen wrench, remove the 6 hexagon socket head screws, and take off the 4 controller supports.

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.

CONTROLLER SUPPORT

HEXAGON SOCKET HEAD SCREW (2)
M3x8

CONTROLLER SUPPORT

HEXAGON SOCKET HEAD SCREW (1)
M3x16

CONTROLLER SUPPORT

CONTROLLER SUPPORT

HEXAGON SOCKET HEAD SCREW (2)
M3x8

HEXAGON SOCKET HEAD SCREW (1)
M3x20

14

14-3 REMOVING THE SCOPE

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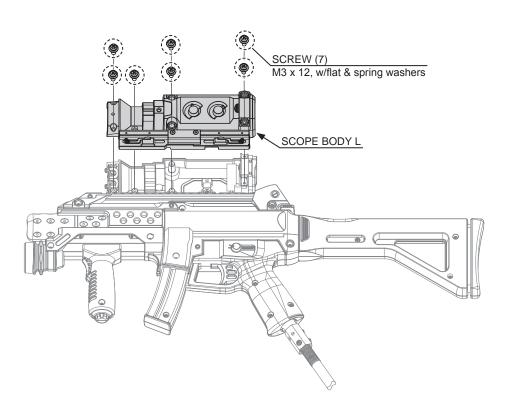
2   Remove the 2 screws and take off the lens cap.

LENS CAP

SCREW (2)
M3 x 12, w/flat & spring washers
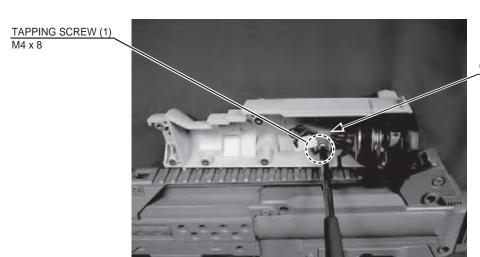
3   Remove the 7 screws and take off the scope body L.

14

SCREW (7)
M3 x 12, w/flat & spring washers

SCOPE BODY L
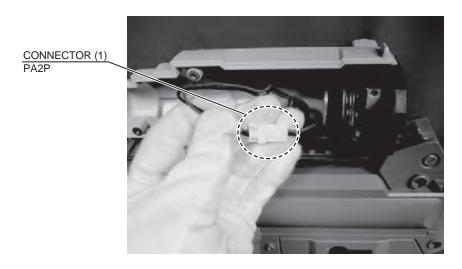
4 Remove the 1 screws and undo the 1 cord clamp.

TAPPING SCREW (1)
M4 x 8
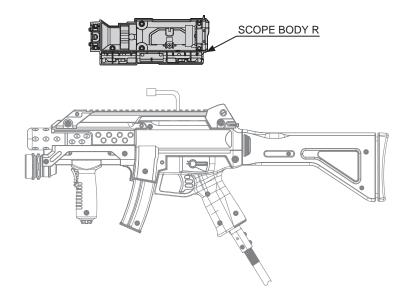
CORD CLAMP (1)

5 Disconnect the 1 connector.

CONNECTOR (1)
PA2P

14

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.

SCOPE BODY R
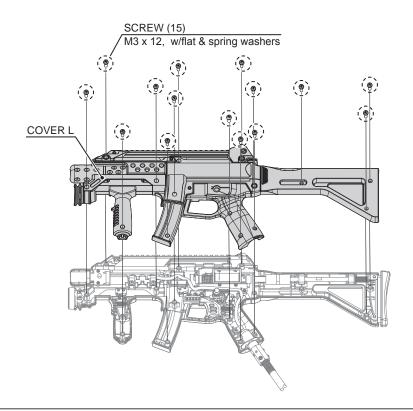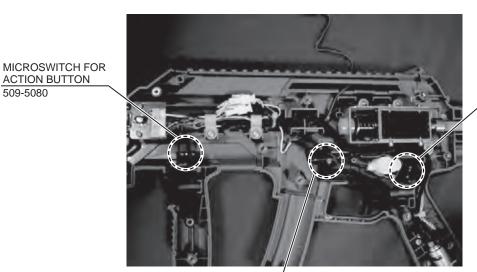
14-4 REPLACING THE MICROSWITCH

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.

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

SCREW (15)
M3 x 12, w/flat & spring washers

COVER L

3   Remove the microswitch from the R cover.

MICROSWITCH FOR
ACTION BUTTON
509-5080

MICROSWITCH FOR
TRIGGER
509-5080

MICROSWITCH FOR SHOT SELECTOR
509-5080
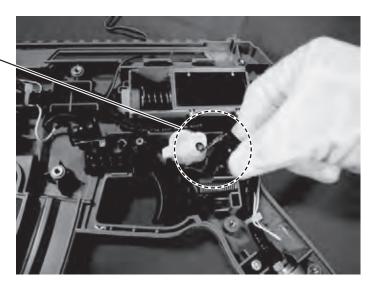
4   Remove the soldered part and then remove the microswitch.

MICROSWITCH
509-5080

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

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

7   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.)

14

14-5 REPLACING THE SENSOR UNIT
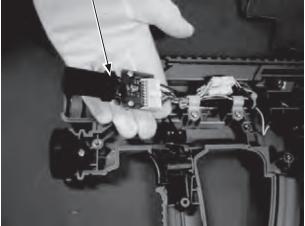
1 Refer to 14-2 "REMOVING THE CONTROLLER SUPPORT" and 14-3 "REMOVING THE SCOPE," take off the controller support and scope body.

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

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

SENSOR UNIT
GLG-2130X

CONNECTOR (1)
XA9P

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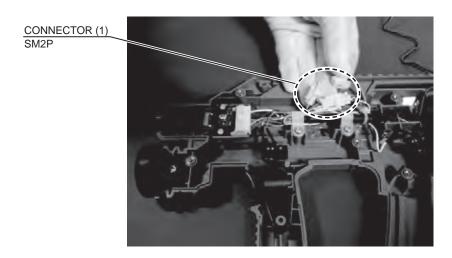
5 Refer to Step 1 to 3 and work in reverse order to reassemble the control unit. Be careful not to tighten screws excessively.

6 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.)

14
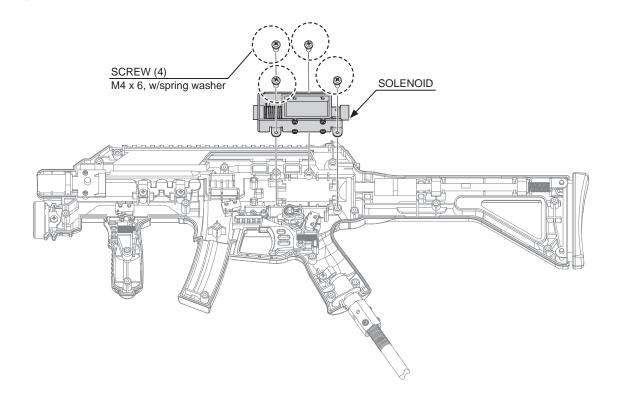
14-6 REPLACING THE SOLENOID

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

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

3 Disconnect the 1 connector.

CONNECTOR (1)
SM2P
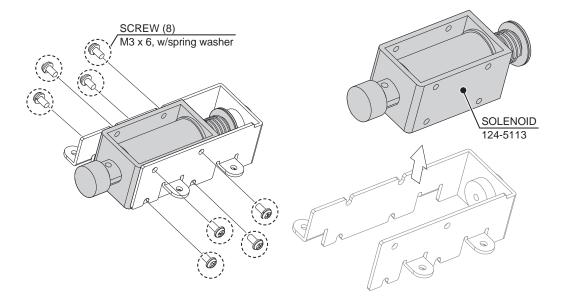
4 Remove the 4 screws and take off the solenoid. Be careful not lose the spring and other small parts.

14

SCREW (4)
M4 x 6, w/spring washer

SOLENOID
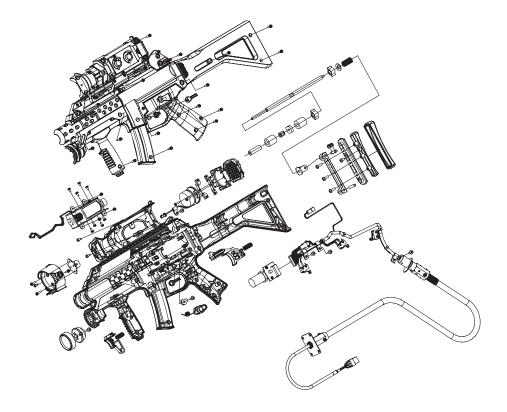
5   Remove the 8 screws and replace the solenoid.

NOTE: When attaching it, use a thread sealant.

SCREW (8)
M3 x 6, w/spring washer

SOLENOID
124-5113

6   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.

14

7   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.)

15 COIN SELECTOR

⚠ 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.**

⚠ CAUTION

When attaching or removing doors, be careful that your hand or finger does not get caught in anything.
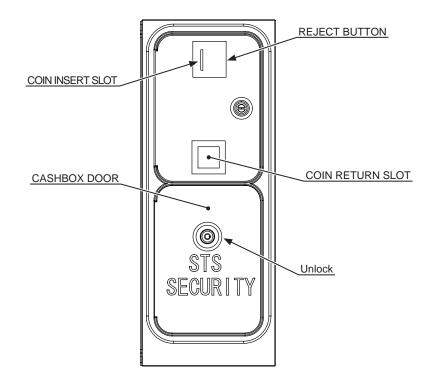
(STOP) IMPORTANT
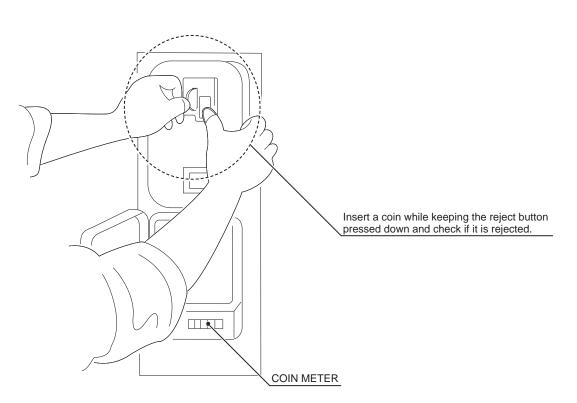
- **Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.**

- **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.**

15

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?

REJECT BUTTON

COIN INSERT SLOT

CASHBOX DOOR

COIN RETURN SLOT

STS SECURITY

Unlock

15

Insert a coin while keeping the reject button pressed down and check if it is rejected.

COIN METER

15-2 CLEANING THE COIN SELECTOR

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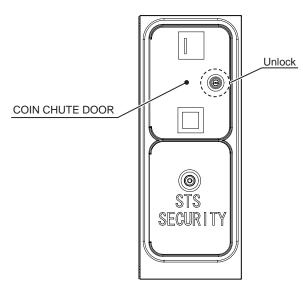
- **Under no circumstances may the cloth be so wet that fluid runs into the device. Otherwise the PCB will be damaged.**
- **Do not use any solvents or scouring agents that will attack the plastic material of the device.**

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

---

1   Turn the power switch OFF.

---
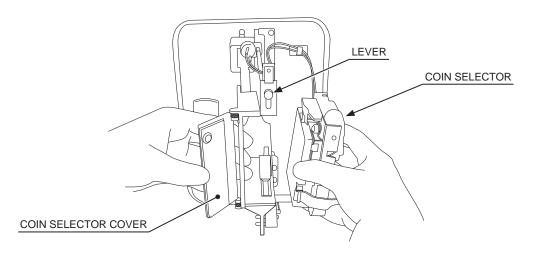
2   Unlock the coin chute door and open it.

COIN CHUTE DOOR

Unlock

STS SECURITY

---

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

LEVER

COIN SELECTOR

COIN SELECTOR COVER

15

4 Disconnect the connector joined to the coin selector. Be careful not to damage the wiring.

CONNECTER

CONNECTER

SR3 COIN SELECTOR

G-13 COIN SELECTOR
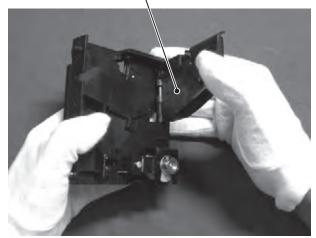
5 Open the gate and remove/clean dust using a soft cloth dipped in water or diluted chemical detergent and then wrung dry.

GATE

GATE

SR3 COIN SELECTOR

G-13 COIN SELECTOR

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

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.

15-4 TROUBLESHOOTING THE COIN SELECTOR

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:

PROBLEMS	CAUSE	COUNTERMEASURES
Coin selector does not accept coin	No Power Supply	• Connect ribbon cable to coin selector and machine correctly. • Supply machine with voltage.
	Return lever/button pressed/got stuck	Make sure, that return lever/button is not inadvertently pressed.
	Coin runway dirty	Open the gate and clean the coin selector. (See 15-2.)
	Coin inhibited	Refer to SR3 or G-13 coin selector manual whcih can be found online.
Coin selector accepts coin but no credit is given	Coin does not exit from the device	Make sure that the coin outlet is not jammed by foreign objects or devices connected to the bottom of the coin selector.
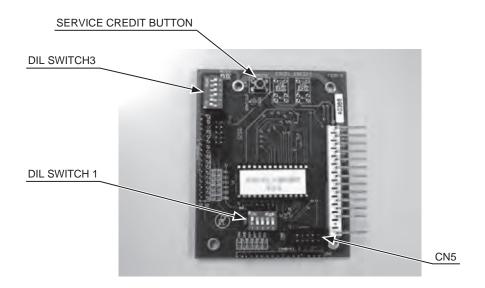
If a problem not described in this manual occurs, do not make further attempts to resolve the problem yourself. Immediately turn off the power and contact the office listed in this manual or the point-of-purchase for this product. Any unguided attempts to solve such problems may lead to a serious accident.

15

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.**

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.)

SERVICE BUTTON	Provides a SERVICE CREDIT when pressed.
STATUS LED	Flashes when functioning.
CN5	To coin selector. (SR3/G-13)
DIL SWITCH 1 (Credit Settings)	Adjust to required price of pay.
DIL SWITCH 3 (Regional Settings)	Adjust to mech type and currency.

15

15-5-1 REGIONAL AND ACCEPTOR SETTINGS (DIL SWITCH 3)

Excel Credit Board Mode Settings DIL Switch 3

Country	Setting	SW1	SW2	SW3	SW4	SW5	SW6	COIN1	COIN2	COIN3	COIN4	COIN5	COIN6	COIN7	COIN8	COIN9	COIN10	COIN11	COIN12
																	C120/SR3 Only		
UK	Coin Controls C220 Parallel	OFF	OFF	OFF	OFF			£1	50p new	20p	10p	-	50p old	-	-				
UK	Coin Controls C220 Binary	ON	OFF	OFF	OFF			£1	50p new	20p	10p	-	50p old	-	£2				
UK	Coin Controls C220 Binary	OFF	ON	OFF	OFF			£1	50p new	20p	10p	-	£2	-	50p old				
UK	Coin Controls SR3 Parallel	ON	ON	OFF	OFF			£1	50p new	20p	10p	-	£2	-	50p old	-			-
UK / Euro	Coin Controls SR3 Parallel	OFF	OFF	ON	OFF			£2 / €2	£1 / €1	50p new / 50¢	20p / 20¢	10p / 10¢	-	-	-	50p old			-
UK	Mars ME/MS 111 Parallel	ON	OFF	ON	OFF			£1	£2	20p	10p	50p new	50p old	-	-				
UK	G-13 Parallel	OFF	ON	ON	OFF			10p	20p	50p	£1	£2	-						
Belgium	Parallel	ON	ON	ON	OFF			-	50BFr	20BFr	5BFr								
Holland	Parallel	OFF	OFF	OFF	ON			-	5NLG	2.5NLG	1NLG								
Austria	SR3 Parallel	ON	OFF	OFF	ON			20Sch	10Sch	5Sch	1Sch								
Spain	Coin Controls C220 Binary	OFF	ON	OFF	ON			500Pta	200Pta	100Pta	50Pta	25Pta	200Pt old	50Pta old	25Pta old				
Spain	SR3/G-13 Parallel	ON	ON	OFF	ON			500Pta	200Pta	100Pta	50Pta	25Pta	-	-	200Pta	-	50Pta old	25Pta old	-
Spain	Coin Controls C220 Parallel	OFF	OFF	ON	ON			100Pta	50Pta new	-	25Pta new	-	50Pta old	-	25Pta old				
Portugal Euro	Parallel	ON	OFF	ON	ON			200Es / €1	100Es / 50¢	50Es	-	-	-	-	-				
	TBA					OFF		TBA											
	TBA					ON		TBA											
	Channels						OFF	Direct Mode											
							ON	2 channel Mode											

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

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.

15

15-5-2 CREDIT SETTINGS (DIL SWITCH 1)

STERLING PRICE OF PLAY SETTINGS
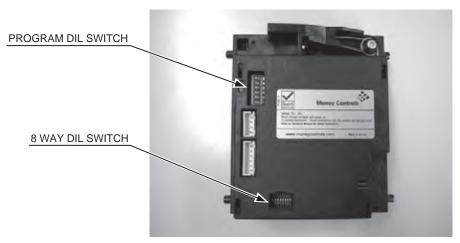
#	Price		Bonus		1	2	3	4	5
1	10p	50p = 5 plays	£1 = 10 plays	£2 = 20 plays	OFF	OFF	OFF	OFF	OFF
2	10p	50p = 6 plays @ 8.33p per play	£1 = 12 plays @ 8.33p per play	£2 = 24 plays @ 8.33p per play	ON	OFF	OFF	OFF	OFF
3	20p	50 = 2.5 plays	£1 = 5 plays	£2 = 10 plays	OFF	ON	OFF	OFF	OFF
4	20p	50p = 3 plays @ 16.66p per play	£1 = 6 plays @ 16.66p per play	£2 = 12 plays @ 16.66p per play	ON	ON	OFF	OFF	OFF
5	30p	50p = 16.66 plays	£1 = 3.33 plays	£2 = 6.66 plays	OFF	OFF	ON	OFF	OFF
6	30p	50p = 16.66 plays	£1 = 4 plays @ 25p per play	£2 = 8 plays @ 25p per play	ON	OFF	ON	OFF	OFF
7	30p	50p = 2 plays @ 25p per play	£1 = 4 plays @ 25p per play	£2 = 8 plays @ 25p per play	OFF	ON	ON	OFF	OFF
8	30p	50p = 2 plays @ 25p per play	£1 = 3 plays @ 33.33p per play	£2 = 6 plays @ 33.33p per play	ON	ON	ON	OFF	OFF
9	40p	50p = 1.25 plays	£1 = 2.5 plays	£2 = 5 plays	OFF	OFF	OFF	ON	OFF
10	40p	50p = 1.25 plays	£1 = 3 plays @ 33.3p per play	£2 = 6 plays @ 33.3p per play	ON	OFF	OFF	ON	OFF
11	50p	50p = 1 play	£1 = 2 plays	£2 = 4 plays	OFF	ON	OFF	ON	OFF
12	50p	50p = 1 play	£1 = 3 plays @ 33.3p per play	£2 = 6 plays @ 33.3p per play	ON	ON	OFF	ON	OFF
13	50p	50p = 1 play	£1 = 2 plays	£2 = 5 plays @ 40p per play	OFF	OFF	ON	ON	OFF
14	60p	50p = 0.83 play	£1 = 1.66 plays	£2 = 3.33 plays	ON	OFF	ON	ON	OFF
15	60p	50p = 0.83 play	£1 = 2 plays @ 50p per play	£2 = 4 plays @ 50p per play	OFF	ON	ON	ON	OFF
16	80p	50p = 0.62 play	£1 = 1.25 plays	£2 = 2.5 plays	ON	ON	ON	ON	OFF
17	80p	£1 = 1.25 plays	£1.50 = 2 plays @ 75p per play	£2 = 2.5 plays	OFF	OFF	OFF	OFF	ON
18	£1	2x50p = 1 play	£1 = 1 play	£2 = 2 plays	ON	OFF	OFF	OFF	ON
19	£1	2x50p = 1 play	£1 = 1 play	£2 = 3 plays @ 66.6p per play	OFF	ON	OFF	OFF	ON
20	£1	2x50p = 1 play	£2 = 2 plays	£4 = 5 plays @ 80p per play	ON	ON	OFF	OFF	ON
21	£1.50	3x50p = 1 play	£1 = 0.66 plays	£3 = 2 plays	OFF	OFF	ON	OFF	ON
22	£1.50	3x50p = 1 play	£1 = 0.66 plays	£2 = 2 plays @ £1 per play	ON	OFF	ON	OFF	ON
23	£2	4x50p = 1 play	£1 = 0.5 play	£2 = 1 play	OFF	ON	ON	OFF	ON
24	£2	4x50p = 1 play	£1 = 0.5 play	£5 = 3 plays @ £1.66 per play	ON	ON	ON	OFF	ON
25	£3	6x50p = 1 play	£1.50 = 0.5 play	£3 = 1 play	OFF	OFF	OFF	ON	ON
26	£3	6x50p = 1 play	£1.50 = 0.5 play	£5 = 2 plays @ £2.50 per play	ON	OFF	OFF	ON	ON
27	£5	£1 = 0.2 play	£5 = 1 play	£10 = 2 plays	OFF	ON	OFF	ON	ON
28	£5	£1 = 0.2 play	£5 = 1 play	£10 = 3 plays @ £3.33 per play	ON	ON	OFF	ON	ON
29	£7.50	£5 = 0.66 play	£10 = 1.33 plays	£15 = 2 plays	OFF	OFF	ON	ON	ON
30	£7.50	£5 = 0.66 play	£10 = 1.33 plays	£10 = 2 plays @ £5 per play	ON	OFF	ON	ON	ON
31	£10	£10 = 1 play	£20 = 1 play	£30 = 3 plays	OFF	ON	ON	ON	ON
32		Free Play			ON	ON	ON	ON	ON

EURO PRICE OF PLAY SETTINGS

#	Price			Bonus	1	2	3	4	5
							DIL Switch 1		
1	10¢	50¢ = 5 plays	€1 = 10 plays	€2 = 20 plays	OFF	OFF	OFF	OFF	OFF
2	10¢	50¢ = 6 plays @ 8.33p per play	€1 = 12 plays @ 8.33¢ per play	€2 = 24 plays @ 8.33¢ per play	ON	OFF	OFF	OFF	OFF
3	20¢	50¢ = 2.5 plays	€1 = 5 plays	€2 = 10 plays	OFF	ON	OFF	OFF	OFF
4	20¢	50¢ = 3 plays @ 16.66p per play	€1 = 6 plays @ 16.66¢ per play	€2 = 12 plays @ 16.66¢ per play	ON	ON	OFF	OFF	OFF
5	30¢	50¢ = 1.66 plays	€1 = 3.33 plays	€2 = 6.66 plays	OFF	OFF	ON	OFF	OFF
6	30¢	50¢ = 1.66 plays	€1 = 4 plays @ 25¢ per play	€2 = 8 plays @ 25¢ per play	ON	OFF	ON	OFF	OFF
7	30¢	50¢ = 2 plays @ 25¢ per play	€1 = 4 plays @ 25¢ per play	€2 = 8 plays @ 25¢ per play	OFF	ON	ON	OFF	OFF
8	30¢	50¢ = 2 plays @ 25¢ per play	€1 = 3 plays @ 33.33¢ per play	€2 = 6 plays @ 33.33¢ per play	ON	ON	ON	OFF	OFF
9	40¢	50¢ = 1.25 plays	€1 = 2.5 plays	€2 = 5 plays	OFF	OFF	OFF	ON	OFF
10	40¢	50¢ = 1.25 plays	€1 = 3 plays @ 33.33¢ per play	€2 = 6 plays @ 33.33¢ per play	ON	OFF	OFF	ON	OFF
11	50¢	50¢ = 1 play	€1 = 2 plays	€2 = 4 plays	OFF	ON	OFF	ON	OFF
12	50¢	50¢ = 1 play	€1 = 3 plays @ 33.33¢ per play	€2 = 6 plays @ 33.3¢ per play	ON	ON	OFF	ON	OFF
13	50¢	50¢ = 1 play	€1 = 2 plays	€2 = 5 plays @ 40¢ per play	OFF	OFF	ON	ON	OFF
14	60¢	50¢ = 0.83 play	€1 = 1.66 plays	€2 = 3.33 plays	ON	OFF	ON	ON	OFF
15	60¢	50¢ = 0.83 play	€1 = 2 plays @ 50¢ per play	€2 = 4 plays @ 50¢ per play	OFF	ON	ON	ON	OFF
16	80¢	50¢ = 0.62 play	€1 = 1.25 plays	€2 = 2.5 plays	ON	ON	ON	ON	OFF
17	80¢	£1 = 1.25 plays	€1.50 = 2 plays @ 75¢ per play	€2 = 2.5 plays	OFF	OFF	OFF	OFF	ON
18	€1	2x50¢ = 1 play	€1 = 1 play	€2 = 2 plays	ON	OFF	OFF	OFF	ON
19	€1	2x50¢ = 1 play	€1 = 1 play	€2 = 3 plays @ 66.6¢ per play	OFF	ON	OFF	OFF	ON
20	€1	2x50¢ = 1 play	€2 = 2 plays	€4 = 5 plays @ 80¢ per play	ON	ON	OFF	OFF	ON
21	€1.50	3x50¢ = 1 play	€1 = 0.66 play	€3 = 2 plays	OFF	OFF	ON	OFF	ON
22	€1.50	3x50¢ = 1 play	€1 = 0.66 play	€2 = 2 plays @ €1 per play	ON	OFF	ON	OFF	ON
23	€2	4x50¢ = 1 play	€1 = 0.5 play	€2 = 1 play	OFF	ON	ON	OFF	ON
24	€2	4x50¢ = 1 play	€1 = 0.5 play	€5 = 3 plays @ €1.66 per play	ON	ON	ON	OFF	ON
25	€3	6x50¢ = 1 play	€1.50 = 0.5 play	€3 = 1 play	OFF	OFF	OFF	ON	ON
26	€3	6x50¢ = 1 play	€1.50 = 0.5 play	€5 = 2 plays @ €2.50 per play	ON	OFF	OFF	ON	ON
27	€5	€1 = 0.2 play	€5 = 1 play	€10 = 2 plays	OFF	ON	OFF	ON	ON
28	€5	€1 = 0.2 play	€5 = 1 play	€10 = 3 plays @ €3.33 per play	ON	ON	OFF	ON	ON
29	€7.50	€5 = 0.66 play	€10 = 1.33 plays	€15 = 2 plays	OFF	OFF	ON	ON	ON
30	€7.50	€5 = 0.66 play	€10 = 1.33 plays	€10 = 2 plays @ €5 per play	ON	OFF	ON	ON	ON
31	€10	€10 = 1 play	€20 = 2 plays	€30 = 3 plays	OFF	ON	ON	ON	ON
32			Free Play		ON	ON	ON	ON	ON

15

15-6 SETTING THE COIN SELECTOR

15-6-1 SR3 COIN SELECTOR

PROGRAM DIL SWITCH

8 WAY DIL SWITCH

SR3 COIN SELECTOR

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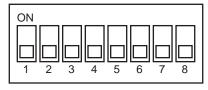
The SR3 (supplied) is programmed to accept UK sterling and the Euro. Factory setting is for the UK sterling. If the configuration needs to change to the Euro, then follow the instructions below for changing over to the Euro and visa versa.

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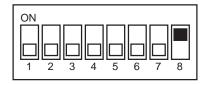
This function allows you to enable both or individual select banks of coins via switches 7 and 8 on the 8 way DIL switch.
This enables the selection of 2 different currencies, one in each bank, or 12 coins/tokens in both banks from the same country.
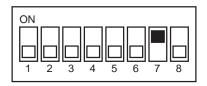
To enable/disable the banks set the switches as show below.

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.

15

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.
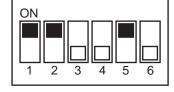
COIN NUMBER	SW1	SW2	SW3	SW4	SW5	SW6
1	OFF	OFF	OFF	ON	ON	OFF
2	OFF	OFF	ON	OFF	ON	OFF
3	OFF	OFF	ON	ON	ON	OFF
4	OFF	ON	OFF	OFF	ON	OFF
5	OFF	ON	OFF	ON	ON	OFF
6	OFF	ON	ON	OFF	ON	OFF

Table 2: Teach and Run Programming Bank 2

COIN NUMBER	SW1	SW2	SW3	SW4	SW5	SW6
7	OFF	ON	ON	ON	ON	OFF
8	ON	OFF	OFF	OFF	ON	OFF
9	ON	OFF	OFF	ON	ON	OFF
10	ON	OFF	ON	OFF	ON	OFF
11	ON	OFF	ON	ON	ON	OFF
12	ON	ON	OFF	OFF	ON	OFF

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:

MSB SW1	SW2	SW3	LSB SW4	TOTAL	SW5	SW6
ON	ON	OFF	OFF	12	ON	OFF

---

2   Switch on the power to the SR3.

---

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

---
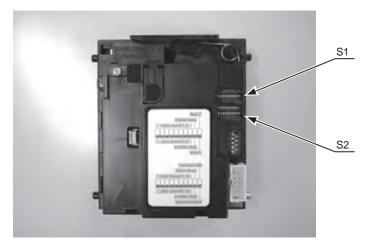
4   Start entering £1 coins until the LED flashes GREEN, typically after 8 to 10 insertions.

     NOTE: If the LED turns GREEN after the 1st coin, then the Teach and Run is DISABLED.

---

5   Press the reject lever and the LED will turn GREEN. The coin channel has now been programmed.

---

6   Set all switches to the off position.

15
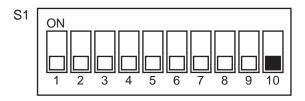
15-6-2 G-13 COIN SELECTOR
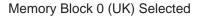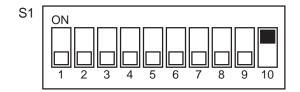
G-13 COIN SELECTOR

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
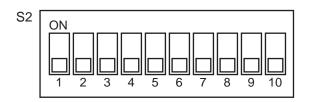
Memory Block 1 (Euro) Selected

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.

15

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:

S2

DIL SWITCH	FUNCTION	OFF	ON
S2.1	Coin Channel 9	-	Teach
S2.2	Coin Channel 10	-	Teach
S2.3	Coin Channel 11	-	Teach
S2.4	Coin Channel 12	-	Teach
S2.5	Coin Channel 13	-	Teach
S2.6	Coin Channel 14	-	Teach
S2.7	Coin Channel 15	-	Teach
S2.8	Coin Channel 16	-	Teach
S2.9	Teach Mode	OFF	ON
S2.10	Acceptance Band	Normal	Wide
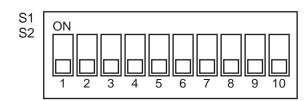
By default, the eight teach channels have been programmed, so that one coin impulse is transmitted to the machine via coin signal line 6, when a new coin is accepted.

15

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.

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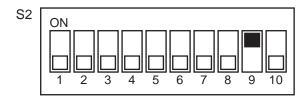
1   Set all DIL switches 1-10 toward the bottom to OFF.

S1
S2

```
ON
 1  2  3  4  5  6  7  8  9  10
```

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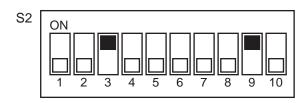
2   Set DIL switch S2.9 toward the top to ON.

S2

```
ON
 1  2  3  4  5  6  7  8  9  10
```

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

---

3   Release the coin channel to be taught (9–16 or 25–32, here: 11 or 27) by S2 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.)

S2

```
ON
 1  2  3  4  5  6  7  8  9  10
```

---

4   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.

16 REPLACING THE FUSE

⚠ WARNING
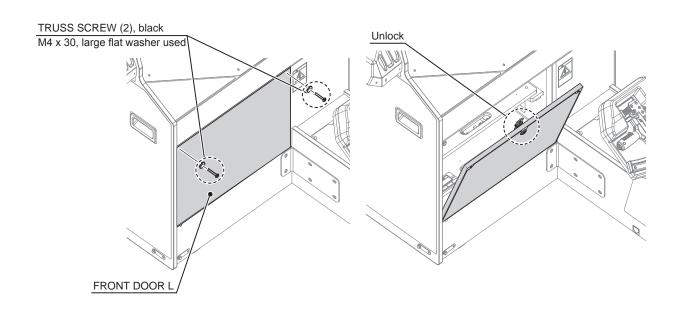
- In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.

- 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.

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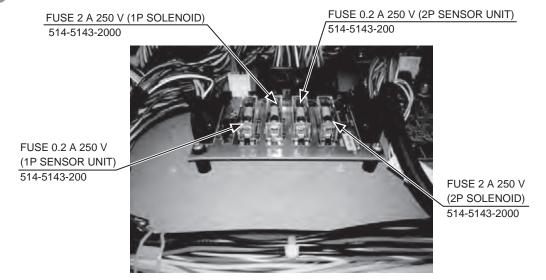
For continued protection against risk of fire, replace only with the same type of fuse having the same electrical ratings.

---

1 Turn the power switch OFF.

---

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

TRUSS SCREW (2), black
M4 x 30, large flat washer used

Unlock

FRONT DOOR L

3 Replace the fuse.

FUSE 2 A 250 V (1P SOLENOID)
514-5143-2000

FUSE 0.2 A 250 V (2P SENSOR UNIT)
514-5143-200

FUSE 0.2 A 250 V
(1P SENSOR UNIT)
514-5143-200

FUSE 2 A 250 V
(2P SOLENOID)
514-5143-2000

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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.

⚠ 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.**

NOTE: The "S/M" referenced in the table denotes RINGWIDE Service Manual, which is provided separately.

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PERIOD	ITEMS	DESCRIPTION	REFERENCE
As appropriate	CABINET SURFACES	Cleaning	As below
	CONTROL UNIT SURFACES	Cleaning	As above
Daily	CABINET	Confirm that adjusters contact floor.	6-3
Weekly	CONTROL UNIT	Aim test	6-7-7, 11-7
	LCD	Screen cleaning	13-2
		Check screen adjustment.	13-3
Monthly	FRONT CABINET	Check speaker volume.	6-7-1
		Speaker inspection	6-7-3, S/M
	CONTROLLER CABINET	Check each input device.	6-7-4, 11-3
		Check each output device.	6-7-5, 11-4
	CONTROL UNIT	Check speaker volume.	6-7-1
		Speaker inspection	6-7-3, S/M
		Check each input device.	6-7-4, 11-3
		Check each output device.	6-7-5, 11-4
	LED BOARD	LED Inspection	6-7-6, 11-6
	COIN SELECTOR	Coin switch inspection	Chapter 15
		Coin insertion test	15-1
	RINGWIDE	Setting check	S/M
Every 3 months	COIN SELECTOR	Cleaning	15-2
1 year	RINGWIDE	Cleaning	19-2
	POWER CABLE	Inspection, Cleaning	6-5
	CABINET INTERIOR	Cleaning	As above

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.

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18 TROUBLESHOOTING

⚠ 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.**

STOP IMPORTANT
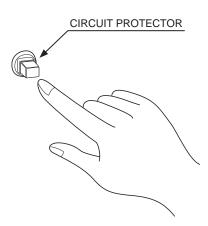
- **If an error message is displayed, identify the cause right away and take the appropriate countermeasures. Leaving the error unaddressed could result in a breakdown.**

- **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.**

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18-1 TROUBLESHOOTING TABLE

PROBLEMS	CAUSE	COUNTERMEASURES
With main switch ON, no activation.	Power is not supplied.	Insert the power plug all the way into the outlet.
	Power supply/voltage is not correct.	Make sure that power supply/voltage is correct.
	Circuit protector on AC unit was activated due to temporary overload.	Reset the circuit protector after removing the cause of the overload. (See below)
No sound is generated from the speaker.	Volume not properly adjusted.	Adjust the sound volume. (See Chapter 9.)
	Board and Amplifier malfunctioning.	Contact the customer service center listed in this manual.
The color on the LCD is incorrect.	Screen not properly adjusted.	Adjust the screen settings. (See 6-7-2, 13-3.)
	LCD trouble	Replace the LCD. (See 13-4.)
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.)
	LED board trouble	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.)
	Sensor unit trouble	Replace the sensor unit. (See 14-5.)
	LED board and LED board cover are contaminated.	Wipe off soiled surfaces. (See 18-2.)
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.)
	LED board trouble	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.)
	Sensor unit trouble	Replace the sensor unit. (See 14-5.)

18

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.)

CIRCUIT PROTECTOR

18-2 REPLACING THE LED BOARD

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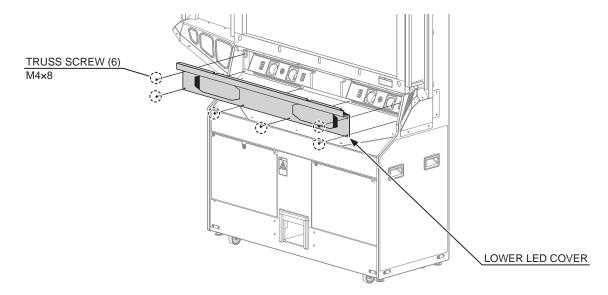
Removing or attaching of the mask must be carried out by at least 2 people, one on the left and one on the right. A single person working alone can lead to injury.

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.
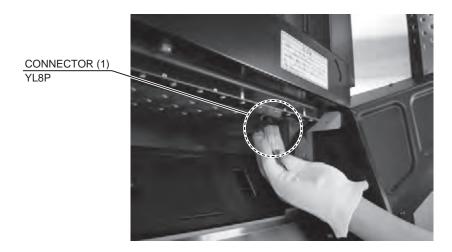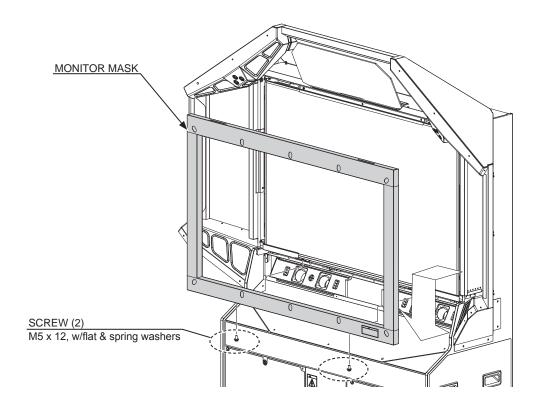
1 Turn the power switch OFF.

2 Remove the 6 truss screws and take off the lower LED cover.

TRUSS SCREW (6)
M4×8

LOWER LED COVER

18

3   Disconnect the 1 connector.

CONNECTOR (1)
YL8P

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.

MONITOR MASK

SCREW (2)
M5 x 12, w/flat & spring washers

18

5 Spread out protective material measuring 1,500 mm (59 in) by 1,000 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.
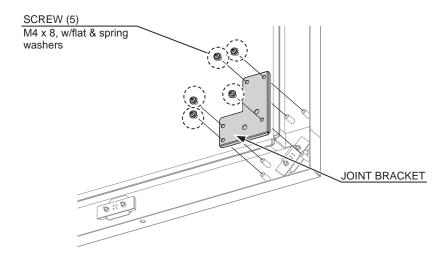
6 Using 2 or more workers, place the monitor mask slowly on the protective material with its front side facing down.

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.
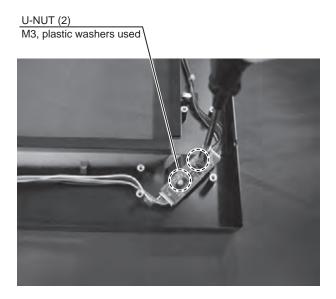
U-NUT (2)
M3, plastic washers used

LED BOARD
838-15119

CONNECTOR (2)
XH6P

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

18
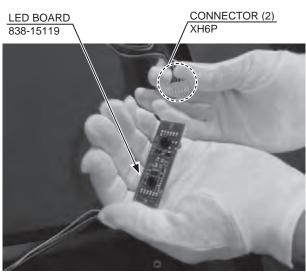
9 If the problematic LED board is in the corner of the mask, remove the 5 screws and remove the joint bracket.

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

SCREW (5)
M4 x 8, w/flat & spring washers

JOINT BRACKET

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.

U-NUT (2)
M3, plastic washers used

LED BOARD
838-15119

CONNECTOR (2)
XH6P

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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.

19 RINGWIDE

⚠ 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.**

⚠ 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.

(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.

19

19-1 REMOVING THE RINGWIDE
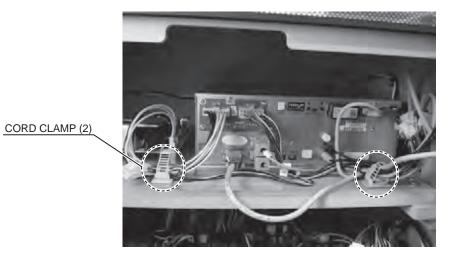
1 Turn the power switch OFF.

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

TRUSS SCREW (2), black
M4 x 30, large flat washer used

Unlock

FRONT DOOR L

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3   Undo the 2 cord clamps.

CORD CLAMP (2)

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

CONNECTOR (2)
D-SUB15P, JVS

CONNECTOR (2)
SOUND MINI PLUG FRONT (lime), SOUND
MINI PLUG REAR (black)

19
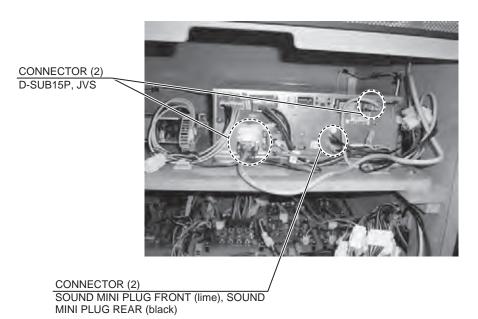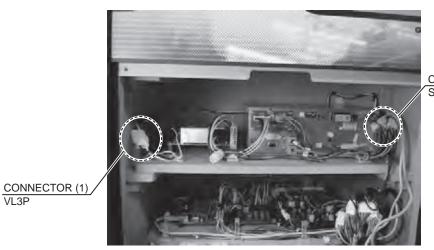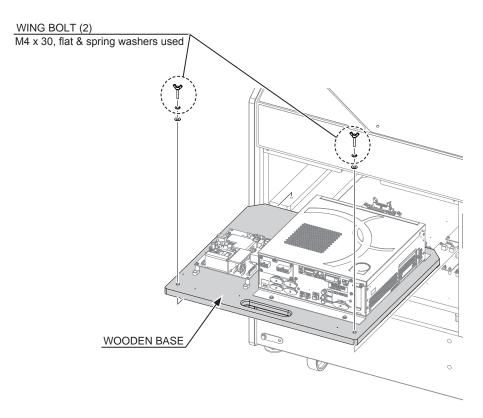
5 Disconnect the 4 connectors.
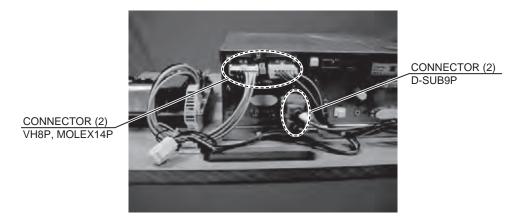
CONNECTOR (3)
SM4P, SM6P, YL12P

CONNECTOR (1)
VL3P
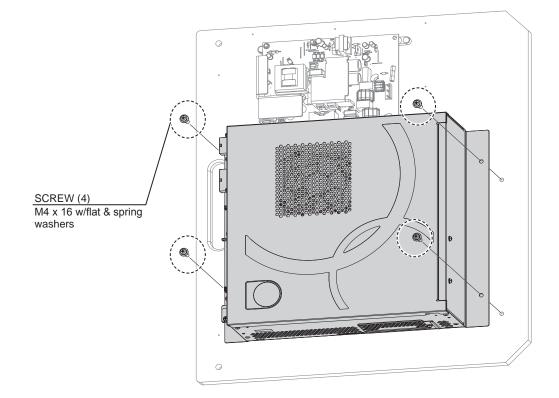
6 Remove the 2 wing bolts and pull out the wooden base. Be careful not to damage the cables.

WING BOLT (2)
M4 x 30, flat & spring washers used

WOODEN BASE

19

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.

CONNECTOR (2)
D-SUB9P

CONNECTOR (2)
VH8P, MOLEX14P

8 Remove the 4 screws and take off the RINGWIDE.

SCREW (4)
M4 x 16 w/flat & spring washers

19

19-2 CLEANING THE RINGWIDE

(STOP) IMPORTANT
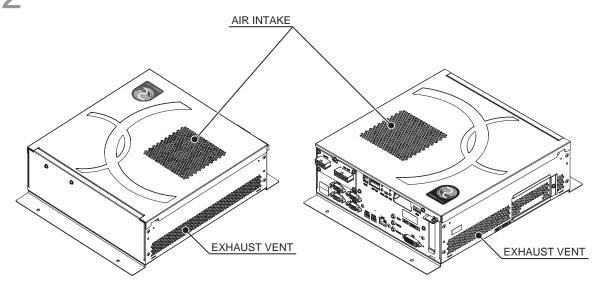
> **You should clean the RINGWIDE once per year, or when "Error 0090" or "Error 0091" appear. Dust building up within the RINGWIDE creates the risk of faults such as malfunctions.**

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.

---

2 Clean around the air vent of RINGWIDE with a vacuum cleaner.

AIR INTAKE

EXHAUST VENT

EXHAUST VENT

19

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

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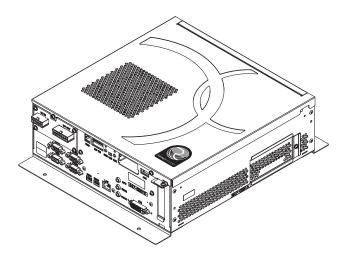
4 Refer to 19-1 "REMOVING THE RINGWIDE" and work in reverse order to attach the RINGWIDE.

19-3 COMPOSITION OF THE RINGWIDE

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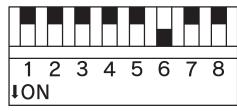
- **The RINGWIDE becomes the RINGWIDE for this product once the key chip is inserted.**
- **Use with the dip switches (DIP SW) on the board at the prescribed settings. If settings do not match the product, an error message will be displayed. In some cases, the game cannot be started.**

ASSY CASE WDE W 1GB EXP (847-0001D-02)
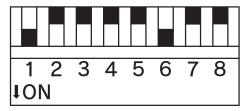
DIP SW SETTING

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

<For English messages>

<For Russian messages>

19

20 ERROR DISPLAY

⚠ 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.

(STOP) IMPORTANT
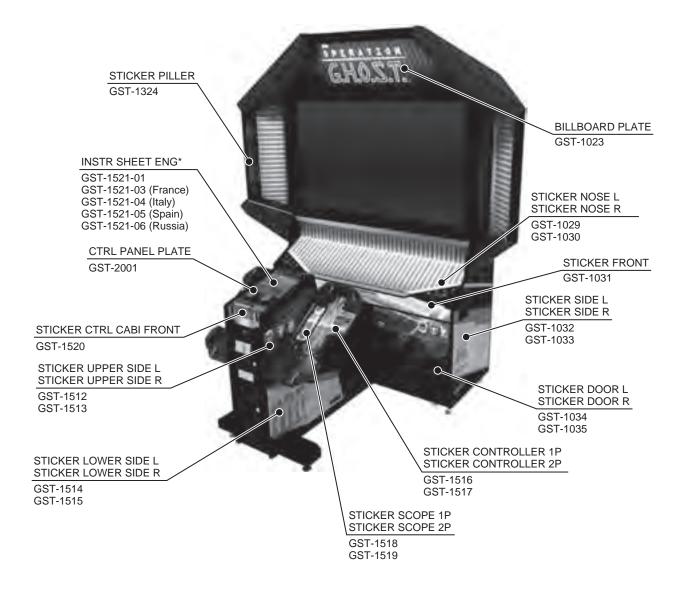
- Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.

- Do not turn the power on and off continuously. Repeatedly turning the power on and off may cause product malfunction or parts damage.

Display Example	ERROR 4000 JVS INITIALIZE FAILED
Cause	There is a possibility that the JVS connectors have not been properly connected.
Countermeasures	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

Display Example	ERROR 4001 WRONG COIN ASSIGNMENTS
Cause	The coin assignment is wrong.
Countermeasures	Set the COIN ASSIGNMENTS settings in SYSTEM TEST MODE as follows: (See Chapter 10.) COIN CHUTE TYPE: COMMON SERVICE TYPE: COMMON

20

21 DESIGN RELATED PARTS

STICKER PILLER
GST-1324

BILLBOARD PLATE
GST-1023

INSTR SHEET ENG*
GST-1521-01
GST-1521-03 (France)
GST-1521-04 (Italy)
GST-1521-05 (Spain)
GST-1521-06 (Russia)

STICKER NOSE L
STICKER NOSE R
GST-1029
GST-1030

CTRL PANEL PLATE
GST-2001

STICKER FRONT
GST-1031

STICKER SIDE L
STICKER SIDE R
GST-1032
GST-1033

STICKER CTRL CABI FRONT
GST-1520

STICKER UPPER SIDE L
STICKER UPPER SIDE R
GST-1512
GST-1513

STICKER DOOR L
STICKER DOOR R
GST-1034
GST-1035

STICKER CONTROLLER 1P
STICKER CONTROLLER 2P
GST-1516
GST-1517

STICKER LOWER SIDE L
STICKER LOWER SIDE R
GST-1514
GST-1515

STICKER SCOPE 1P
STICKER SCOPE 2P
GST-1518
GST-1519

21

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

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.
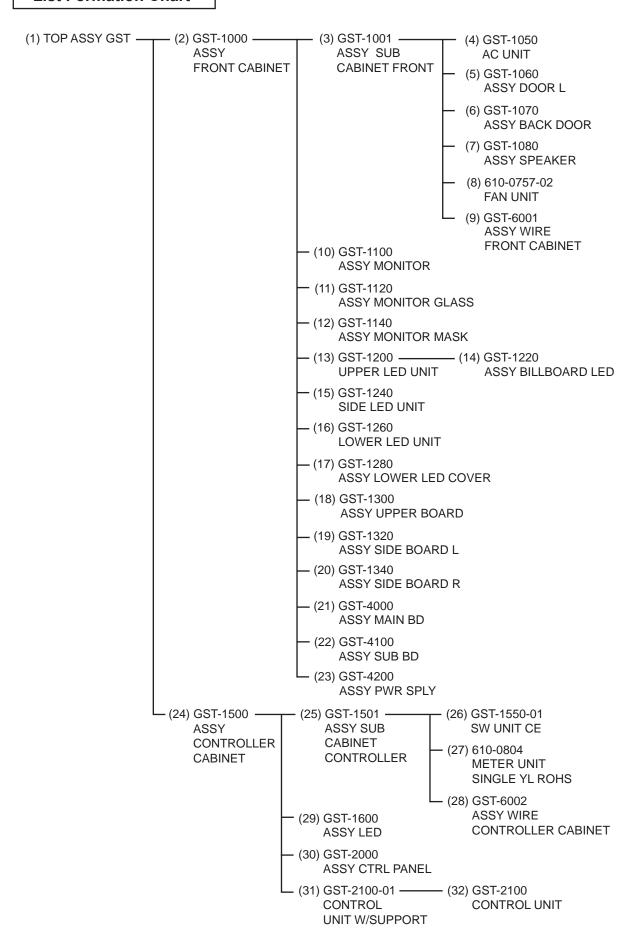
The followings are the suffix character(s) of the Parts No. for the corresponding official language;

E or EG or UK:	English	FR:	French	GM:	German
SP:	Spanish	PT:	Portuguese	IT:	Italian
DU:	Dutch	SW:	Swedish	NW:	Norwegian

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.

List Formation Chart

(1) TOP ASSY GST —— (2) GST-1000 —— (3) GST-1001 —— (4) GST-1050
ASSY   ASSY SUB   AC UNIT
FRONT CABINET   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
ASSY MONITOR

(11) GST-1120
ASSY MONITOR GLASS

(12) GST-1140
ASSY MONITOR MASK

(13) GST-1200 —————— (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) GST-1500 —— (25) GST-1501 —— (26) GST-1550-01
ASSY   ASSY SUB   SW UNIT CE
CONTROLLER   CABINET
CABINET   CONTROLLER

(27) 610-0804
METER UNIT
SINGLE YL ROHS

(28) GST-6002
ASSY WIRE
CONTROLLER CABINET

(29) GST-1600
ASSY LED

(30) GST-2000
ASSY CTRL PANEL

(31) GST-2100-01 —————— (32) GST-2100
CONTROL   CONTROL UNIT
UNIT W/SUPPORT

22

(1) TOP ASSY GST (D-1/2)

Details of "C"

Affix from back of coin chute door.

Details of "B"

Details of "A"

22

(1) TOP ASSY GST   (D-2/2)

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

22

(2) GST-1000 (D-1/3)
ASSY FRONT CABINET

(2) GST-1000 (D-2/3)
ASSY FRONT CABINET

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1001	ASSY SUB CABINET FRONT	
2	GST-1100	ASSY MONITOR	
3	GST-1120	ASSY MONITOR GLASS	
4	GST-1140	ASSY MONITOR MASK	
5	GST-1200	UPPER LED UNIT	
6	GST-1240	SIDE LED UNIT	
7	GST-1260	LOWER LED UNIT	
8	GST-1280	ASSY LOWER LED COVER	
9	GST-1300	ASSY UPPER BOARD	
10	GST-1320	ASSY SIDE BOARD L	
11	GST-1340	ASSY SIDE BOARD R	
12	GST-4000	ASSY MAIN BD	
13	GST-4100	ASSY SUB BD	
14	GST-4200	ASSY PWR SPLY	
15	GST-1013	GLASS SUPPORT	
16	GST-1014	UPPER UNIT COVER	
17	GST-1015	LOWER REFLECTION PLATE	
18	GST-1016	BOARD BRKT	
19	GST-1017	BOARD SUPPORT L	
20	GST-1018	BOARD SUPPORT R	
21	GST-1019	UPPER BRKT L	
22	GST-1020	UPPER BRKT R	
23	GST-1021	LOWER BRKT L	
24	GST-1022	LOWER BRKT R	
25	GST-1023	BILLBOARD PLATE	
26	GST-1024	BILLBOARD SASH	
27	GST-1025X	UPPER COVER L	
28	GST-1026X	UPPER COVER R	
29	GST-1027X	LOWER COVER L	
30	GST-1028X	LOWER COVER R	
31	GST-1029	STICKER NOSE L	
32	GST-1030	STICKER NOSE R	
33	GST-1031	STICKER FRONT	
34	GST-1032	STICKER SIDE L	
35	GST-1033	STICKER SIDE R	
36	GST-1034	STICKER DOOR L	
37	GST-1035	STICKER DOOR R	
38	440-WS0002YEG	STICKER W POWER OFF ENG	
39	440-CS0186XEG	STICKER C EPILEPSY 40 ENG	
40	421-11416	STICKER CAUTION FORK	
201	030-000630-S	HEX BLT W/S M6x30	
202	068-652016	FLT WSHR 6.5-20 x1.6	
203	000-P00512-W	M SCR PH W/FS M5x12	
204	000-P00420-WB	M SCR PH W/FS BLK M4x20	
205	000-P00416-WB	M SCR PH W/FS BLK M4x16	

22

(2) GST-1000   (D-3/3)
ASSY FRONT CABINET
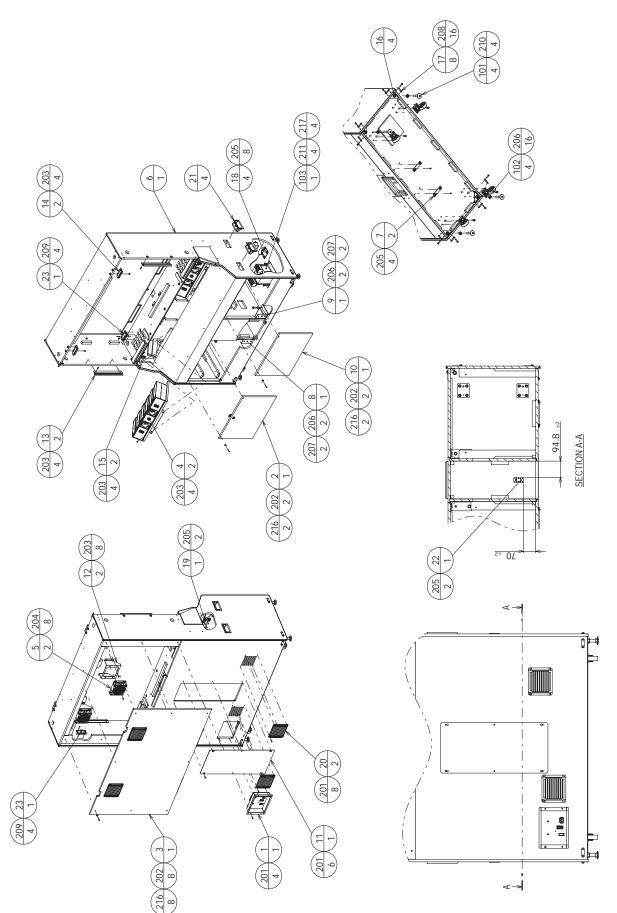
ITEM NO.	PART NO.	DESCRIPTION	NOTE
206	000-T00408-0C	M SCR TH CRM M4x8	
207	000-P00520-WB	M SCR PH W/FS BLK M5x20	
208	000-P00516-WB	M SCR PH W/FS BLK M5x16	
209	032-000430	WING BLT M4x30	
210	060-F00400	FLT WSHR M4	
211	060-S00400	SPR WSHR M4	
212	000-T00408-0B	M SCR TH BLK M4x8	
213	068-441616-0B	FLT WSHR BLK 4.4-16x1.6	
214	000-T00416-0C	M SCR TH CRM M4x16	
215	050-H00400	HEX NUT M4	

(3) GST-1001 (D-1/3)
ASSY SUB CABINET FRONT

SECTION A-A

(3) GST-1001 (D-2/3)
ASSY SUB CABINET FRONT

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1050	AC UNIT	
2	GST-1060	ASSY DOOR L	
3	GST-1070	ASSY BACK DOOR	
4	GST-1080	ASSY SPEAKER	
5	610-0757-02	FAN UNIT	
6	GST-1002	CABINET FRONT	
7	117-5464-080	NUT PLATE 2-M8-080	
8	GST-1004	HOLDER BRKT L	
9	GST-1005	HOLDER BRKT R	
10	GST-1006	DOOR R	
11	GST-1007	BACK LID	
12	GST-1008	FAN STAY	
13	GST-1009	MASK GUIDE	
14	GST-1010	MASK BRKT	
15	GST-1011	LOWER COVER BRKT	
16	ARC-1006	LEG BRACKET	
17	117-5233-91	PLATE LEG BRACKET BLACK	
18	117-5465	CASTER NUT PLATE	
19	117-5098-91	TNG RETAINER PLATE	
20	253-5460-01	AIR VENT BLACK	
21	253-5396-91	CABINET HANDLE	
22	105-5639	EARTH PLATE	
23	837-15093-01	IC BD LED DRVR CONT RS232	
101	601-5699X	LEG ADJUSTER BOLT M16X75	
102	601-12677	CASTER D75H97 FREE ML-330N	
103	560-5599	XFMR 100-240V 100V 7.5A EI	
104	280-5009-02-91	CORD CLAMP 21 CN	
105	280-5208	HARNESS LUG CC-1007	
106	270-5117	FERRITE CORE TDK ZCAT3035-1330	
201	000-T00420-0B	M SCR TH BLK M4x20	
202	000-T00430-0B	M SCR TH BLK M4x30	
203	000-P00416-WB	M SCR PH W/FS BLK M4x16	
204	050-F00400	FLG NUT M4	
205	011-T03512	TAP SCR TH 3.5x12	
206	030-000830-S	HEX BLT W/S M8x30	
207	060-F00800	FLT WSHR M8	
208	030-000630-SB	HEX BLT BLK W/S M6x30	
209	011-P00325	TAP SCR PH 3x25	
210	050-H01600-3	HEX NUT TYPE3 M16	
211	000-P00520-W	M SCR PH W/FS M5x20	
212	011-F00312	TAP SCR #1 FH 3x12	
213	050-H00400	HEX NUT M4	
214	060-S00400	SPR WSHR M4	
215	060-F00400	FLT WSHR M4	
216	068-441616-0B	FLT WSHR BLK 4.4-16x1.6	

(3) GST-1001   (D-3/3)
ASSY SUB CABINET FRONT
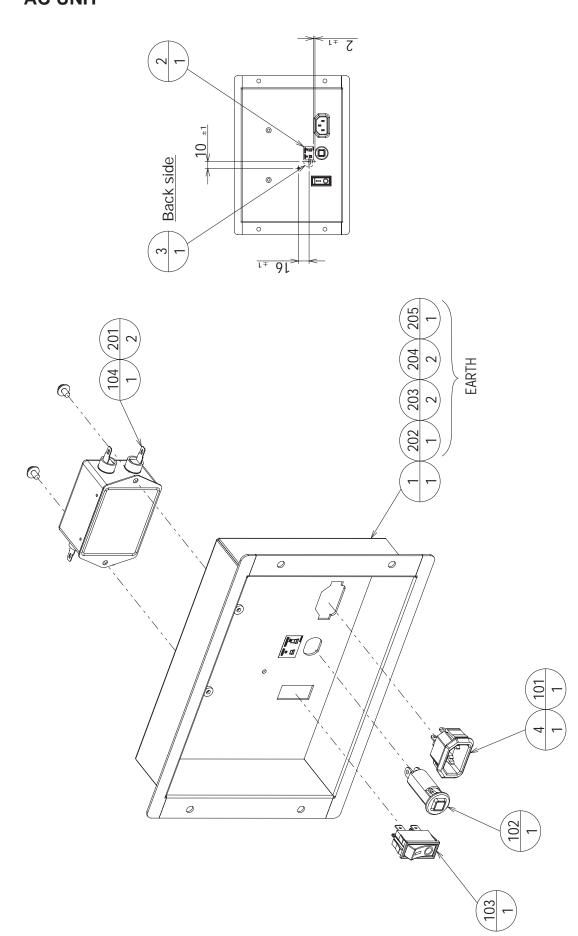
ITEM NO.	PART NO.	DESCRIPTION	NOTE
217	068-552016	FLT WSHR 5.5-20 x1.6	
301	GST-6001	ASSY WIRE FRONT CABINET	
302	GST-60071X	WH XFMR IN	
303	GST-60072X	WH XFMR OUT	
304	GST-60073X	WH AC CABINET	
305	GST-60074	WH AC FAN	
306	GST-60075	WH LED CTRL BD ID	
307	GST-60076	WH AC GAME BD	
308	600-6972-0820	WIRE 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	
	600-8020-100-11	CA 3.5PLUG 3P X2 100CM SS YG	
311	600-8097-100-12	CA 3.5PLUG 3P X2 100CM SS BK	
	600-8020-100-12	CA 3.5PLUG 3P X2 100CM SS BK	
312	600-8098-200	ASSY RGB CA D-SUB 15P 200CM	
	600-7009-2000	ASSY RGB CA D-SUB 15P 2000MM	
	600-7009-01-200	ASSY RGB CA D-SUB 15P 200CM	
313	600-8099-150	CABLE JVS TYPE A-B 150CM	
	600-7141-91-150	CABLE JVS TYPE A-B 150CM	

22

(4) GST-1050   **(D-1/2)**
AC UNIT
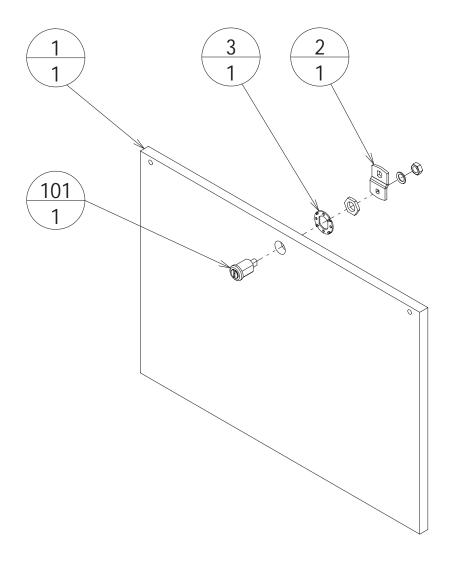
(4) GST-1050 AC UNIT

(D-2/2)
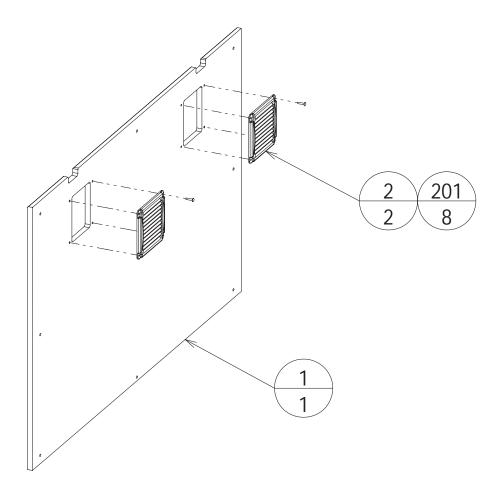
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1051	AC BRKT	
2	421-7468-02	STICKER C.P W/PIC	
3	421-8202	STICKER EARTH MARK	
4	SRC-1542	INLET SUPPORT	
101	214-0202	AC INLET PANEL TYPE	
102	512-5046-91-05	C.P 5A CE UL NRW10-5A-TK2421	
103	509-6102-V-B	SW ROCKER J8 V-B AJ8202BF	
104	270-5115	NOISE FILTER 15A GT-215J	
105	280-7881	CORD CLAMP SR10 CN	
201	000-P00406-WB	M SCR PH W/FS BLK M4x6	
202	050-H00400	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	

22

(5) GST-1060
ASSY DOOR L
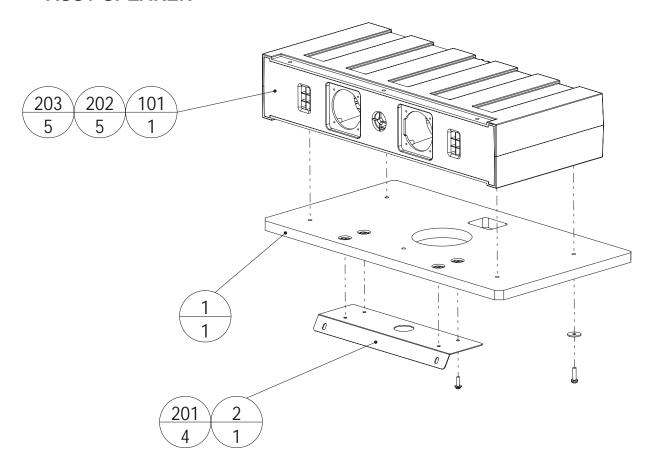
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1061	DOOR L	
2	DP-1148X	LKG TNG	
3	117-0062	PLATE LOCK RETAINER	
101	220-5793-1-A001	CLY LOCK MASTER W/O KEY A001	

(6) GST-1070
ASSY BACK DOOR
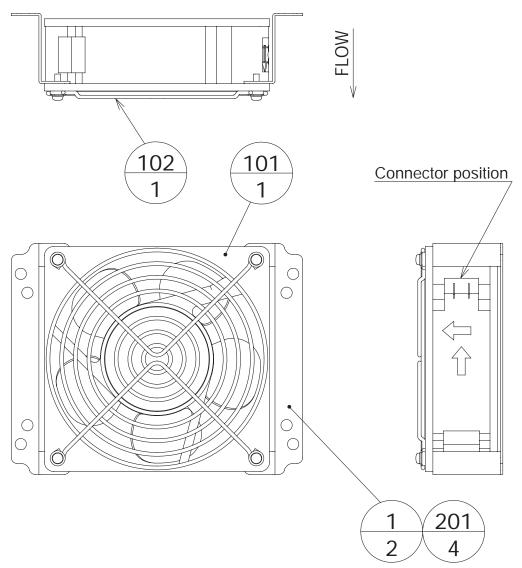
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1071	BACK DOOR	
2	253-5460-01	AIR VENT BLACK	
201	000-T00420-0B	M SCR TH BLK M4x20	

22

(7) GST-1080
ASSY SPEAKER

ITEM NO.	PART NO.	DESCRIPTION	NOTE
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 M4x16	
202	000-P00525-W	M SCR PH W/FS M5x25	
203	068-552016	FLT WSHR 5.5-20 x1.6	

22

(8) 610-0757-02
FAN UNIT

FLOW

102
1

101
1

Connector position

1
2

201
4
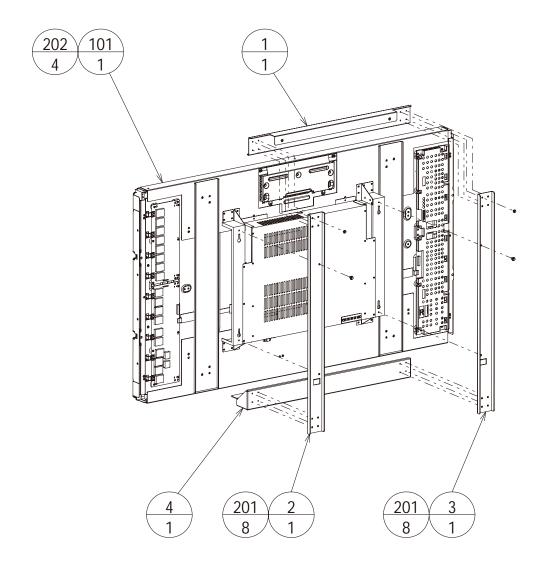
NOTE: Use thread sealant on screw components.

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	105-5561-91	FAN BRKT	
101	260-0011-03-91	AXIAL FLOW FAN AC100V 50-60HZ	
102	601-8543	FAN GUARD	
201	000-P00312-W	M SCR PH W/FS M3x12	

22

(9) GST-6001
ASSY WIRE FRONT CABINET
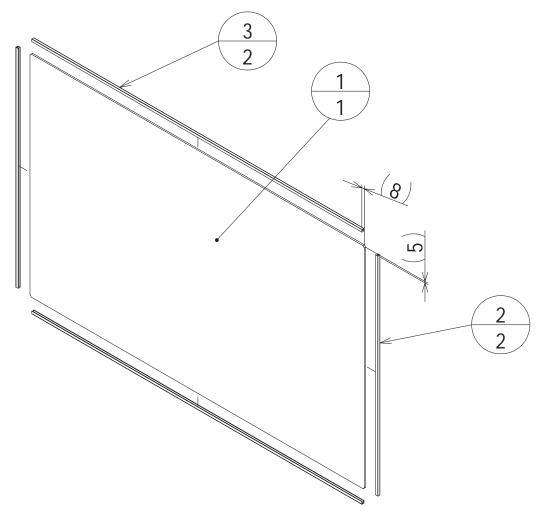
ITEM NO.	PART NO.	DESCRIPTION	NOTE
101	601-0460	PLASTIC TIE BELT 100 M/M	
301	GST-61001	WH ELEC DC EXT	
302	GST-61002	WH LED UNIT PWR	
303	GST-61003	WH IO BD DC EXT	
304	GST-61004	WH SPEAKER	
305	GST-61005	WH COIN EXT	
306	GST-61006	WH SW BD EXT	
307	GST-61007	WH CONTROL PANEL EXT	
308	GST-61008	WH HOLDER 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	

(10) GST-1100
ASSY MONITOR

ITEM NO.	PART NO.	DESCRIPTION	NOTE
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	

22
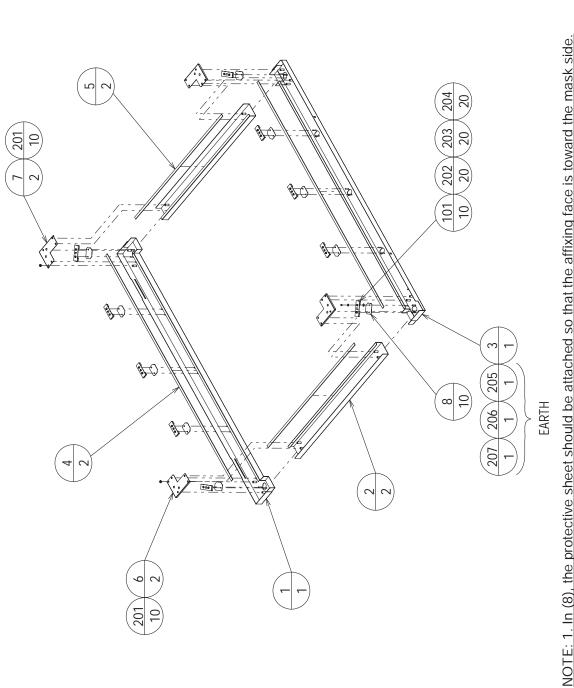
(11) GST-1120
ASSY MONITOR GLASS

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1121	MONITOR GLASS	
2	601-10562-0770	RUBBER PACKING NO.96 L=770MM	
3	601-10562-1234	RUBBER PACKING NO.96 L=1234MM	

22

(12) GST-1140 (D-1/2)
ASSY MONITOR MASK
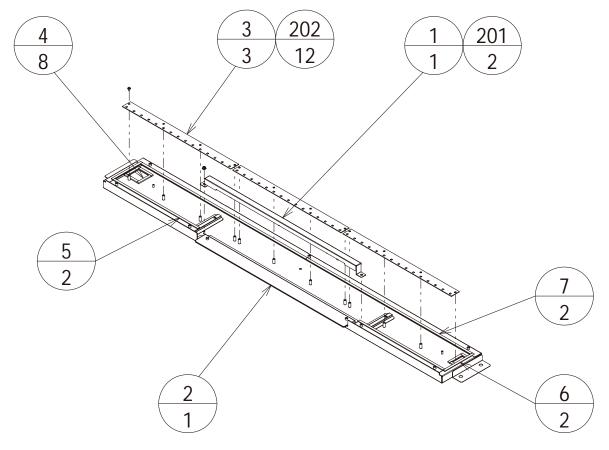
NOTE: 1. In (8), the protective sheet should be attached so that the affixing face is toward the mask side.
2. In (101), the LEDs should be attached so that the 4 stubs lean towards the center of the screen (mask).

(12) GST-1140   (D-2/2)
ASSY MONITOR MASK
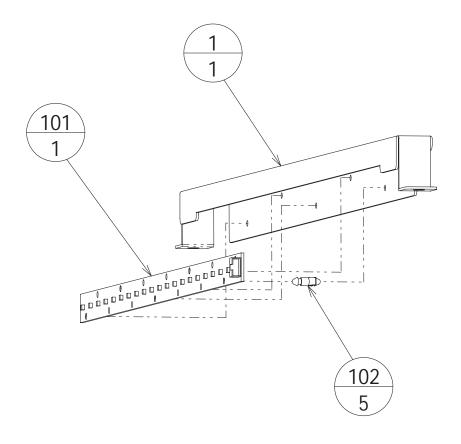
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1141	UPPER MASK	
2	GST-1142	SIDE MASK	
3	GST-1143	LOWER MASK	
4	GST-1144	MONITOR SPONGE A	
5	GST-1145	MONITOR SPONGE B	
6	HDF-0534	MASK JOINT BRKT L	
7	HDF-0535	MASK JOINT BRKT R	
8	JPT-1082Y	IR COVER	
101	838-15119	LED BD HFN G.SENSE GLG	
102	280-7881	CORD CLAMP SR10 CN	
201	000-P00408-W	M SCR PH W/FS M4x8	
202	050-U00300	U NUT M3	
203	069-000034-PN	FLT WSHR PLASTIC BLK 3-8x1	
204	FAS-680016	FLT WSHR NI 3-10x0.5	
205	050-H00400	HEX NUT M4	
206	060-S00400	SPR WSHR M4	
207	060-F00400	FLT WSHR M4	
301	GST-60041	WH MASK1	
302	GST-60042	WH MASK2	
303	GST-60043	WH MASK3	

(13) GST-1200
UPPER LED UNIT
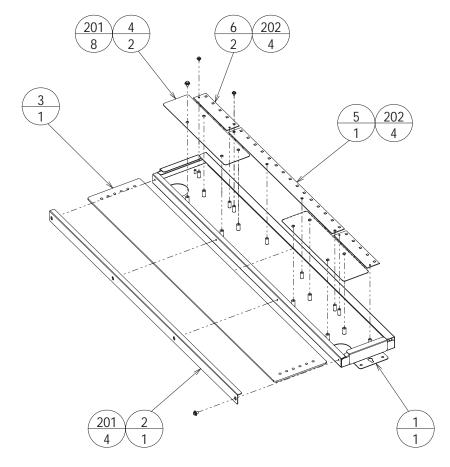
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1220	ASSY BILLBOARD LED	
2	GST-1201	UPPER UNIT BASE	
3	837-15141	LED BD RGB X15 SPI GST S	
4	GST-1202	UPPER UNIT SPONGE A	
5	GST-1203	UPPER UNIT SPONGE B	
6	GST-1204	UPPER UNIT SPONGE C	
7	GST-1205	UPPER UNIT SPONGE D	
101	280-7881	CORD CLAMP SR10 CN	
201	050-F00400	FLG NUT M4	
202	000-P00306-WB	M SCR PH W/FS BLK M3x6	
203	050-H00400	HEX NUT M4	
204	060-S00400	SPR WSHR M4	
205	060-F00400	FLT WSHR M4	
301	GST-60053	WH LED PWR DAISY CHAIN	
302	GST-60054	WH LED SIG DAISY CHAIN	
303	GST-60055	WH LED UNIT PWR OUT	
304	GST-60056	WH LED UNIT SIG OUT	
305	GST-60059	WH UPPER LED PWR IN	
306	GST-60060	WH UPPER LED SIG IN	

22

(14) GST-1220
ASSY BILLBOARD LED
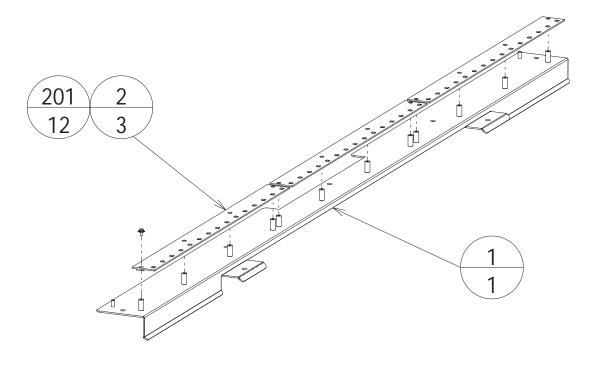
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1221	BILLBOARD LED BRKT	
101	838-14972-07	LED BD WHITE 3x7BLOCK	
102	280-7896-05	SPACER WN-05G (HIROSUGI)	
103	280-7881	CORD CLAMP SR10 CN	
301	GST-60061	WH BILLBOARD	

(15) GST-1240
SIDE LED UNIT
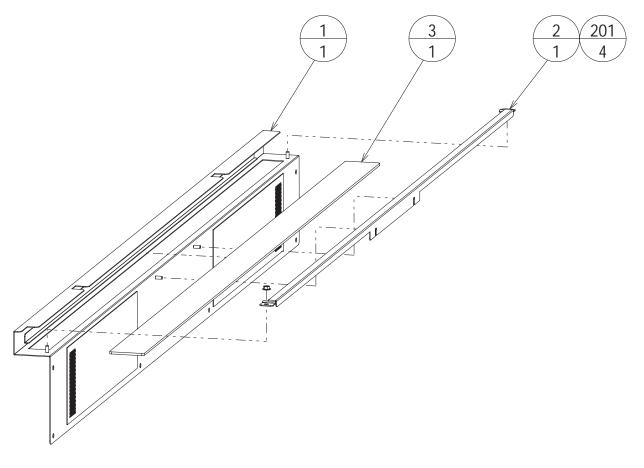
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1241	SIDE UNIT BASE	
2	GST-1242	SIDE UNIT SASH	
3	GST-1243	SIDE UNIT COVER	
4	GST-1244	SIDE UNIT INSIDE COVER	
5	837-15141	LED BD RGB X15 SPI GST S	
6	837-15142	LED BD RGB X5 SPI GST S	
101	280-7881	CORD CLAMP SR10 CN	
201	000-T00408-0B	M SCR TH BLK M4x8	
202	000-P00306-WB	M SCR PH W/FS BLK M3x6	
203	050-H00400	HEX NUT M4	
204	060-S00400	SPR WSHR M4	
205	060-F00400	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	

22

(16) GST-1260
LOWER LED UNIT
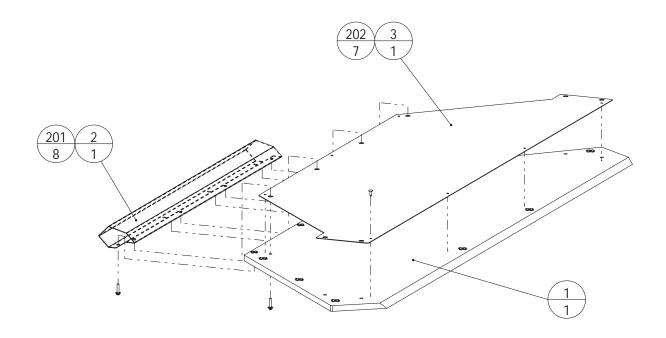
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1261	LOWER LED BRKT	
2	837-15141	LED BD RGB X15 SPI GST S	
101	280-7881	CORD CLAMP SR10 CN	
201	000-P00306-WB	M SCR PH W/FS BLK M3x6	
202	050-H00400	HEX NUT M4	
203	060-S00400	SPR WSHR M4	
204	060-F00400	FLT WSHR M4	
301	GST-60051	WH LOWER LED PWR IN	
302	GST-60052	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	

(17) GST-1280
ASSY LOWER LED COVER
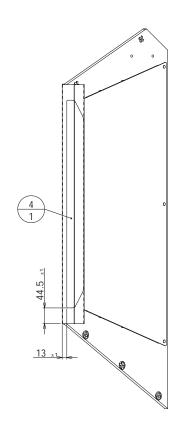
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1281	LOWER LED COVER	
2	GST-1282	LOWER LED COVER SASH	
3	GST-1283	LOWER LED COVER PLATE	
201	050-F00400	FLG NUT M4	
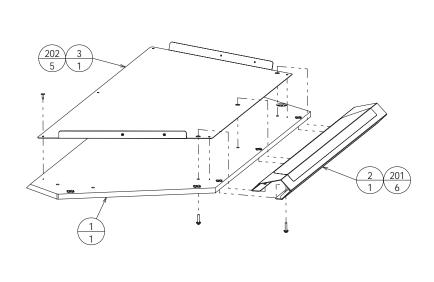
(18) GST-1300
ASSY UPPER BOARD

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1301	UPPER BOARD	
2	GST-1302	UPPER BOARD COVER	
3	GST-1303	UPPER REFLECTION PLATE	
201	000-P00420-WB	M SCR PH W/FS BLK M4x20	
202	011-T03510	TAP SCR TH 3.5x10	

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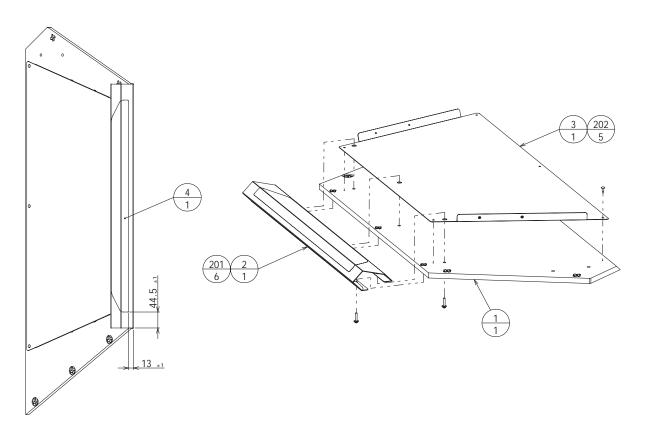
(19) GST-1320
ASSY SIDE BOARD L

ITEM NO.	PART NO.	DESCRIPTION	NOTE
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-P00420-WB	M SCR PH W/FS BLK M4x20	
202	011-T03510	TAP SCR TH 3.5x10	

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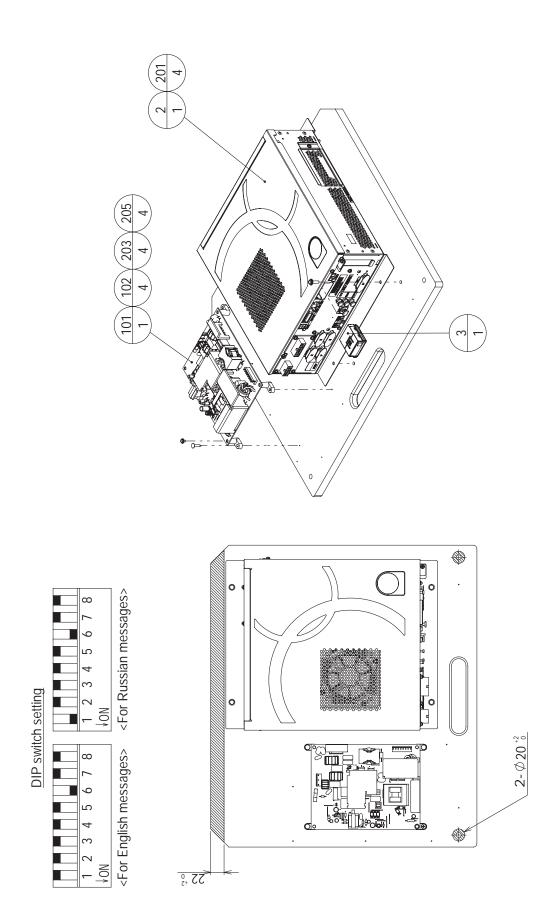
(20) GST-1340
ASSY SIDE BOARD R

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1341	SIDE BOARD R	
2	GST-1322	SIDE BOARD COVER	
3	GST-1323	SIDE REFLECTION PLATE	
4	GST-1324	STICKER PILLAR	
201	000-P00420-WB	M SCR PH W/FS BLK M4x20	
202	011-T03510	TAP SCR TH 3.5x10	

(21) GST-4000
ASSY MAIN BD

(D-1/2)

NOTE: 1. Wiring prohibited in shaded areas in the diagram.

DIP switch setting

<For Russian messages>

<For English messages>

22

(21) GST-4000   (D-2/2)
ASSY MAIN BD
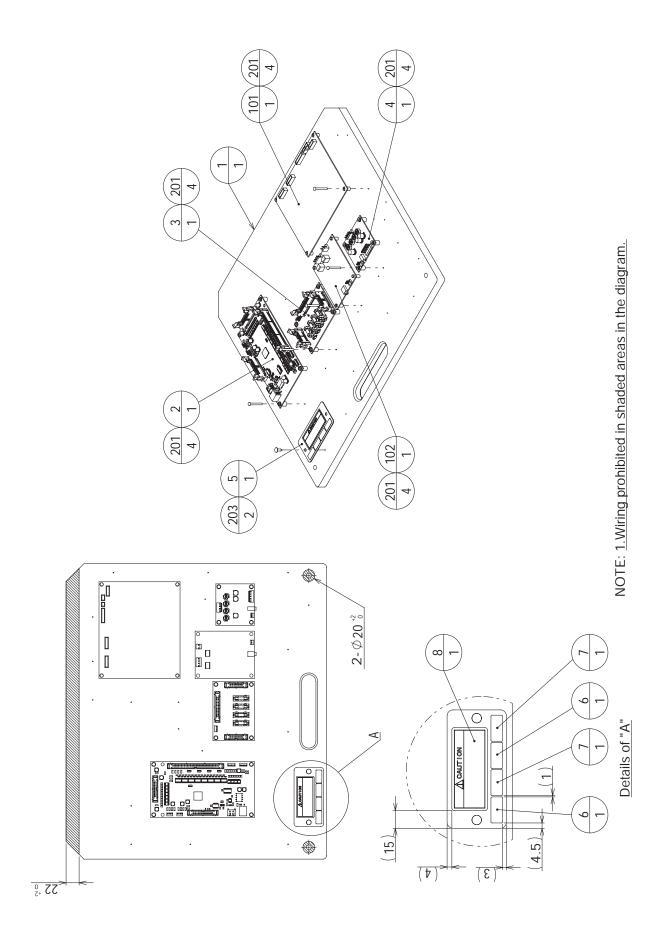
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-4001	WOODEN BASE MAIN BD	
2	847-0001D-02	ASSY CASE WDE W 1GB EXP	
101	400-5483	SW REGU EADP-130CF A DELTA	
102	280-6681	L-LOCK LT-320PCG	
103	280-5009-02-91	CORD CLAMP 21 CN	
104	280-5208	HARNESS LUG CC-1007	
201	000-P00416-W	M SCR PH W/FS M4x16	
202	011-F00312	TAP SCR #1 FH 3x12	
203	011-T03516	TAP SCR TH 3.5x16	
204	011-T03512	TAP SCR TH 3.5x12	
205	000-P00306-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	

(22) GST-4100
ASSY SUB BD

(D-1/2)

NOTE: 1.Wiring prohibited in shaded areas in the diagram.

Details of "A"

22
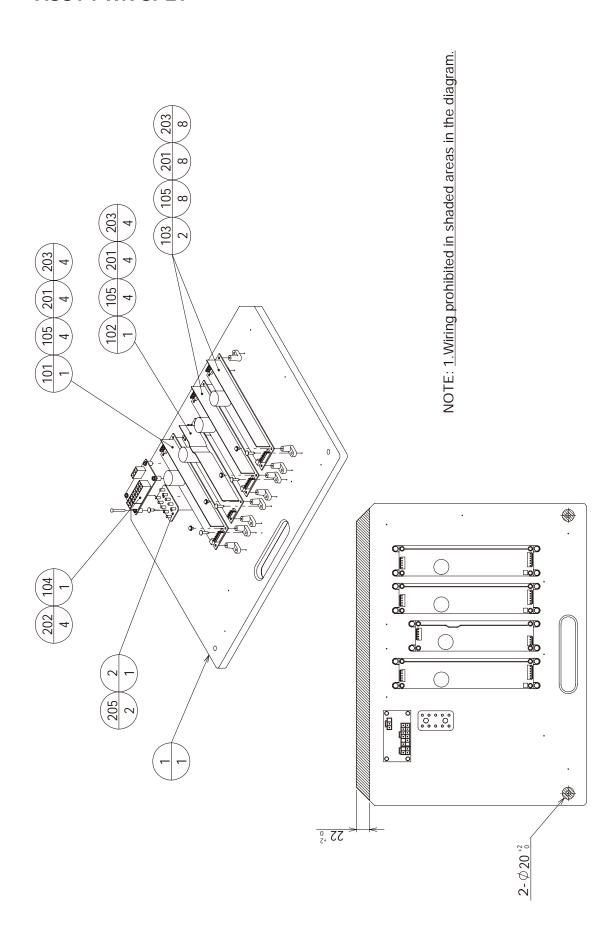
(22) GST-4100
ASSY SUB BD

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-4101	WOODEN BASE SUB BD	
2	837-14572	I/O CONTROL BD 3 FOR JVS COM	
3	839-1243R	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-CS0282YEG	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-P00325	TAP SCR PH 3x25	
202	011-F00312	TAP SCR #1 FH 3x12	
203	011-T03512	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	

22

(23) GST-4200
ASSY PWR SPLY

(D-1/2)

NOTE: 1.Wiring prohibited in shaded areas in the diagram.

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(23) GST-4200 (D-2/2)
ASSY PWR SPLY
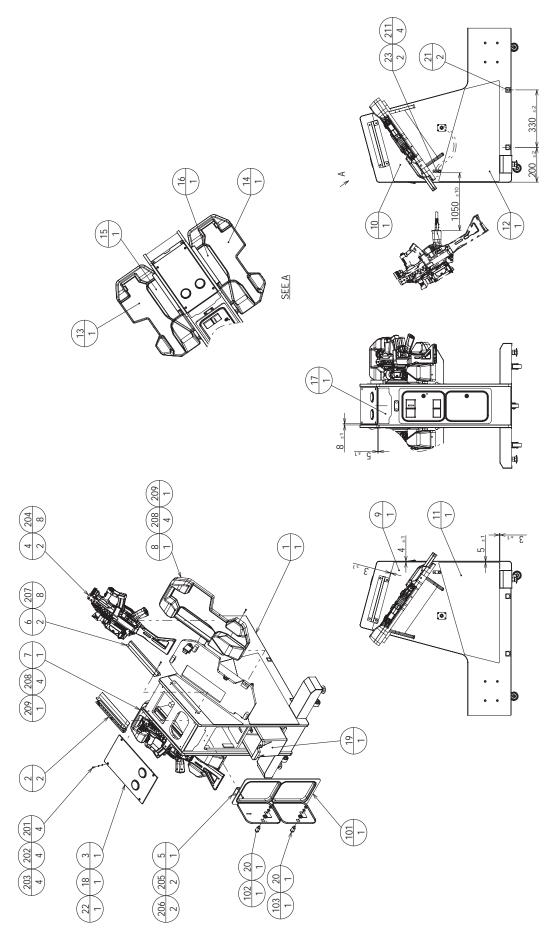
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-4201	WOODEN BASE PWR SPLY	
2	105-5639	EARTH PLATE	
101	400-5464-07505	SW REGU VS75B-5	
102	400-5464-05012	SW REGU VS50B-12	
103	400-5464-07524	SW REGU VS75B-24	
104	838-14551	DISTRIBUTION BD	
105	280-6681	L-LOCK LT-320PCG	
106	280-5009-02-91	CORD CLAMP 21 CN	
107	280-5208	HARNESS LUG CC-1007	
108	270-5117	FERRITE CORE TDK ZCAT3035-1330	
201	000-P00306-W	M SCR PH W/FS M3x6	
202	011-P00325	TAP SCR PH 3x25	
203	011-T03516	TAP SCR TH 3.5x16	
204	011-F00312	TAP SCR #1 FH 3x12	
205	011-T03512	TAP SCR TH 3.5x12	
206	050-H00400	HEX NUT M4	
207	060-S00400	SPR WSHR M4	
208	060-F00400	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	

(24) GST-1500 (D-1/2)
ASSY CONTROLLER CABINET

22
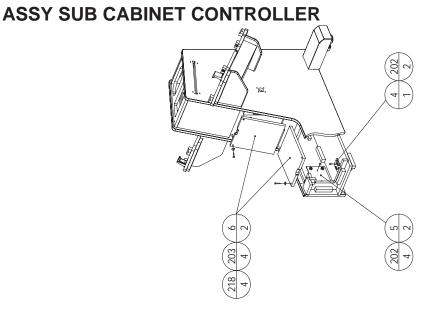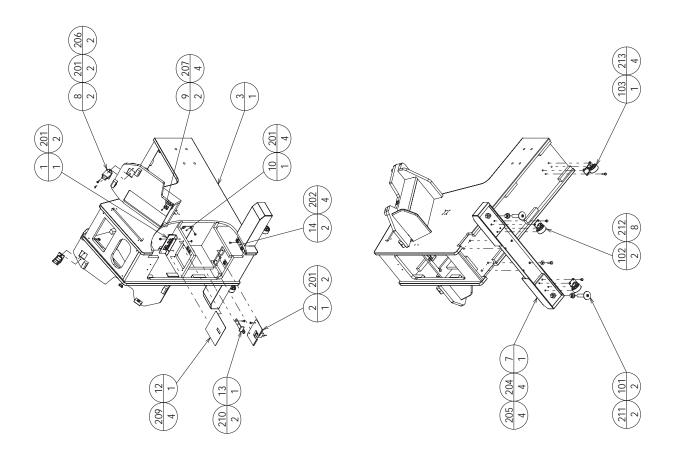
(24) GST-1500 (D-2/2)
ASSY CONTROLLER CABINET

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1501	ASSY SUB CABINET CONTROLLER	
2	GST-1600	ASSY LED	
3	GST-2000	ASSY CTRL PANEL	
4	GST-2100-01	CONTROL UNIT W/SUPPORT	
6	GST-1509	LED COVER	
7	GST-1510	CONTROLLER HOLDER L	
8	GST-1511	CONTROLLER HOLDER R	
9	GST-1512	STICKER UPPER SIDE L	
10	GST-1513	STICKER UPPER SIDE R	
11	GST-1514	STICKER LOWER SIDE L	
12	GST-1515	STICKER LOWER SIDE R	
13	GST-1516	STICKER CONTROLLER 1P	
14	GST-1517	STICKER CONTROLLER 2P	
15	GST-1518	STICKER SCOPE 1P	
16	GST-1519	STICKER SCOPE 2P	
17	GST-1520	STICKER CTRL CABI FRONT	
18	GST-1521-01	INSTR SHEET ENG	
19	253-5366	CASH BOX	
20	105-5635	TNG LKG FOR 220-5830	
21	421-11416	STICKER CAUTION FORK	
22	440-CS0378-EG	STICKER C CONTROLLER ENG	
23	CPT-1017	CABLE CLAMP	
101	220-5830	COIN 2DR FR SUZO 65-0200-070F	
102	220-5793-1-A001	CLY LOCK MASTER W/O KEY A001	
104	310-5029-F20	SUMITUBE F F 20MM	
105	280-5009-02-91	CORD CLAMP 21 CN	
106	280-7881	CORD CLAMP SR10 CN	
201	FAS-290070	HEX SKT ELH CAP SCR STN M4x16	
202	FAS-600015	FLT WSHR CRM M4	
203	060-S00400-0C	SPR WSHR CRM M4	
204	000-P00425-W	M SCR PH W/FS M4x25	
205	031-000425-0B	CRG BLT BLK M4x25	
206	050-F00400	FLG NUT M4	
207	008-T00420-0B	TMP PRF SCR TH BLK M4x20	
208	008-T00425-0B	TMP PRF SCR TH BLK M4x25	
209	008-T00408-0B	TMP PRF SCR TH BLK M4x8	
210	050-H00400	HEX NUT M4	
211	000-T00416-0C	M SCR TH CRM M4x16	
301	SRC-60113	WH COIN LAMP UK	
/	220-5831	CASH DOOR FOR 220-5830	
/	220-5769	ELEC C.C SR3 FOR CE	

22

(25) GST-1501   (D-1/2)
ASSY SUB CABINET CONTROLLER

(25) GST-1501 (D-2/2)
ASSY SUB CABINET CONTROLLER

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GST-1550-01	SW UNIT CE	
2	610-0804	METER UNIT SINGLE YL ROHS	
3	GST-1502	CONTROLLER CABINET	
4	GST-1503	CASTER PLATE	
5	GST-1504	JOINT NUT PLATE	
6	GST-1505	LID	
7	GST-1506	FOOT BASE	
8	GST-1507	CONTROLLER HOOK	
9	GST-1508	HOLDER BRKT	
12	105-5592-05	CHUTE PLATE SR3 SHORT	
13	105-5637-01	LOCK BRKT W FOR CE	
14	117-5464-060	NUT PLATE 2-M8-060	
101	601-5699X	LEG ADJUSTER BOLT M16X75	
102	601-11954	CASTER 50MM CONSULT-004 FREE	
103	601-11953	CASTER 50MM CONSULT-003 FIX	
104	280-5009-02-91	CORD CLAMP 21 CN	
201	000-P00420-WB	M SCR PH W/FS BLK M4x20	
202	011-T03512	TAP SCR TH 3.5x12	
203	000-T00430-0B	M SCR TH BLK M4x30	
204	030-000830-SB	HEX BLT W/S BLK M8x30	
205	068-852216-0B	FLT WSHR BLK 8.5-22x1.6	
206	000-F00416	M SCR FH M4x16	
207	011-F00312	TAP SCR #1 FH 3x12	
209	050-F00400	FLG NUT M4	
210	000-P00416-WB	M SCR PH W/FS BLK M4x16	
211	050-H01600	HEX NUT M16	
212	030-000612-S	HEX BLT W/S M6x12	
213	030-000630-S	HEX BLT W/S M6x30	
214	050-H00400	HEX NUT M4	
215	060-S00400	SPR WSHR M4	
216	060-F00400	FLT WSHR M4	
217	000-P00408	M SCR PH M4x8	
218	068-441616-0B	FLT WSHR BLK 4.4-16x1.6	
301	GST-6002	ASSY WIRE CONTROLLER CABINET(25)	

(26) GST-1550-01
SW UNIT CE

ITEM NO.	PART NO.	DESCRIPTION	NOTE
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-P00306-W	M SCR PH W/FS M3x6	
202	000-P00312-W	M SCR PH W/FS M3X12	
301	GST-60101	WH SW BD	
302	GST-60102	WH EXCEL BD	

22

(27) 610-0804   (D-1/2)
METER UNIT SINGLE YL ROHS
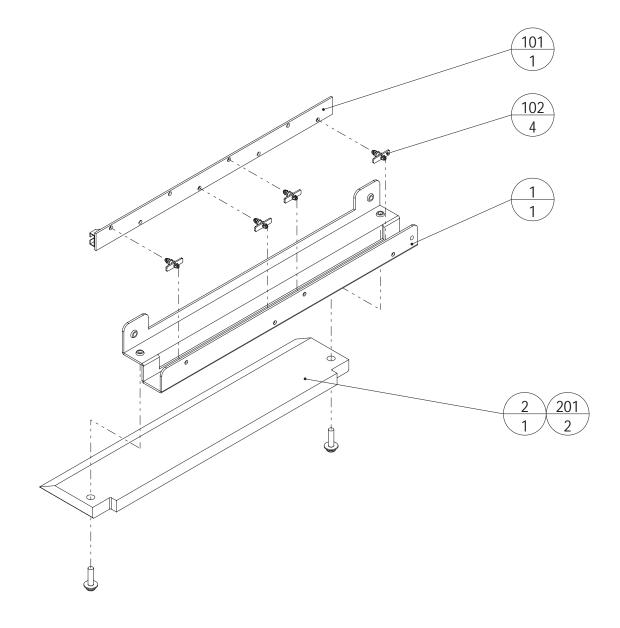
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	OCN-1521X	METER BRKT	
2	421-9168-01	STICKER COIN METER	
101	220-5798-01	MAG CNTR 4P MZ674-DC5V-D41 JC	

22

(28) GST-6002
ASSY WIRE CONTROLLER CABINET

This is comprised of the following wire harnesses. ASSY drawing is not available.
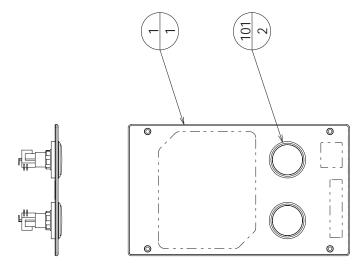
ITEM NO.	PART NO.	DESCRIPTION	NOTE
101	601-0460	PLASTIC TIE BELT 100 M/M	
301	GST-61501	WH SW BD EXT CTRL	
302	GST-61502	WH COIN EXT CTRL	
303	GST-61503	WH CONTROL PNL EXT CTRL	
304	GST-61504	WH HOLDER LAMP EXT CTRL	
305	GST-61505	WH CONTROLLER 1P EXT CTRL	
306	GST-61506	WH CONTROLLER 2P EXT CTRL	
307	600-8116-1150	WH 40U ID5 1150MM	
308	600-8116-1000	WH 40U ID5 1000MM	

22
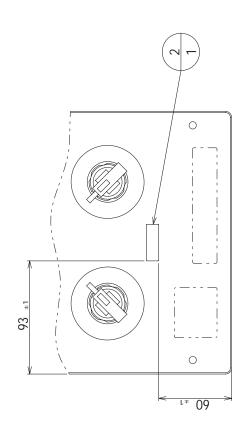
(29) GST-1600
ASSY LED

ITEM NO.	PART NO.	DESCRIPTION	NOTE
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-P00416-W	M SCR PH W/FS M4x16	
202	000-P00406-WB	M SCR PH W/FS BLK M4x6	
301	GST-60131	WH HOLDER LAMP	
302	600-8116-1600	WH 40U ID5 1600MM	

22

(30) GST-2000
ASSY CTRL PANEL
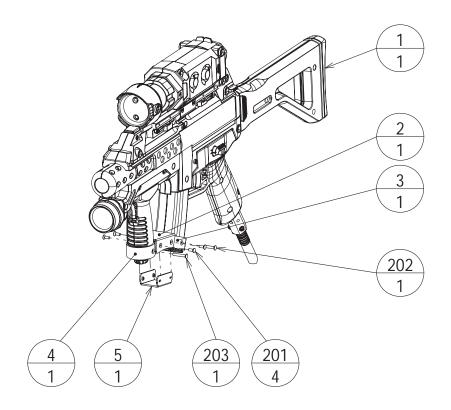
Location for affixing sticker

93 ±1

60 ±1

ITEM NO.	PART NO.	DESCRIPTION	NOTE
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	

22

(31) GST-2100-01
CONTROL UNIT W/SUPPORT
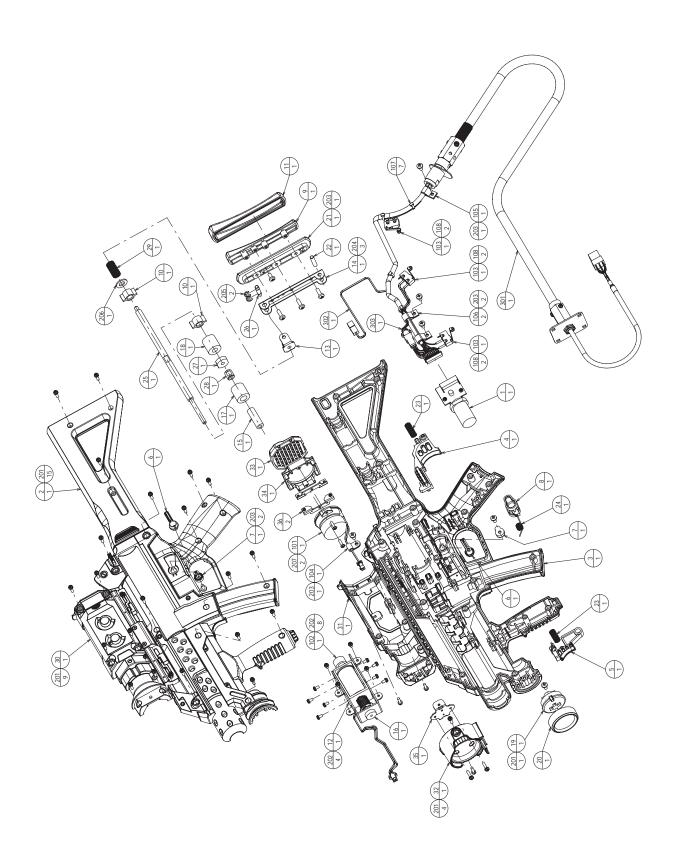
NOTE: 1. In (202) and (203), the screws attached to
(1) should first be removed before attaching.
2. The tightening torque is M3: 0.65 N·m.

ITEM NO.	PART NO.	DESCRIPTION	NOTE
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 M3x8	
202	FAS-290123	HEX SKT SCR FH STN M3x16	
203	FAS-290124	HEX SKT SCR FH STN M3x20	

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(32) GST-2100
CONTROL UNIT

(D-1/3)

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(32) GST-2100
CONTROL UNIT

(D-2/3)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	GLG-2130X	SENSOR UNIT (OMJ-GZH200HFXA)	
2	GST-2101	COVER L	
3	GST-2102	COVER R	
4	GST-2104	MAIN TRIGGER	
5	GST-2105	SUB TRIGGER	
6	GST-2106	SELECTOR	
7	CTF-2107	SELECTOR HOLDER	
8	CTF-2108	SELECTOR JOINT	
9	CTF-2109	PAD BASE	
10	CTF-2110	BEARING HOLDER	
11	CTF-2111	PAD	
12	CTF-2112	SOLENOID FRAME	
13	CTF-2113	SHAFT JOINT	
14	CTF-2114	PAD FRAME	
15	CTF-2115	RECOIL DAMPER	
16	CTF-2116	SOLENOID DAMPER	
17	CTF-2117	SHAFT DAMPER F	
18	CTF-2118	SHAFT DAMPER R	
19	CTF-2119	CAP BASE	
20	CTF-2120	LIGHT CAP	
21	CTF-2121	PAD BEZEL	
22	CTF-2122	PAD PIN	
23	CTF-2123	TRIGGER SPRING	
24	CTF-2124	SELECTOR SPRING	
25	CTF-2125	SHAFT	
26	CTF-2126	JOINT PIN	
27	CTF-2127	SHAFT STOPPER	
28	CTF-2128	DAMPER BASE	
29	CTF-2129	RETURN SPRING	
30	GST-2130	SCOPE BODY L	
31	GST-2131	SCOPE BODY R	
32	GST-2132	LENS CAP	
33	GST-2133	SPEAKER NET	
34	GST-2134	BAFFLE	
35	GST-2135	BRKT LENS CAP	
36	GST-2136	BRKT BAFFLE	
101	130-5288	SPEAKER 8OHM 5.5W NJS	
102	124-5113	SOLENOID DC24V THERMOSTAT	
103	509-5080	SW MICRO TYPE (SS-5GL2)	
104	280-5124-03	NYLON CLAMP NK03	
105	280-5124-04	NYLON CLAMP NK04	
106	280-5124-05	NYLON CLAMP NK05	
107	601-0460	PLASTIC TIE BELT 100 M/M	
108	310-5029-D20	SUMITUBE F D 20MM	

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(32) GST-2100 CONTROL UNIT
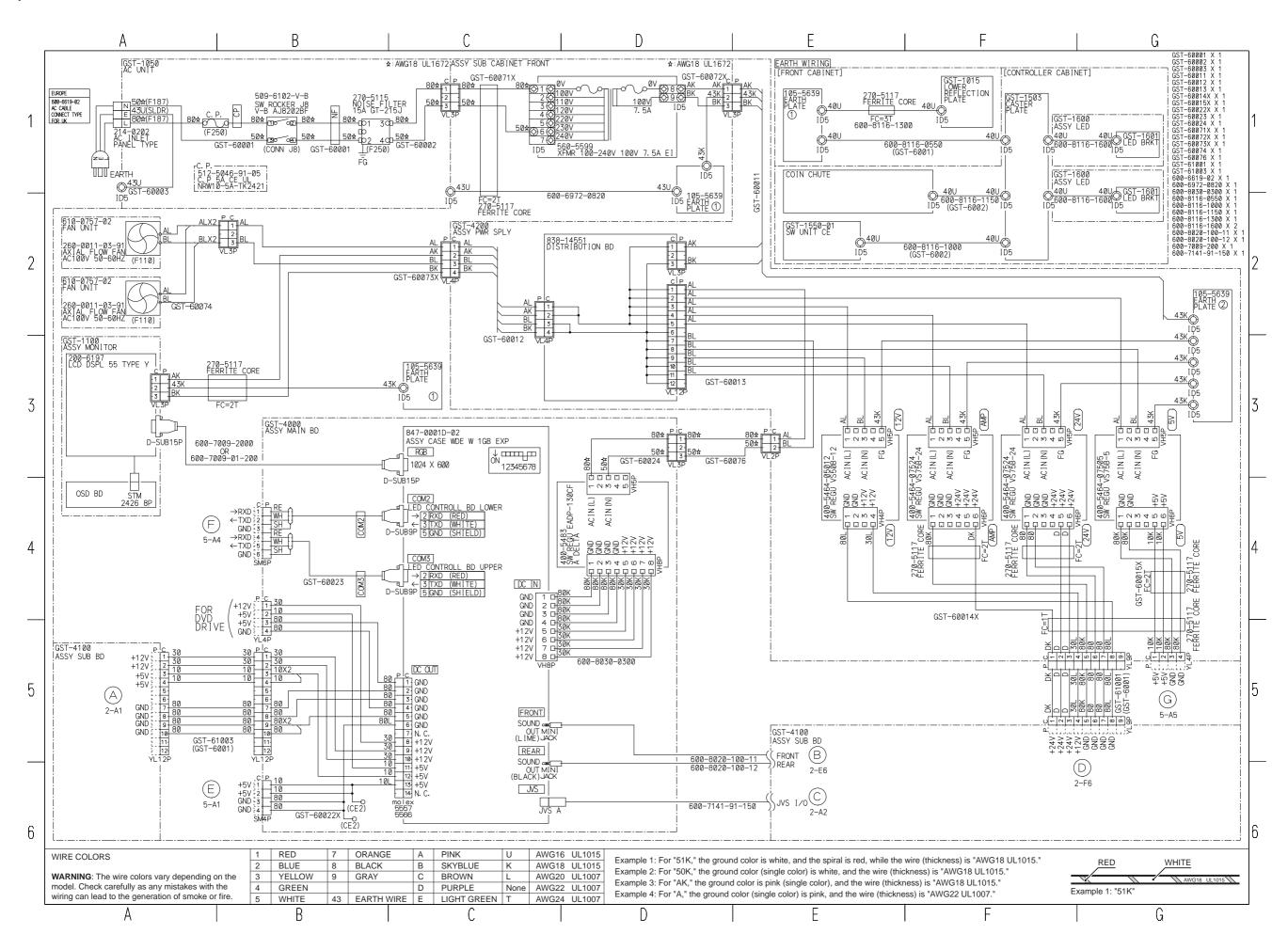
(D-3/3)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
201	FAS-000100	M SCR PH W/SMALL FS BLK M3x12	
202	000-P00306-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-E00400	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	

23 WIRING DIAGRAM
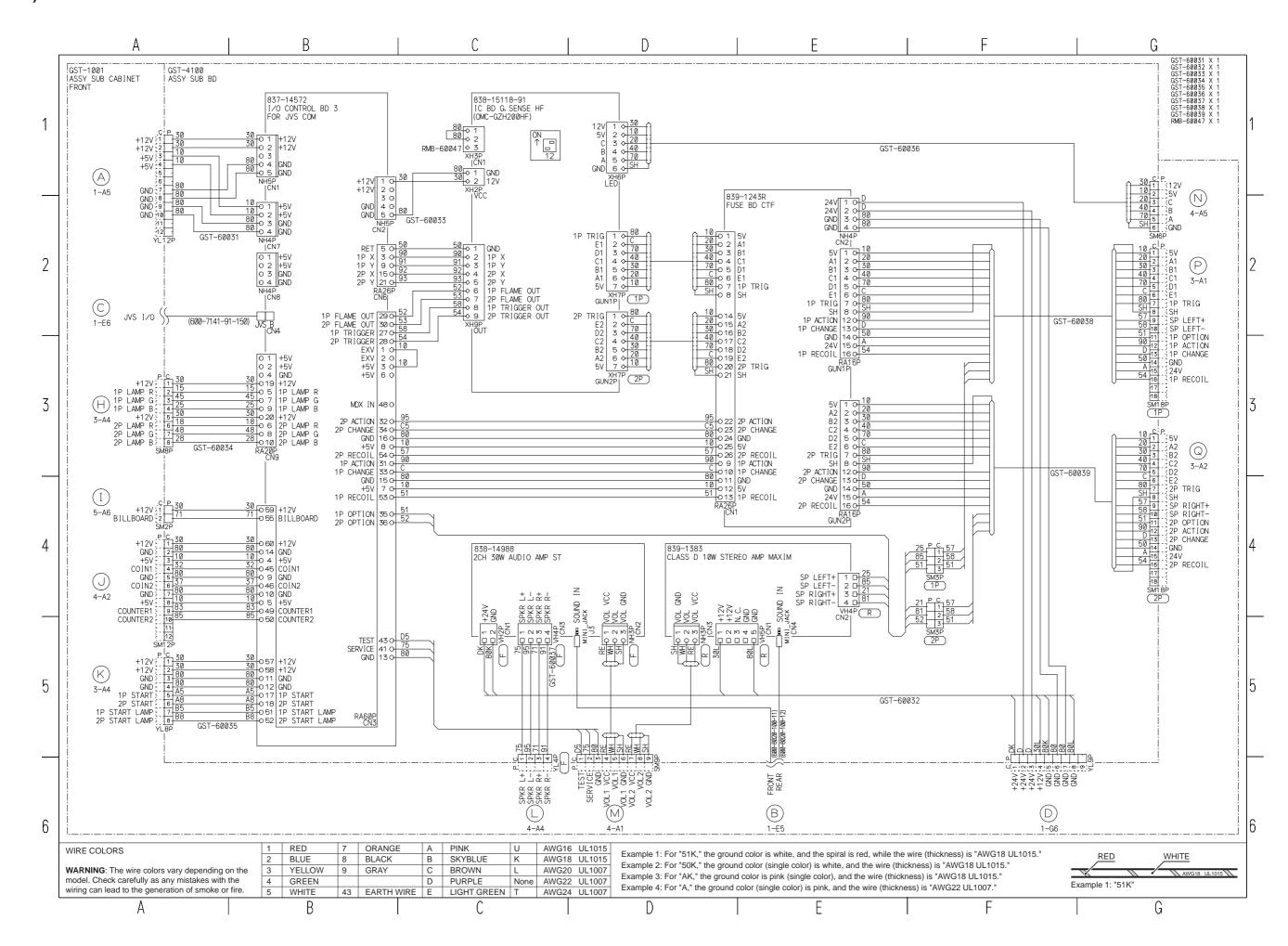
This manual does not include the circuit diagram in order to prevent hazards that might arise while the Serviceman is performing work based on his own discretion. Part replacement of the unit (IC Board, Projector, Switch Regulator, etc.) which does not have the circuit diagram can cause shock hazard 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.

(D-1/5)

(D-2/5)

WIRE COLORS							
1	RED	7	ORANGE	A	PINK	U	AWG16 UL1015
2	BLUE	8	BLACK	B	SKYBLUE	K	AWG18 UL1015
3	YELLOW	9	GRAY	C	BROWN	L	AWG20 UL1007
4	GREEN			D	PURPLE	None	AWG22 UL1007
5	WHITE	43	EARTH WIRE	E	LIGHT GREEN	T	AWG24 UL1007

WARNING: The wire colors vary depending on the model. Check carefully as any mistakes with the wiring can lead to the generation of smoke or fire.

Example 1: For "51K," the ground color is white, and the spiral is red, while the wire (thickness) is "AWG18 UL1015."
Example 2: For "50K," the ground color (single color) is white, and the wire (thickness) is "AWG18 UL1015."
Example 3: For "AK," the ground color is pink (single color), and the wire (thickness) is "AWG18 UL1015."
Example 4: For "A," the ground color (single color) is pink, and the wire (thickness) is "AWG22 UL1007."

Example 1: "51K"

(D-3/5)

CONTROL PANEL LAYOUT

CONTROLLER LAYOUT

WIRE COLORS

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2	BLUE	8	BLACK	B	SKYBLUE	K	AWG18	UL1015
3	YELLOW	9	GRAY	C	BROWN	L	AWG20	UL1007
4	GREEN			D	PURPLE	None	AWG22	UL1007
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RED   WHITE

AWG18 UL1015

Example 1: "51K"

(D-4/5)

GST-60041 X 1
GST-60042 X 2
GST-60043 X 7
GST-60101 X 1
GST-60102 X 1
GST-61004 X 1
GST-61005 X 1
GST-61006 X 1
GST-61011 X 1
GST-61501 X 1
GST-61502 X 1
SRC-60113 X 1

GST-4100 ASSY SUB BD
GST-1000 ASSY FRONT CABINET
ASSY CTRL CABINET
ASSY SUB CABINET CONTROLLER
GST-1550-01 SW UNIT CE
838-15159-01 SW & VOL X2 BD 1K 1K

SW1
SW2
GND
VR1-VCC MAIN
VR1-CEN VOLUME
VR1-GND
VR2-VCC CONTROLLER
VR2-CEN VOLUME
VR2-GND

(TEST) (SERVICE) VR1 VR2

M 2-D6
TEST
SERVICE
GND
VOL1 VCC
VOL1
VOL1 GND
VOL2 VCC
VOL2
VOL2 GND

GST-61006 (GST-6001)
GST-61501 (GST-6002)
GST-60101

COIN CHUTE
220-5830 COIN 2DR FR SUZO 65-0200-070F
(SLDR)
SRC-60113

J 2-A4
+12V
GND
+5V
COIN1
GND
COIN2
GND
+5V
COUNTER1
COUNTER2

GST-61005 (GST-6001)

838-14402 ELEC COIN BD EXCEL
+12V
(KEY)
GND
SW COIN1P
METER1P
+12V

SW1 ON 12345
SW3 ON 123456
molex 5239-14P (J1)

COIN1
220-5769 ELEC C.C SR3 FOR CE
6WAY ON 123456
8WAY ON 12345678

(CN5)
(220-5769)

COIN METER 999990
220-5797-01 MAG CNTR 4P MZ674-DC12V-D28

GST-60102

610-0804 METER UNIT SINGLE YL ROHS
COUNTER1
COIN METER 999990
220-5798-01 MAG CNTR 4P MZ674-DC5V-D41 JC

COUNTER2

L 2-C6
SPKR L+
SPKR L-
SPKR R+
SPKR R-

GST-1080 ASSY SPEAKER
6OHM 20W
130-5265 SPEAKER BOX W/WOOFER
GST-1080 ASSY SPEAKER
6OHM 20W
130-5265 SPEAKER BOX W/WOOFER
GST-61004 (GST-6001)

GST-1140 ASSY MONITOR MASK

N 2-G2
12V
5V
C
B
A
GND

GST-61011 (GST-6001)
105-5639 EARTH PLATE ①

838-15119 LED BD HFN G.SENSE GLG
GND A B C 5V 12V
XH6P GST-60043

G.SENSE GLG & LED BD LAYOUT

GST-60042

GST-60041

WIRE COLORS

1	RED	7	ORANGE	A	PINK	U	AWG16	UL1015
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RED   WHITE
AWG18 UL1015
Example 1: "51K"

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(D-5/5)

WIRE COLORS							
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Example 1: "51K"

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