



OWNER'S & SERVICE MANUAL



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.


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 Owner's Manual, Serviceman Manual and/or Service Manual should be referred to.

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

OpenSSL

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This package is an SSL implementation written by Eric Young (ey@cryptsoft.com).

The implementation was written so as to conform with Netscapes SSL.

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PicoJSON

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libcurl

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avr-libc

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INTRODUCTION

This manual is intended to provide detailed descriptions together with all necessary information covering the general operation of electronic assemblies, electromechanical, servicing control, spare parts, etc. for the product, "MARIO & SONIC AT THE RIO 2016 OLYMPIC GAMES ARCADE EDITION"

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

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

Use of this product is unlikely to cause physical injuries or damage to property. However, points that require special attention are indicated by bold text, the words "STOP, IMPORTANT or CAUTION" and the symbols below.

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 **CAUTION**

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

Sega Amusements International Limited.

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

International Sales:	+44 (0) 208 391 8090	Facsimile:	+44 (0) 208 391 8099
email:	mailbox@sega.co.uk	Web:	http://www.segaarcade.com

Sega Corporation

Canal Side Bldg 1-39-9 Higashishinagawa Shinagawa-ku, Tokyo, 140-8583, Japan.

Telephone:	+81-3-687-7133	Facsimile:	+81-3-687-7134
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Sega Total Solutions

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

Parts & Service:	+44 (0) 208 391 8060	Facsimile:	+44 (0) 208 391 8096
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Play It! Amusements, inc.

252 Beinoris Drive, Wood Dale, IL. 60191, USA

Parts & Service:	+00 (1) 224 265 4287
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Definition of 'Site Maintenance Personnel or Other Qualified Individuals

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.

Parts replacement, maintenance inspections and troubleshooting should be carried out by site maintenance personnel or other qualified professionals. This manual includes directions for potentially dangerous procedures which should only be carried out by professionals with the appropriate specialised knowledge.

The site maintenance personnel or other qualified professionals mentioned in this manual are defined as follows:

Site maintenance personnel:

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

Activities to be carried out by site maintenance personnel:

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

Other qualified professionals:

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

Activities to be carried out by other qualified professionals:

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

Electrical & Mechanical Specifications

SPECIFICATIONS

Individual Dimensions

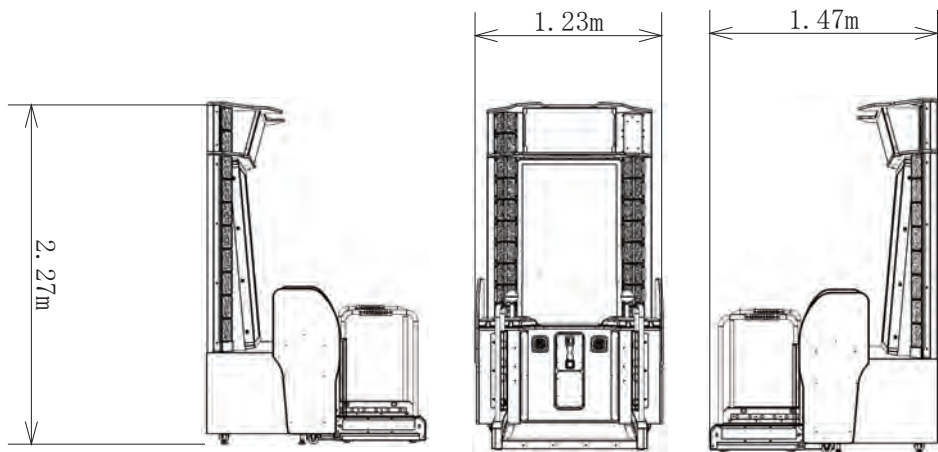
Cabinet:	1.23m (48.4in) [width] x 0.89m (35.1in) [depth] 1.93m (76.0in) [height]
Billboard:	1.21m (47.6in) [width] x 0.49m (19.3in) [depth] 0.44m (17.3in) [height]
Floor Plate:	0.86m (33.9in) [width] x 0.80m (31.5in) [depth] 0.90m (45.4in) [height]
Assembled Dimensions:	1.23m (48.4in) [width] x 1.47m (57.9in) [depth] 2.27m (89.3in) [height]

Weights

Cabinet (Inc Billboard):	262kg (577.6lb.)
Floor:	54kg (119lb.)
Total Weight:	316kg (697 lb)

Electrical Consumption

Operating Voltage:	AC240V
Current:	1.4A [336W]
Operating Voltage:	AC120V
Current:	2.6A [624W]



Waste of Electrical and Electronic Equipment (WEEE) Statement.

Waste of Electrical and Electronic Equipment (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 (EEE) to ensure waste equipment is disposed of in accordance with the directive at the end of their useful life.

The symbol shown below will be placed on all products manufactured from 13th August 2005, which indicates this product must NOT be disposed of with other normal waste. Upon purchasing any EEE from SEGA Amusements International Ltd. The user accepts responsibility to dispose of their waste equipment by arranging to return it to a designated UK collection point (AATF) or an Approved Exporter (AE) for the correct recycling of waste electrical and electronic equipment.

For more information on Approved Authorised Treatment Facilities (AATF) within the UK please consult the government website www.gov.uk

For users outside of the UK EEE should be disposed of in accordance with the local policy on the recycling of Waste Electrical and Electronic Equipment.

Battery Recycling Statement.

The EC Directive on Batteries and Accumulators (2006/66/EC) aims to minimise 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 symbol shown below 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.

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



REGISTERED IN ENGLAND REGISTERED NO. 1711515

REGISTERED OFFICE: BLOCK C 42 BARWELL BUSINESS PARK, CHESSINGTON, SURREY KT9 2NY

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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.

Non-compliance with the following points or inappropriate handling running counter to the cautionary matters herein stated can cause personal injury or damage to the machine.

WARNING

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 cases where 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 cords or earth wires on the surface, (floor, passage, etc.) If exposed, the power cords and earth wires are susceptible to damage. Damaged cords and wires can cause an electric shock or short circuit.

To avoid causing a fire or an electric shock, do not put things on or damage the power cords.

When or after installing the product, do not unnecessarily pull the power cord. **If damaged, the power cord can cause a fire or an electric shock.**

In case the power cord is damaged, ask for a replacement through where the product was purchased from or the office herein stated. **Using the cord as is damaged can cause fire, an electric shock or leakage.**

This product MUST be Earthed. Inappropriate Earthing can cause an electric shock.

Be sure to use fuses meeting the specified rating. Using fuses exceeding the specified rating can cause a fire or an electric shock.

Be sure that connections such as IC BD are made properly. Insufficient insertion can cause an electric shock.

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. **Non-compliance 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.

Do not perform any work or change parts not listed in this manual. Doing so may lead to an accident.

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

1 HANDLING PRECAUTIONS

For the IC board circuit inspections, only the use of a logic tester is **recommended**. Using a **Multi Tester or General Purpose Tester may result in damage to IC Circuits**. 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.

CONCERNING THE STICKER DISPLAY

This SEGA product has stickers attached describing the product manufacture No. (Serial No.) and Electrical Specifications. It also has a Sticker describing where to contact for repair and for purchasing parts.

When inquiring about or asking for repairs, mention the Serial No. and Name of Machine indicated on the Sticker. The Serial Number indicates the product register. Identical machines could have different parts depending on the date of production. Also, improvements and modifications might have been made after the publication of this manual. In order to ensure you order the correct parts, mention the Serial No. when contacting the applicable places.

CONCERNING WARNING DISPLAYS

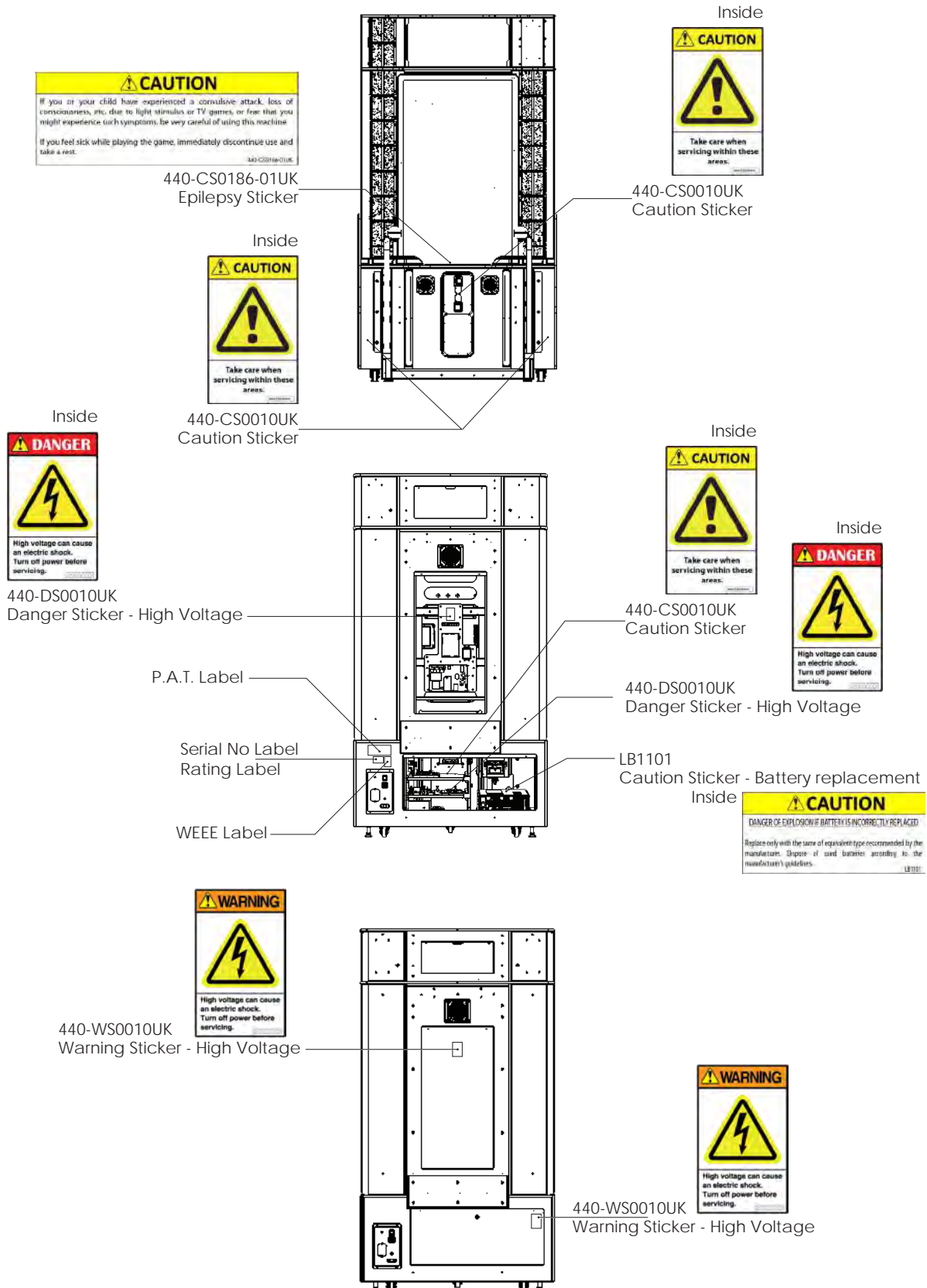
This SEGA product has warning displays on stickers, labels and/or printed instructions adhered/attached to or incorporated in the places where a potentially hazardous situation could arise. The warning displays are intended for accident prevention for customers and for avoiding hazardous situations relating 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.

VIDEO GAME-INDUCED SEIZURES (VGS) AND PHOTONSENSITIVE EPILEPSY (PSE)

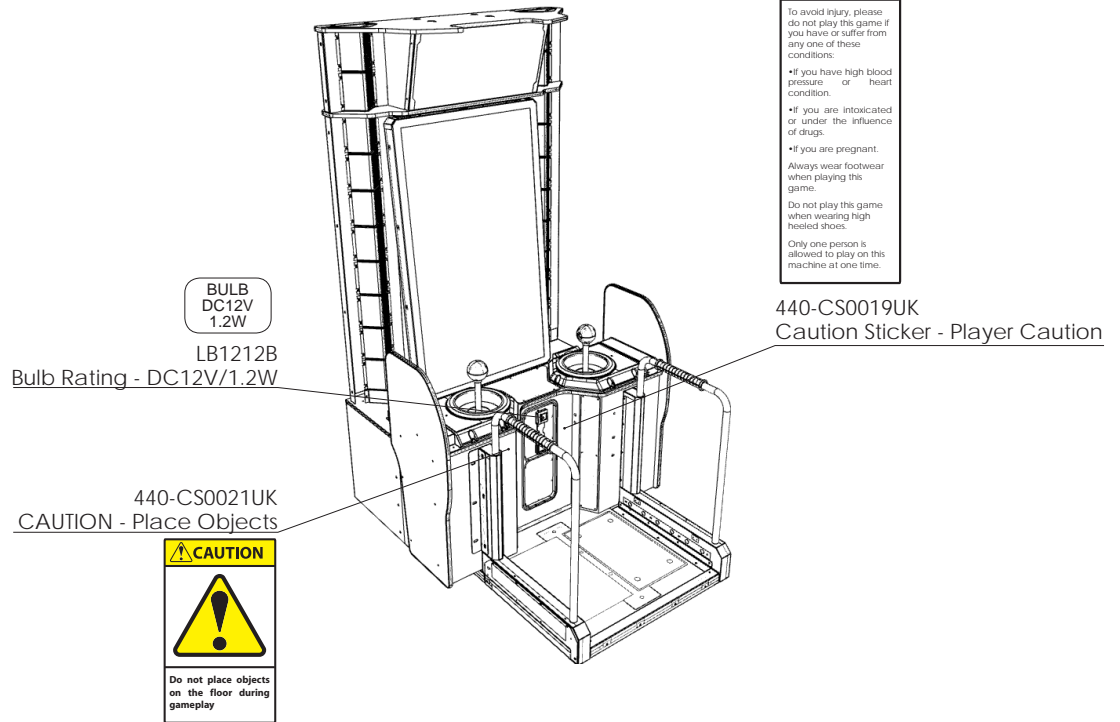
This SEGA product has warning displays on stickers which outline the risk of epilepticform and photosensitive seizures. These warning displays on stickers are applied close in proximity of the device which may promote symptoms of either video game-induced seizures or epilepsy. The warning displays are supplied in several languages and form part of the Installation kit supplied with this product. It is standard practice for the English version of this label to be applied during manufacture, however it is especially important for the operator to apply the same said label in the language of the country of operation.

STICKER DISPLAY



1 HANDLING PRECAUTIONS

1 HANDLING PRECAUTIONS



2 PRECAUTIONS REGARDING INSTALLATION LOCATION

WARNING

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

Places subject to rain or water leakage, or places subject to high humidity in the proximity of an indoor swimming pool and/or shower, etc.

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 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 5 to 30 degrees centigrade.

IMPORTANT

Securing a safe area for operation as described in this manual will ensure safe operation for players and observers.

SEGA shall not be held responsible for damage or compensation for damage to a third party, resulting from the failure to observe this instruction.

2-1 LIMITATIONS OF USAGE

2 PRECAUTIONS REGARDING INSTALLATION LOCATION

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 label describing Electrical Specifications is attached to the product. **Non-compliance 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.**

Ensure that the indoor wiring for the power supply is rated at 15 A or higher (AC single phase 100 V ~ 120 V area), and 7 A or higher (AC 220 V ~ 240 V area). **Non-compliance with the Electrical Specifications 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.**

When using an extension cord, ensure that the cord is rated at 15 A or higher (AC 100 V ~ 120 V area) and 7 A or higher (AC 220 V ~ 240 V area). Using a cord rated lower than the specified rating can cause a fire and electric shock.

2-2 OPERATION AREA

IMPORTANT

To install this product, the entrance must be at least 0.9m in width and 1.94m in height.

Do not attempt to move the product by pushing or pulling on the plastic parts. This may damage the product and may cause personal injury.

WARNING

- For the operation of a 2 player machine, secure a minimum area of 2.17m (W) x 2.97m (D). These dimensions are necessary to enable the customer to walk around the machine and also to provide adequate ventilation. The player is required to be physically active when playing this game, so there is a possibility of a player falling, so be sure to secure the minimum area around **the machine specified in this manual.**
- 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 which in turn **may cause a fire hazard.**
- SEGA shall not be held responsible for damage or compensation for damage to a third party, resulting from the failure to observe this instruction.
- **If the machine does not fit through the entryway to the installation location, do not disassemble it without first consulting the instructions. The machine should only be disassembled in accordance with the instructions listed in this manual; do not attempt to disassemble it in any other way. 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 0.9 m in width and 1.94m 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.

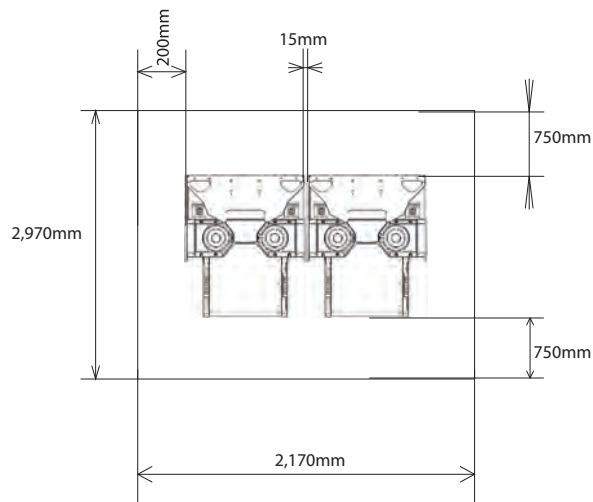
STOP IMPORTANT

Securing a safe area for operation as described in this manual will ensure safe operation for players and observers.

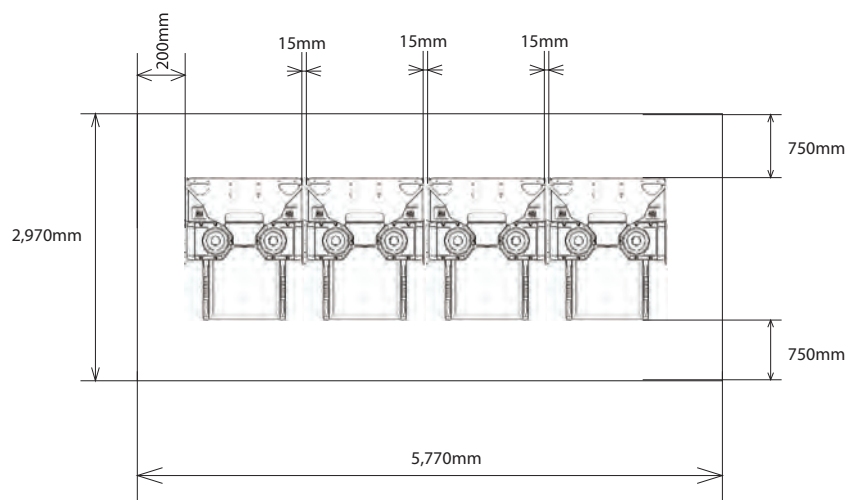
SEGA shall not be held responsible for damage or compensation for damage to a third party, resulting from the failure to observe this instruction.

2 PRECAUTIONS REGARDING INSTALLATION LOCATION

OPERATION AREA



Minimum distance required for safe operation of 2 Player Cabinet



Minimum distance required for safe operation of 4 Player Cabinet

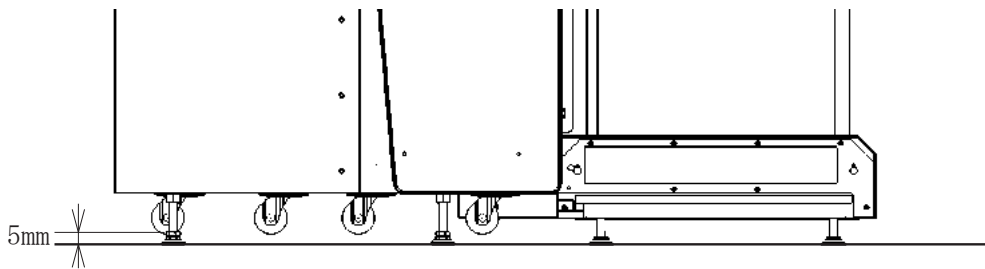
3 PRECAUTIONS REGARDING PRODUCT OPERATION

In order to prevent accidents and inappropriate behaviour, please check the following before operating the product.

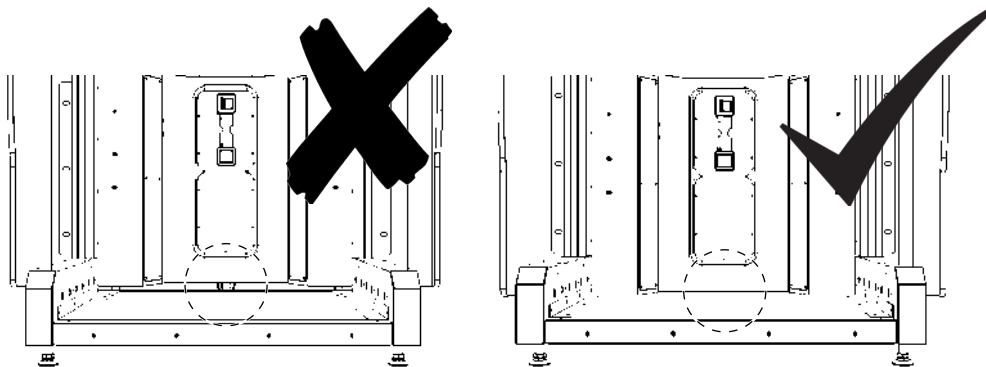
3-1 BEFORE OPERATION

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 may result in customers bumping into each other or the product causing injury.
- Check if all the Leg Adjusters are in contact with the surface. (The casters should be raised approximately 5mm from the floor) If they are not the cabinet will move and may cause damage to property or injury to a player or observer.



- When lowering the Leg Adjusters, make sure that the gap between the Cabinet and the floor has been closed.



- Do not place any heavy items on this product. Doing so may result in injury or damage to the product.
- Do not climb on this product. Climbing on this product may result in injury or product damage. When checking the upper proportions of this product, always use a step/step ladder.

WARNING

- To avoid electric shock, always check each door or service hatch for damage and make sure that they are fitted correctly. Never operate this product with doors or service hatches removed.
- Do not place any of the following objects on top of the product, nearby the product or hang them from the ceiling in close proximity to the product as doing so may result in an electric shock, short circuit or damage to parts.
- Flower vases, flower pots, cups, glasses, water tanks, cosmetics and/or any receptacle/container/vessel containing liquid or chemicals.

CAUTION

- During daily cleaning, be sure to check the surface of the controllers and other parts that the player touches with his 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.
- During daily cleaning, be sure to check the floor for any abnormality, wetness, etc. Failure to do this may result in deliberate tampering or negligence being left undetected.

IMPORTANT

- Players directly hold the controller with their bare hands so it is recommended that wet towels (paper towels) be provided.
- Endeavor to clean the controllers and the floor daily.
- Provide a container or space for storing the customers' hand luggage, etc. To help prevent an accident and also protect parts, establish measures so that customers do not bring rain gear, such as umbrellas, on rainy days, or juice or other beverages, into the area where the machine is installed.
- Inspect the coin insertion slots to make sure that no foreign objects have been inserted and that they have not otherwise been tampered with as this will prevent play.

3-2 DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

In order to prevent an accident or encourage inappropriate behaviour, the attendant or operator must endeavor to always pay attention to the behaviour of the players and customers. To play this machine involves physical activity undertaken by the player. Sometimes a player or a customer may behave in an unexpected manner. Be adequately aware of safety, and stop any behavior that is considered dangerous.

WARNING

- For safety reasons, do not allow any of the following people to play the game.
- Those who have high blood pressure or a heart problem.
- Those who have experienced muscle convulsion or loss of consciousness when playing video games, etc.
- Those who have neck or spinal cord problems.
- Those who are intoxicated or under the influence of drugs.
- Pregnant women.
- Those who are not in good health.
- Those who do not follow the attendant's instructions.
- Those who cannot grasp the Control Unit securely because of immobility in fingers, hands or arms.
- Persons who disregard the product's warning displays.
- This product is intended for a single players only. Having two or more persons simultaneously playing this product can result to injury to the player and possible damage to the product.
- Even players who have never been adversely affected by light stimulus might experience dizziness or headache depending on their physical condition when playing the game.
- Small children are especially likely to experience these symptoms. Caution guardians of small children to keep watch on their children during play.
- Advise those who feel sick during play to have a seek medical advice.
- 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 shocks 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.
- Instruct the guardians of small children to be watchful over their children.
- Children cannot sense danger. Allowing small children to get near a player who is playing the game could result in the children being bumped, struck or knocked down.



IMPORTANT

3 PRECAUTIONS REGARDING PRODUCT OPERATION

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

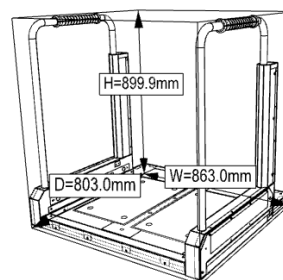
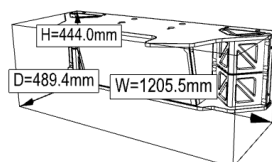
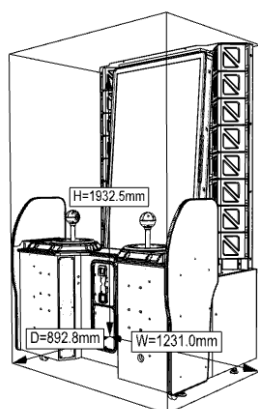
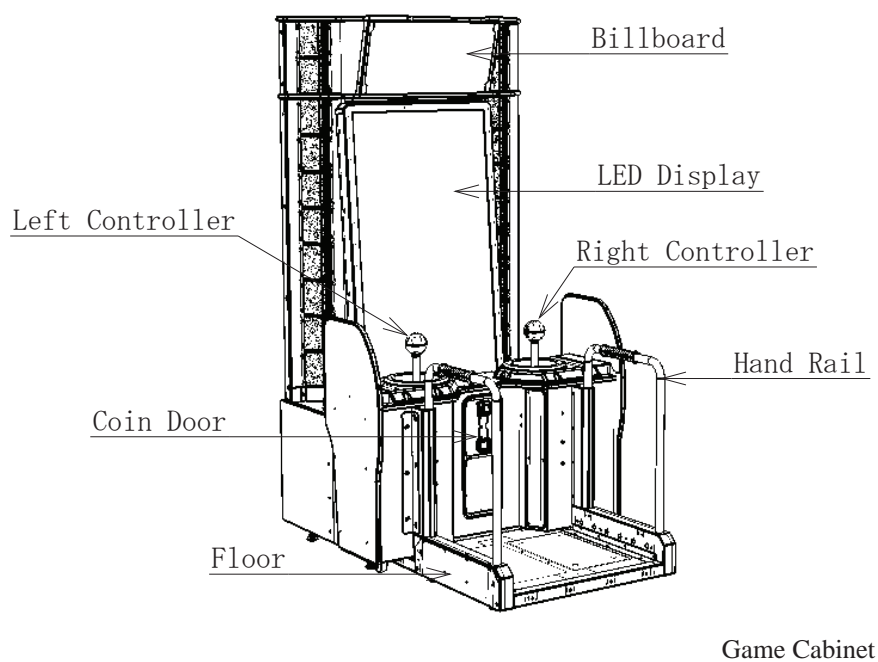
- To ensure maximum safety for the players and the customers, ensure that where the product is operated has sufficient lighting to allow any warnings to be read. Operation under insufficient lighting can cause bodily contact with each other, hitting accident, and/or trouble between customers.
- Be sure to perform appropriate adjustment of the display (LCD Screen). 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.
- It is suggested to ensure a space allowing the players who may feel sick while playing the game to take a rest.
- Check that the product is located on a level surface. If the product is placed upon an uneven surface it will rock and can trap feet or fingers between gaps.
- Do not put any heavy item on this product. Items, if placed on this product may fall and cause injury to the player / observer.
- 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 ladder.
- If a player carries hand luggage or other items onto a ride, objects may fall off or roll over, for example, when the ride moves, resulting in injury or damage. Also, instruct players not to take breakable items, etc., onto the ride.
- After the end of a game, check to ensure that the player has not forgotten or dropped any belongings.



CAUTION

- Immediately stop such violent acts as hitting and kicking the product. Such violent acts can cause parts damage or cause the cabinet to fall over, resulting in injury.
- Take care to ensure that two persons do not attempt to play a game by grasping a single controller. Failure to heed this precaution may result in a collision between two players which may cause an injury.
- Explain that the attendant will stop the game if he or she judges that a situation is dangerous.
- Take care to ensure that other customers do not touch operating devices during a game. Failure to heed this precaution may result in an accident or cause trouble between customers.
- There are steps and level differences between the floor level and the running platform. Instruct players to be careful when entering or leaving the game.

4 PART DESCRIPTIONS

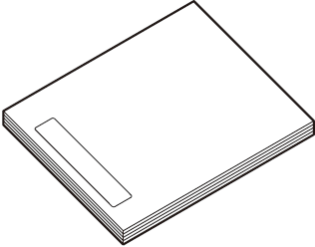
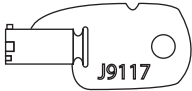
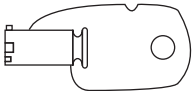
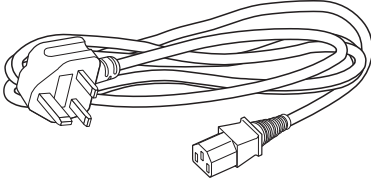


Items	Width	Depth	Height
ASSY CABINET	1.231m (48.46 in)	0.892m (35.11 in)	1.932m (76.06 in)
ASSY BILLBOARD	1.205m (47.44 in)	0.489m (19.25 in)	0.444m (17.48 in)
ASSY FLOOR PLATE	0.863m (33.89in)	0.803m (31.61 in)	0.900m (35.43 in)
ASSEMBLED	1.231m (48.46 in)	1.470m (57.87 in)	2.272m (89.44 in)
WEIGHT			
ASSY CABINET with BILLBOARD	262Kg		
ASSY FLOOR	54Kg		
ASSEMBLED WEIGHT	316Kg		

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 yet to be assigned. Be sure to handle all parts with care, as some parts are not available for purchase separately.

Part name/Part no.	Description/Use etc.	Qty
OWNERS MANUAL 420-0025-01UK	This Manual 	1
KEY MASTER	For all service doors 	6
KEY	For Cashbox security door 	2
POWER LEAD LM1227 UK LM1246 EU	Power cord for your region 	1

6 ASSEMBLY AND INSTALLATION

WARNING

- Perform assembly work by following the procedure herein stated. Failure to comply with the instructions can cause electric shock.
- Perform assembling as per this manual. Since this is a complex machine, incorrect assembling can cause an electric shock, machine damage and/or improper functioning as per specified performance.
- When assembling, be sure to use additional help from another person(s). Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Adhere strictly to all of the work procedures stipulated in this document. If two or more workers are working at the same time, exercise special caution. If sequences are carried out erroneously, accidents can result. There might also be cases in which the assembly cannot be completed.
- Pay special attention to the surroundings when a multiple number of workers are working at the same time. There is always the danger that a worker might be injured. In assembly and installation of this product, there are procedures in which a stepladder is used, procedures in which heavy objects are attached, and procedures involving connection of a rated power supply of 10 amperes. Carelessness in doing work could lead to grave injuries and even fatalities.
- Ensure that connectors are accurately connected. Incomplete connections can cause electric shock.
- 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.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a risk of fire.
- Do not leave power cable or earth lines exposed over passageways. Exposure could lead to damage, electric shock or short circuit. Wherever wiring has been laid out on a floor surface, use a wiring protection cover. [Wiring diameter: Power cable, approx. 10 mm – 14 mm]
- Persons who connect indoor power supplies must be qualified electricians. Do not allow anyone without proper qualifications to make such connections. Otherwise there could be electric shock.
- Provide power cables for connecting the indoor power supply to the product. The rating of the power cable must be at least 15 amperes. The cable must conform to this requirement and also be of sufficient length to enable the indoor power supply to be connected to the product without difficulty. Use of a cable that does not meet the requirements can result in a fire or electric shock.

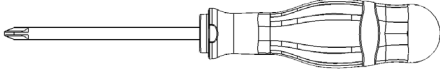
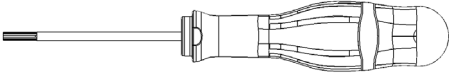
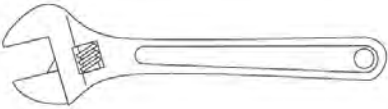
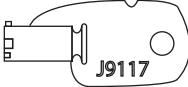
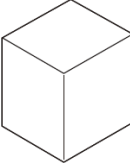
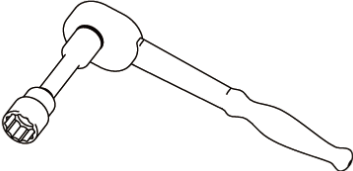

WARNING

- For the sake of safety and workability, use 3 core coaxial CE/UL approved cables for the power cables (provided).
- 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 wire and connector terminal fixtures could be damaged; and there could be a short circuit or fire. There could also be poor connectivity.
- 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.
- Whenever any fasteners (e.g. screws, nuts) have been lost, always 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.
- Be careful when aligning, attaching or mounting parts so that your head, hands, fingers, etc., do not get caught in anything. If two or more workers are working at the same time, exercise special caution. Failure to be cautious could result in accidental bone fractures or amputation. Check the surroundings carefully before proceeding.
- When connecting wires inside the cabinet, there may be instances in which the indoor lighting does not reach that location. Have a flashlight or other auxiliary lighting equipment on hand. If wires are connected carelessly, there could be an accidental short circuit, fire, etc.
- When tightening bolts and screws, ensure that other parts are suspended properly and bolts and screws are fastened tightly. Be sure to take accident prevention measures such as having another worker support parts. If a part drops or topples over during this work, a serious accident may result.

CAUTION

- Support and hold parts in place securely and fasten them with screws and/or bolts. Use two workers, one to support the part and another to fasten it in place. If a part is not supported securely, it might fall down, resulting in an accident.
- Wear appropriate work clothing so that work can be performed safely. Use gloves and safety shoes to prevent accidents or injuries.
- When installing a wire protection cover over a floor, use a material shaped so that no one passing by will stumble over it. Using a material that could be stumbled over might lead to an accidental fall.
- 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.

TOOLS NECESSARY FOR WORK

Phillips Screwdriver	
Torx T20 Security Driver	
Spanner / Adjustable spanner (24mm)	
Key Master	
Step or Stool	
Socket Wrench (13mm)	
Hex Key for 4mm, 8mm, 10mm & 13mm fixings.	

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.

Parts replacement, maintenance inspections and troubleshooting should be carried out by site maintenance personnel or other qualified professionals. This manual includes directions for potentially dangerous procedures which should only be carried out by professionals with the appropriate specialised knowledge.

The site maintenance personnel or other qualified professionals mentioned in this manual are defined as follows:

Site maintenance personnel:

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

Activities to be carried out by site maintenance personnel:

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

Other qualified professionals:

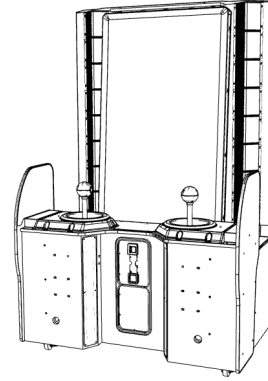
Persons employed by amusement equipment manufacturers, or involved in design, production, testing or maintenance of amusement equipment. The individual should have either graduated from technical school or hold similar qualifications in electrical/electronics/mechanical engineering.

Activities to be carried out by other qualified professionals:

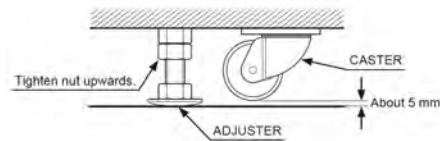
Amusement equipment/vending machine assembly, repair/adjustment of electrical/electronic/mechanical parts.

6-1 INSTALLING THE CABINET

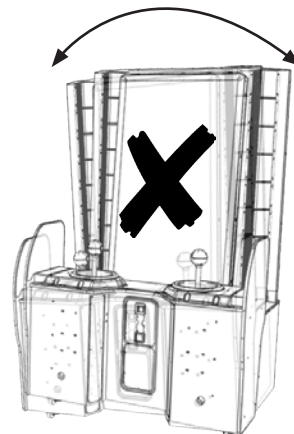
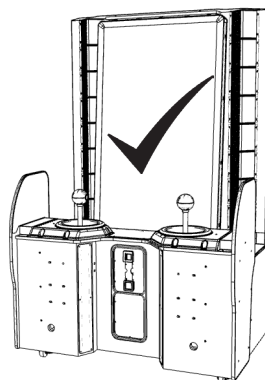
- 1 Secure an internal location for the Main Cabinet as described in Section 2 of this manual. Making sure that its position does not obscure and passages or exits.



- 2 Stabilise the cabinet once in position. Lower the (4) Leg Adjusters so that the cabinet is exactly level and the Casters raised 5mm from the surface of the floor. When complete, tighten the loose nut on the Leg Adjusters to secure the Adjuster into position.



- 3 Minor adjustments to each Adjuster may be necessary to prevent the cabinet from rocking, especially on slightly uneven surfaces.



6-2 INSTALLING THE BILLBOARD

⚠ CAUTION

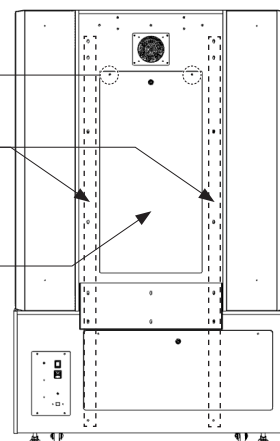
- The Assy Billboard is a heavy item (approx 12kg). Please use a minimum of 2 people when installing the Assy Billboard.
- Installation of the Assy Billboard is undertaken at a high level. Use a step or step ladder to aid installation.

- 1 To install the Assy Billboard we must first raise the (2) Vertical Brace which are located either side of the Rear Door on the inside of the cabinet. Locate and remove the Rear Door Panel using the keys provided.

Remove the (2) M4 Phillips
Screws from the Rear Door Panel

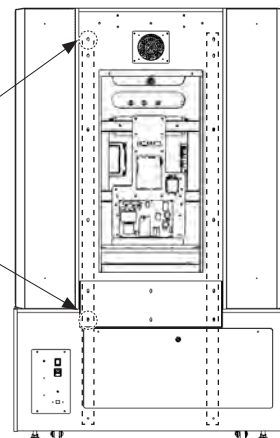
Vertical Brace (Transit Position)
(MSR-0003UK)

Assy Rear Door
(MSR-1501-BUK)



- 2 Whilst holding onto the Vertical Brace, remove the 2 fixings which secure it to the cabinet for transport. (Retain the fixings to reinstall the Vertical Brace)

M6x30 SKT BH PAS (2)
(029-B00630)

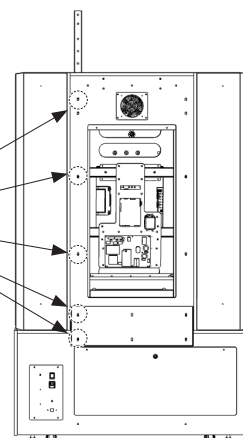


- 3 Raise the Vertical Brace so that the lowest fixing point in the cabinet aligns with the lowest fixing point in the Vertical Brace. Once in position, secure the Brace to the cabinet using the (2) fixings removed from step 2 and an additional (3) M6x20 Button Head Socket Screws and washers.

M6x30 SKT BH PAS (2 from Step 2) + (3)
(029-B00630)

M6 WSHR SPR PAS (3)
(060-S0060)

M6 WSHR 20OD FLT PAS (3)
(068-652016)

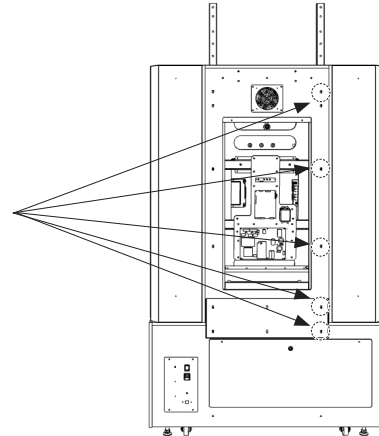


4 Repeat Steps 2 & 3 with the Left Hand Vertical Brace.

M6x30 SKT BH PAS (2 from Step 2) + (3)
(029-B00630)

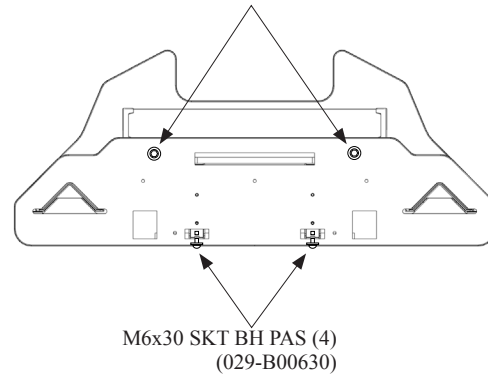
M6 WSHR SPR PAS (3)
(060-S0060)

M6 WSHR 20OD FLT PAS (3)
(068-652016)



5 Carefully unwrap the ASSY BILLBOARD and locate the (6) M6x30 Socket Head Machine Screws (complete with washers) . Remove these (6) fixings and place to one side for safe keeping.

M6x30 SKT BH PAS (2)
(029-B00630)

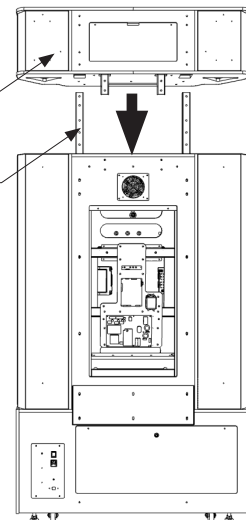


M6x30 SKT BH PAS (4)
(029-B00630)

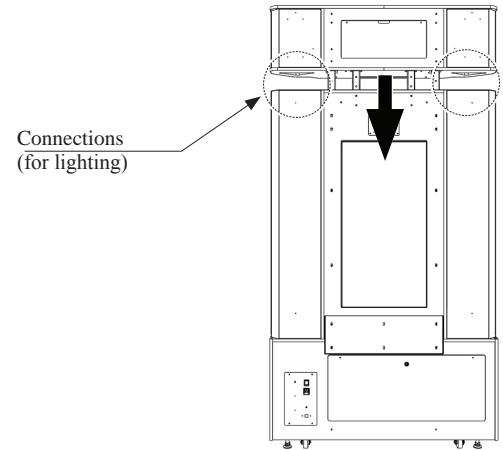
6 Using (2) people and the aid of a step ladder, offer the Assy Billboard up to the cabinet. Carefully lower the ASSY BILLBOARD over L&R hand Vertical Braces.

Assy Billboard
(MSR-2000UK)

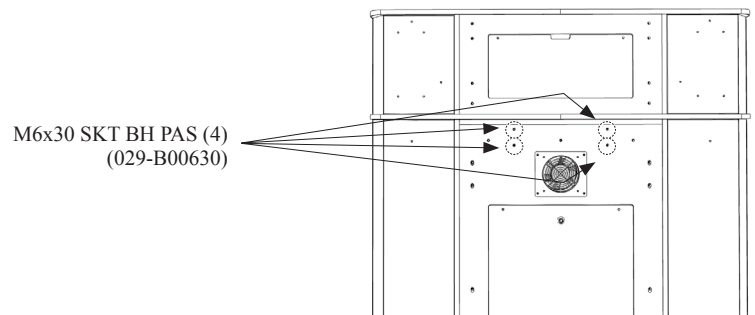
Vertical Brace
(MSR-0003UK)



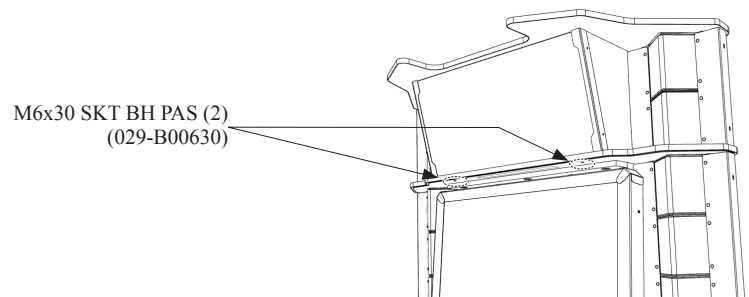
- 7** Carefully lower the ASSY BILLBOARD to about half way and make the connections at each end.



- 8** Once the ASSY BILLBOARD is in position, apply the (4) M6x30 SKT BH PAS which were removed in Step 5. Do not tightened fully at this point.



- 9** At the front of the ASSY BILLBOARD, locate the two fixing points and secure using the (2) M6x30 SKT BH PAS which were removed in Step 5. Tighten all 6 fixings at this point.



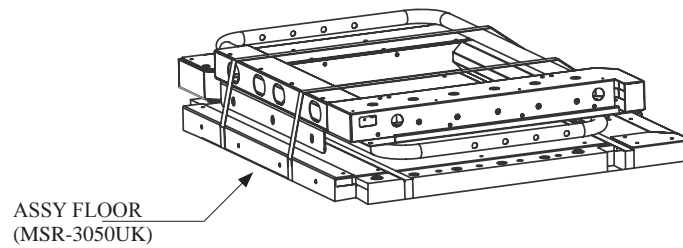
6-3 ASSEMBLING THE FLOOR

STOP

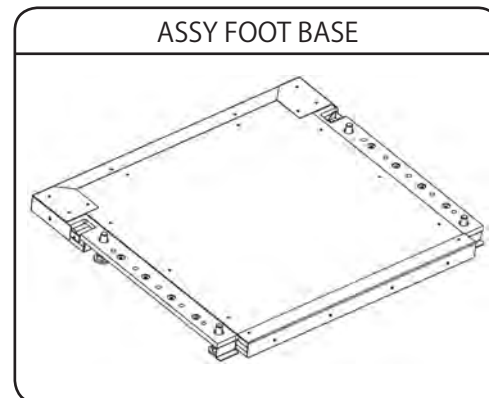
THE FLOOR ASSY IS HEAVY. USE 2 PEOPLE WHEN ASSEMBLING/INSTALLING.

Fitting the handrail to the floor base.

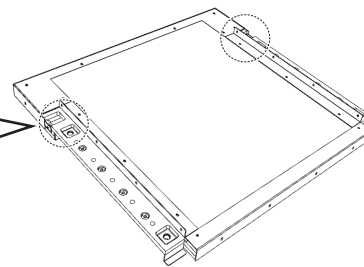
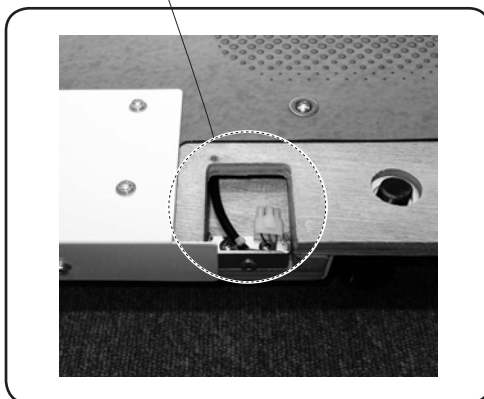
- 1 Using (2) people, carefully unpack the ASSY FLOOR.



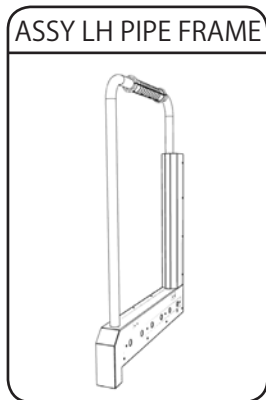
- 2 Isolate the FOOT BASE and locate the (2) connectors.



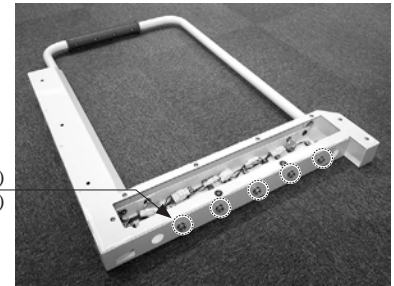
Connectors



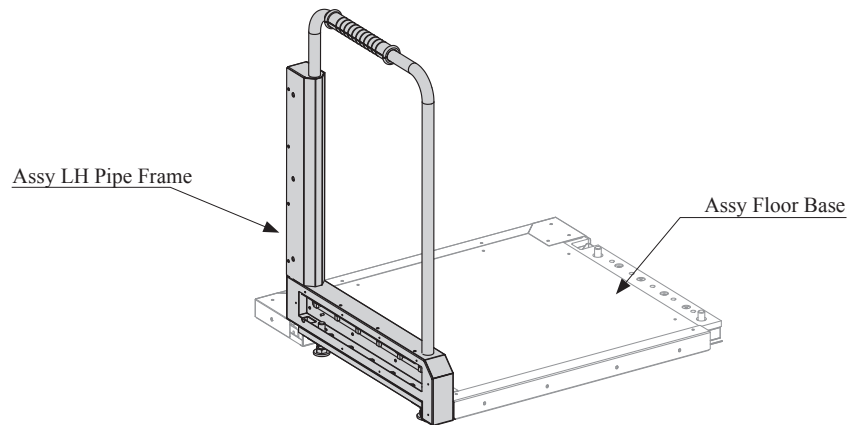
- 3** Locate the ASSY LH PIPE FRAME and remove the (5) M8x30 SKT CAP PAS (029-B00830) positioned on the underside of the Pipe Frame. Do not dispose of the fixings.



M8x30 SKT CAP PAS (5)
(029-B00830)



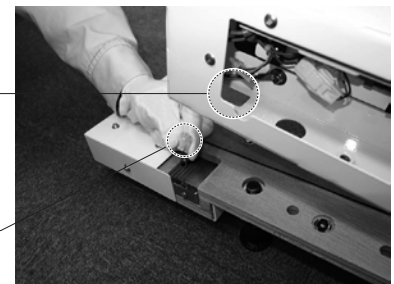
- 4** Place the ASSY LH PIPE FRAME on top of the FOOT BASE taking care not to trap any wires.



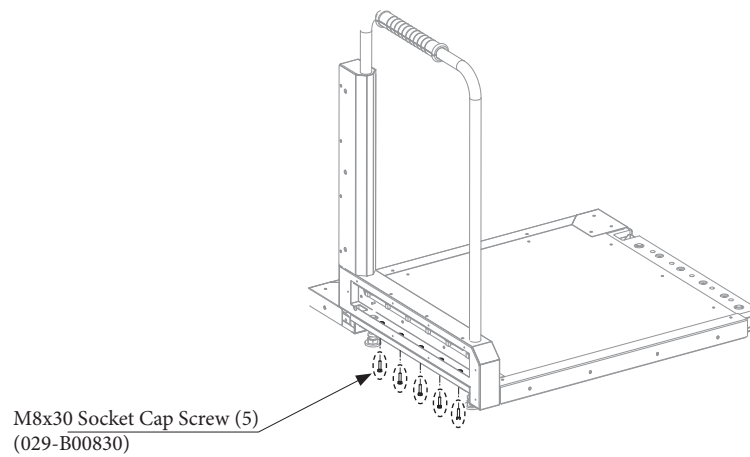
- 5** Carefully tilt up the Assy LH PIPE FRAME and run the connector from the ASSY FLOOR BASE through the access hole and make connection.

Access for Harness

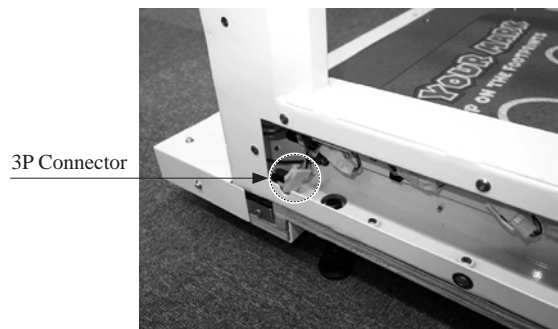
3P Connector



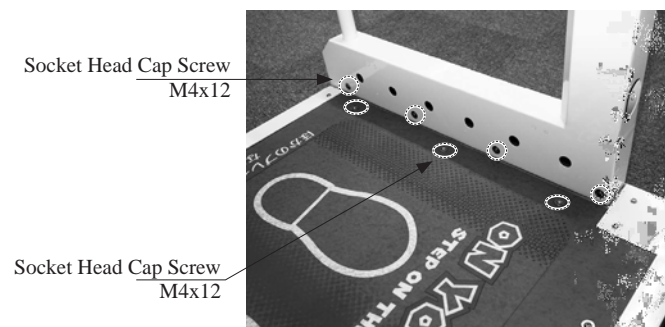
- 6** Secure the ASSY LH PIPE to the ASSY FLOOR BASE using the (5) M8x30 SKT CAP SCR removed from Step 3



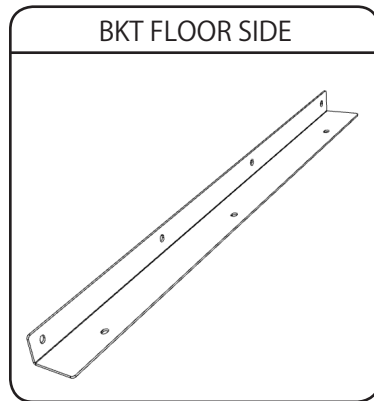
- 7** Make the connector which was passed through into the ASSY LH PIPE from Step 5.



- 8** Using an Allen Wrench, remove the (7) fixings applied to the ASSY FLOOR BASE (3) and the ASSY LH PIPE FRAME (4).

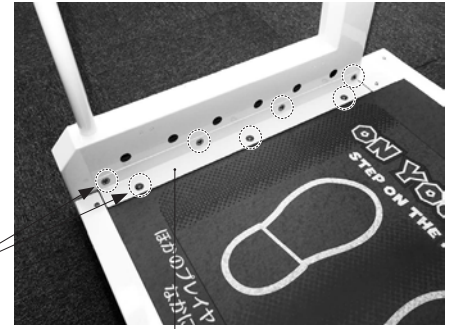


- 9** Fit and secure the BKT FLOOR SIDE between the ASSY FLOOR BASE and the ASSY LH PIPE using the (7) M4x12 Socket Cap Screws removed from Step 8



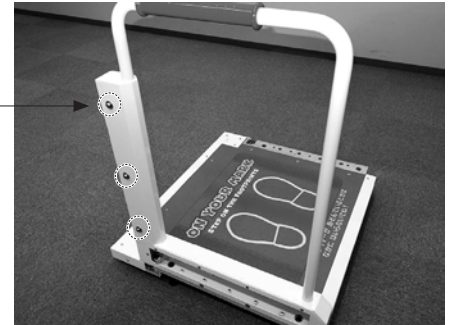
M4x12 SKT CAP SCREW
(029-B00412)

BKT FLOOR SIDE (2)
(MSR-3055UK)

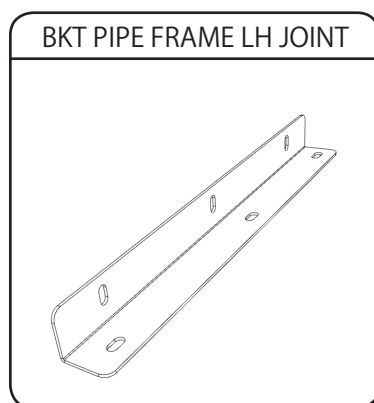


- 10** Remove the (3) M8x20 SKT CAP SCR from the UPRIGHT REAR LH BKT (MSR-3001UK)

Socket Head Cap Screw
M8x20

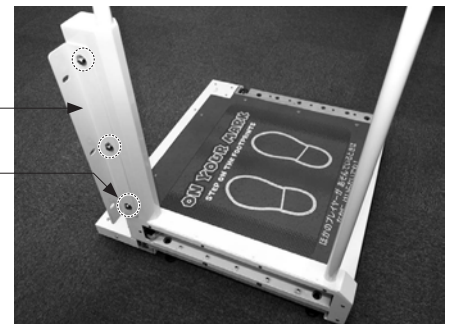


- 11** Fit and secure the BKT PIPE FRAME LH JOINT (MSR-0002UK) using the (3) M8x20 SKT CAP SCR removed from Step 10.



BKT PIPE FRAME LH JOINT
(MSR-0002UK)

Socket Head Cap Screw
M8x20



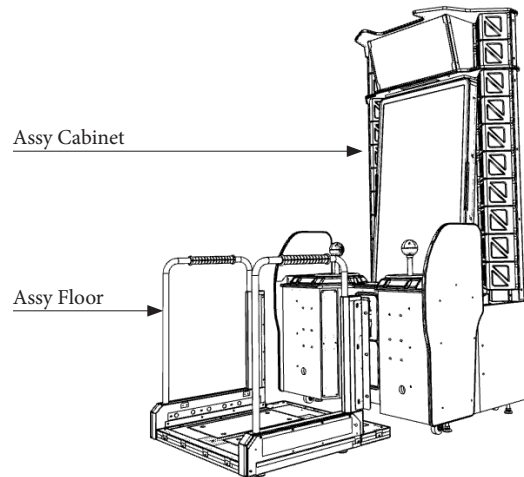
- 12** Apply the RH PIPE FRAME using the same process by following the above instructions from Step 3

6-4 INSTALLING THE FLOOR TO THE CABINET

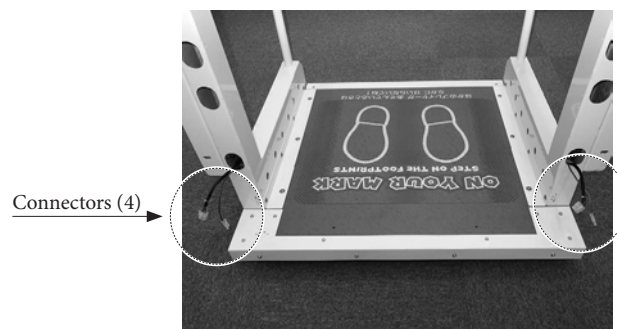
STOP

THE FLOOR ASSY IS HEAVY. USE 2 PEOPLE WHEN ASSEMBLING/INSTALLING.

- 1 Position the Assy Floor in front of the Cabinet.



- 2 Prepare the (4) connectors ready.



- 3 Using a 5mm Allen Wrench, remove the (6) M8x20 SKT CAP SCR from either side of the front of the cabinet.



- 4 Pull out the connectors located within the Main Cabinet...



- 5 Carefully slide the ASSY FLOOR up to the Main Cabinet taking care not to trap any wires or fingers in the process. Make the (4) connections



Connections (2)
LHS



Connections (2)
RHS

- 6 Apply the fixings (removed from Step 3) which secure the ASSY FLOOR to the cabinet.
Important: Do Not Tighten fixings at this point.



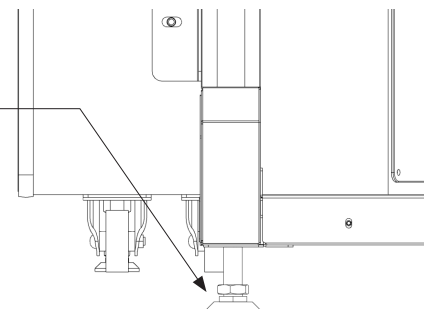
Socket Head Cap Screw
M8x20

- 7 Using an Adjustable Wrench, begin to raise the floor by lowering the (4) Leg Adjusters. Be sure keep the floor level.



Leg Adjuster

Lower (4) Leg Adjuster

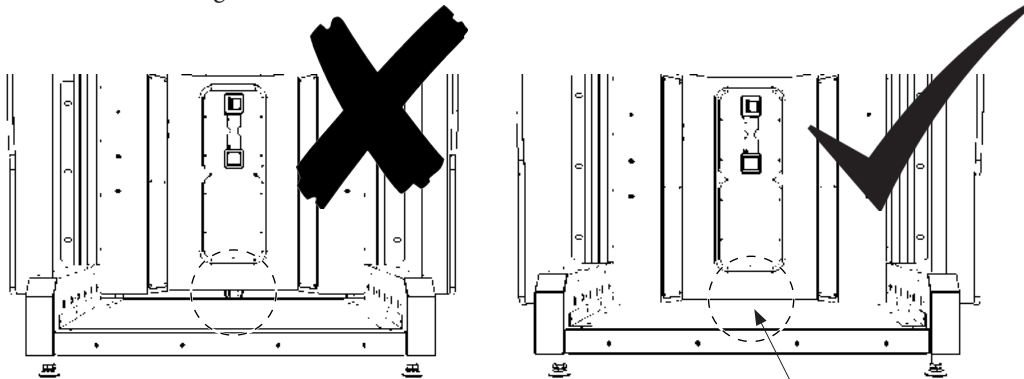


- 8** Lower the Leg Adjusters and raise the ASSY FLOOR to a height whereby the gap between the ASSY FLOOR and the underside of the cabinet is closed completely.

WARNING

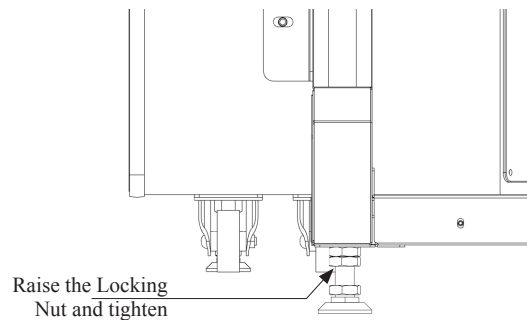
THE FLOOR HEIGHT MUST BE ADJUSTED SO THAT THE GAP BETWEEN THE FLOOR AND THE UNDERSIDE OF THE CABINET HAS CLOSED. LEAVING A GAP BETWEEN THE FLOOR AND THE UNDERSIDE OF THE CABINET MAY INDUCE A TRAP HAZARD OR POSSIBLE INJURY TO PLAYER.

Align the FLOOR PLATE with the CONTROLLER CABINET

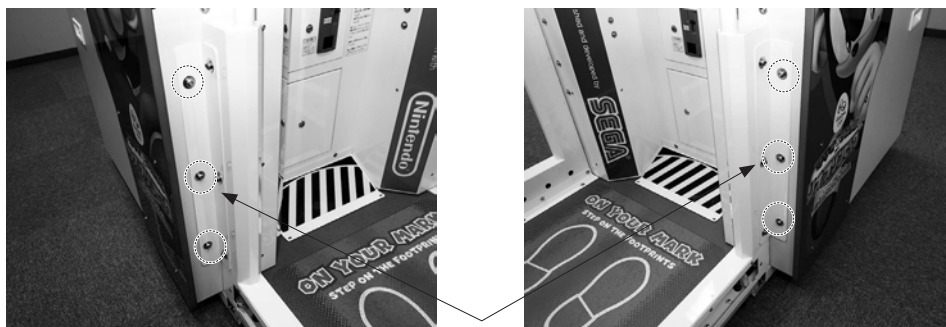


Be sure that the gaps between cabinet and floor are closed.

- 9** Once the ASSY FLOOR is in position, lock the Leg Adjusters by raising the “Lock Nut”.



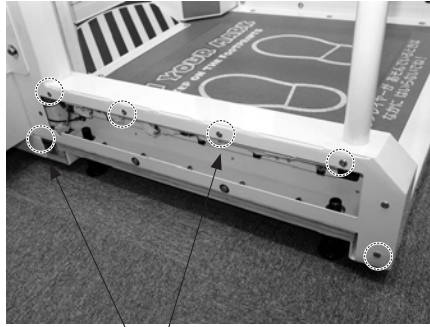
- 10** Once the ASSY FLOOR has been raised and the gap between the ASSY FLOOR and the underside of the cabinet has been closed. Secure the ASSY FLOOR to the cabinet by tightening the (6) M8x20 SKT CAP SCR applied in Step 6.



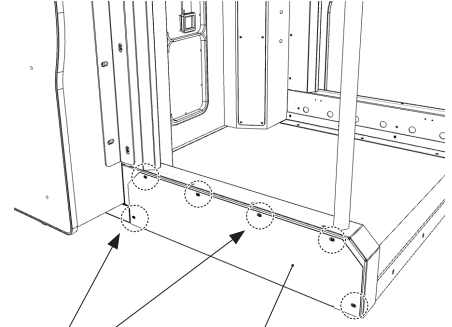
Socket Head Cap Screw
M8x20

11

Remove the (6) M4x12 SKT CAP SCR from around the LH FRAME PIPE. Apply and secure the PLATE FLOOR SENSOR (MSR-3003UK) using the (6) findings removed.



M4x12 SKT CAP SCR (6)
(029-00412-0C)



M4x12 SKT CAP SCR (6)
(029-00412-0C)

Plate Floor Sensor
(MSR-3003UK)

12

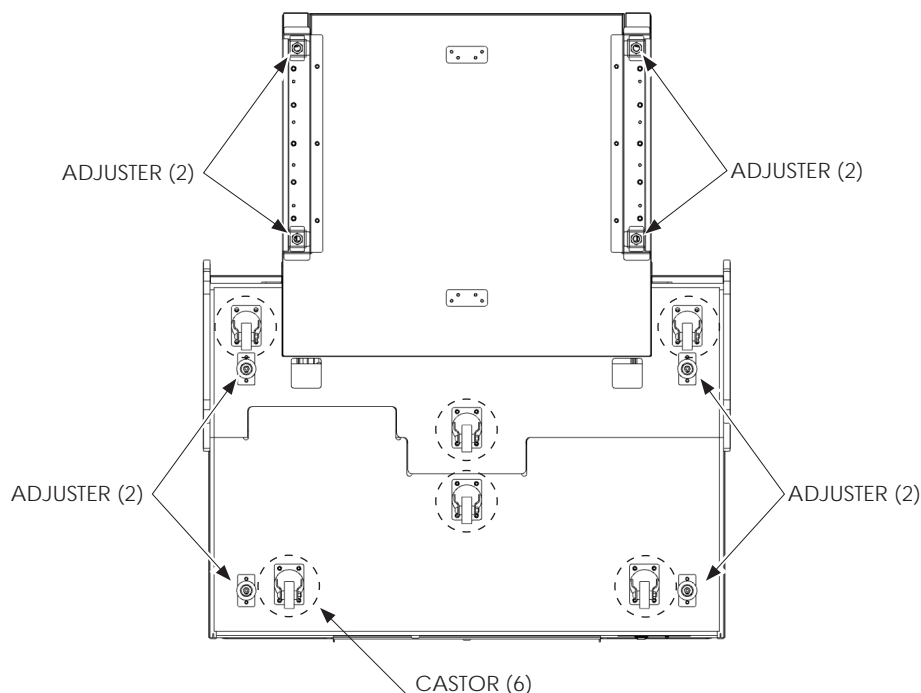
Repeat Step 11 to the RH FRAME PIPE.

6-5 INSPECT FIXATION TO SITE

⚠ WARNING

- Make sure that all the adjusters contact the floor. Otherwise the cabinet could move, causing an accident.
- Provide a ventilation space at least 15cm wide behind the cabinet. There are ventilation holes on the back of the cabinet. Do not block the ventilation holes. Doing so could trap heat inside resulting in fire. It could also result in equipment damage or cause parts to become exhausted prematurely.
- Do not position the product on uneven surfaces or a surface which slopes. Positioning the cabinet on either an uneven or sloped surface may cause the cabinet to become unstable which may result in damage or injury.

The product comes with castors attached to 6 locations. When the installation site has been determined, have the adjusters come in direct contact with the floor. Establish a gap of approximately 5mm between the floor and the castor and adjust the unit so that it will remain level.



1 Once the leg levellers are down and in position the cabinet can not be moved. Trying to move the cabinet when the levellers are down may cause damage to the product or cause personal injury. Minor adjustments to position can be made if the levellers are raised and the casters come into contact with the floor. Do not attempt to move the cabinet over long distances with the floor attached.

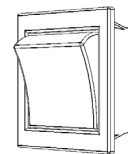
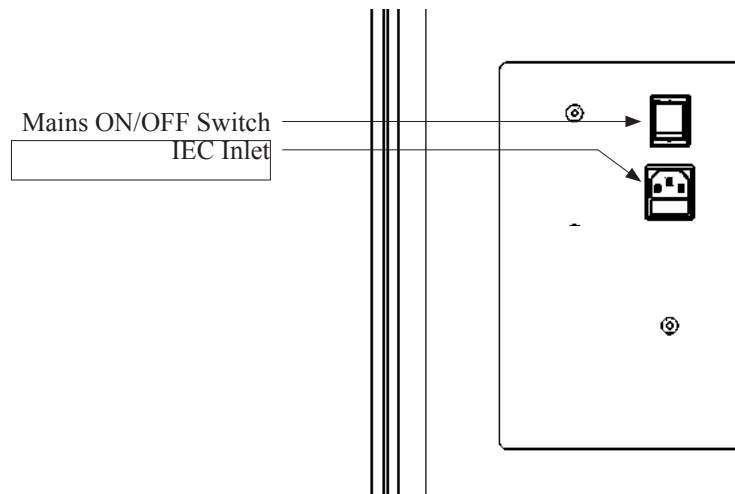
2 Bring the adjusters into direct contact with the floor. Use a wrench to align the height of the adjusters until the cabinet is perfectly level. Not having the adjusters level will cause the cabinet to rock and move from position..

6-6 POWER SUPPLY AND OTHER CONNECTIONS

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 ground terminal. Without proper grounding, customers could be electrocuted and product operations might not always be stable.
- Do not expose the power cord or ground wire. 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. Set these lines at locations where they will not interfere with customer traffic, or attach covers to them.
- After laying out the power cord on the floor, be sure to always protect it. If the power cord is left exposed, it can easily be damaged, resulting in electrical shock.

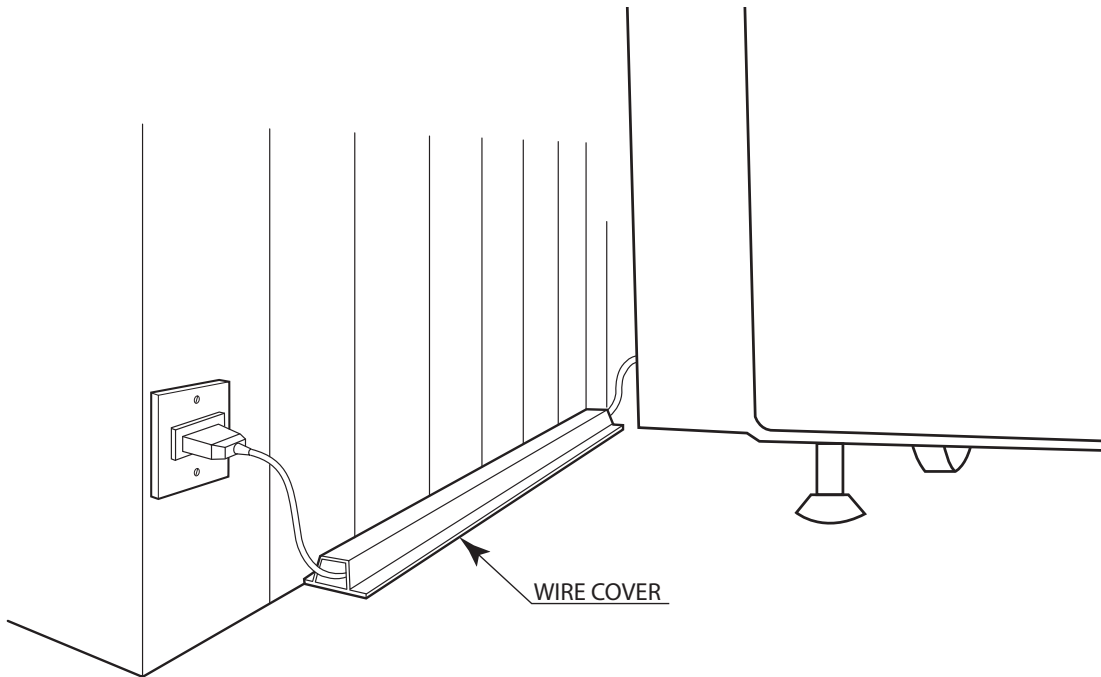
1 Confirm that the main switch is at OFF position.



Mains Switch shown in
OFF position

- 2** Fully insert the power cord connector on the side opposite the power plug into the AC unit IEC inlet. Insert the power cord plug into the outlet.

- 3** The power code is laid out indoors. Protect the power cord by attaching a wire cover to it.

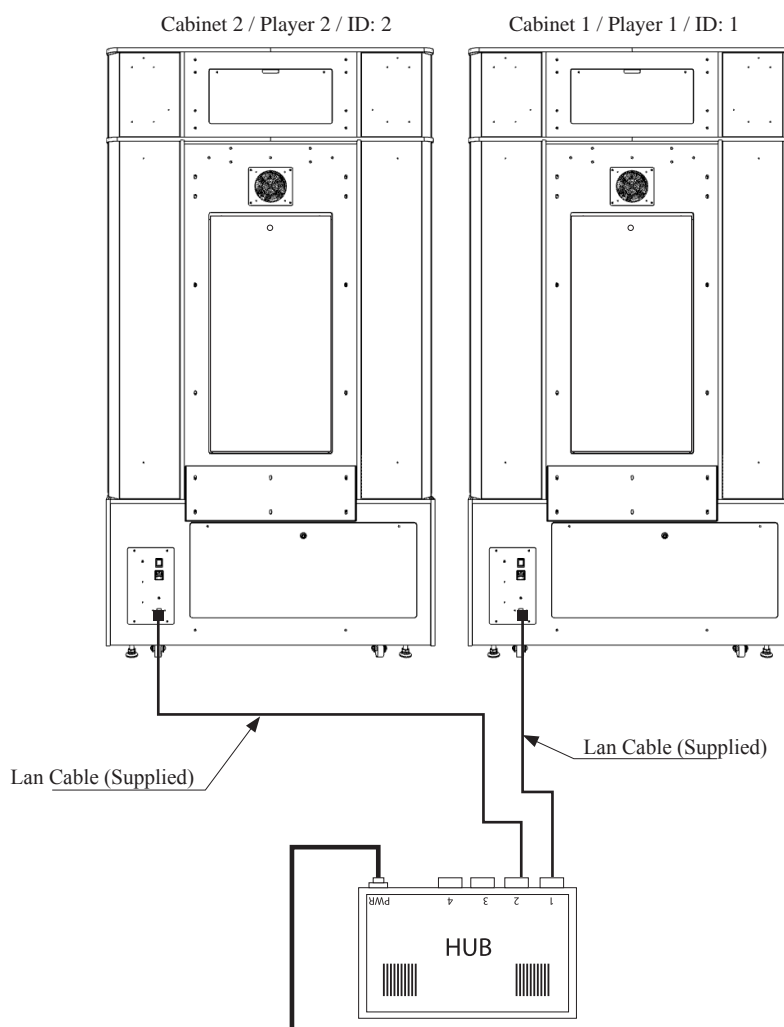


6-7 COMMUNICATION / NETWORK CONNECTIONS

When operating as a 2,3 or 4 player, you must connect each cabinet into a Network via a hub (supplied). Each cabinet is then assigned a unique ID. This allows each player/cabinet to take part in the same event and players to compete against one another.

- 1 Once the machines have been installed and positioned correctly, begin to connect the cabinets together via the hub.
- 2 Take one of the two Lan Cables (Supplied) and connect it to the Lan Connection point at the rear of Cabinet 1. Connect the opposing end into Port 1 on the Hub (Supplied)
- 3 Connect the second Lan cable into the Lan Connection point at the rear of Cabinet 2. Connect the opposing end into Port 2 on the Hub (Supplied)

2 Player Mode



- 4 Please refer to Section 16-3 Game Bd of this manual for DIP switch settings on assigning unique IDs to each machine.

- 5** When connecting up a 4 player cabinet, please refer to Steps 1 to 4 in this section then apply the 3rd and 4th Lan cables in the same way but allocated to positions 3 and 4 on the hub.

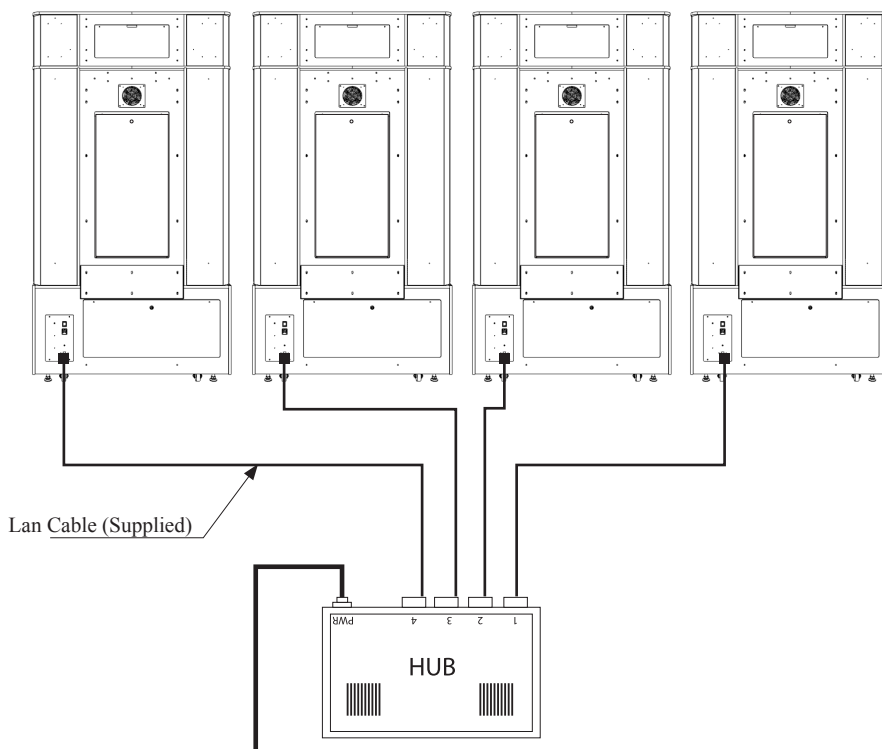
4 Player Mode

Cabinet 4 / Player 4 / ID: 4

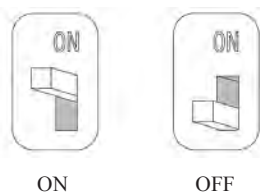
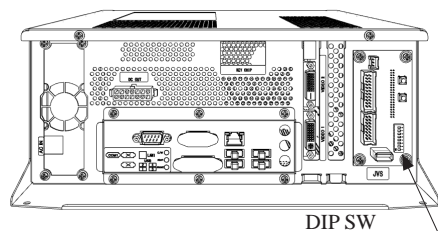
Cabinet 2 / Player 2 / ID: 2

Cabinet 3 / Player 3 / ID: 3

Cabinet 1 / Player 1 / ID: 1



- 5** Set up the DIP SW as per the original Nu 1.1 Game Bd. If you are operating just 1 cabinet without any communication then please set up machine as the “main machine” (1P). If however you are operating a number of cabinets (1 to 4) with communication, then set the DIP SW to the corresponding cabinet position. (See DIP SW settings below.



DIP SW Settings

Cabinet 1 (1P) / Cabinet ID:1

1	2	3	4	5	6	7	8
ON	OFF	OFF	ON	ON	ON	ON	OFF

Cabinet 2 (2P) / Cabinet ID:2

1	2	3	4	5	6	7	8
OFF	ON	OFF	ON	ON	ON	ON	OFF

Cabinet 3 (3P) / Cabinet ID:3

1	2	3	4	5	6	7	8
OFF	OFF	ON	ON	ON	ON	ON	OFF

Cabinet 4 (4P) / Cabinet ID:4

1	2	3	4	5	6	7	8
OFF	ON	ON	ON	ON	ON	ON	OFF

6-8 TURNING ON THE POWER

Set the main switch of the AC unit to ON and engage the power.

When you turn on the power, the billboard LED's will come on.

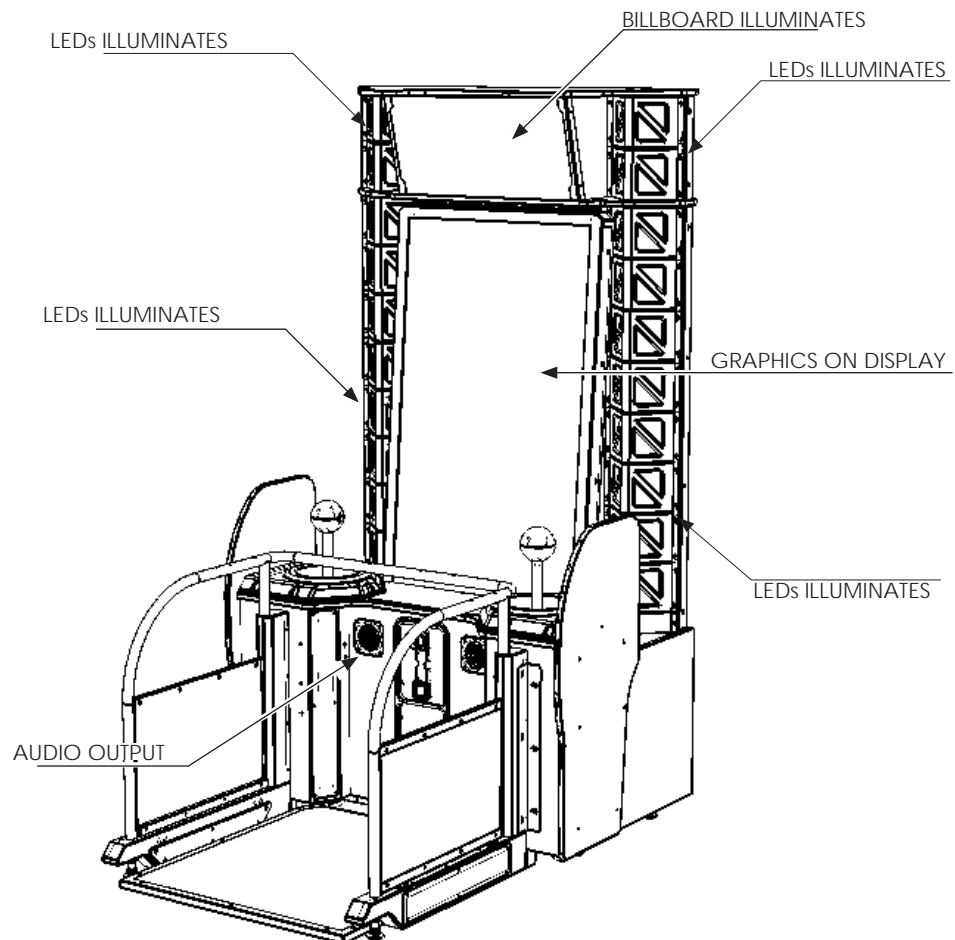
After the start up screen is displayed on the LCD screen, the Advertise (Attract) Mode will start.

The left and right hand decorative LEDs will illuminate and scroll through a variation of colours

Start up sounds are output from the speakers on the left and right of the cabinet together with display of the startup screen.

Even when the power source has been cut off, credit count, ranking data, game settings and bookkeeping data are kept stored in the product. However, fractional coin counts (inserted coins that do not amount to one credit) and bonus adder counts are not kept.

COMPONENTS WHICH CHANGE STATE WHEN POWER IS APPLIED



6-9 CONFIRMATION OF ASSEMBLY

Use the TEST MODE to check whether or not the product has been correctly assembled and whether or not everything operates normally.

CAUTION

- **The seat moves during the initialization of the cabinet. Please wait and stand aside of the cabinet during this time. Do not touch the seat while it is initializing.**

- 1 Turn ON the power switch.
- 2 The Coin Lamp and the Billboard will illuminate.
- 3 The software will load and a logo will appear on screen,
- 4 The attract mode will begin showing the Mario & Sonic characters on screen.
- 5 Audio can be heard from both left and right speakers.
- 6 Press the TEST button to enter the GAME TEST MENU screen. (See Chapter 9)
- 7 **MONITOR TEST screen**
Select "MONITOR TEST" in SYSTEM TEST MODE to bring up the MONITOR TEST screen.
The monitor is shipped from the factory pre-adjusted but you may use the MONITOR TEST screen to determine whether it need to be re-adjusted. If adjustment is needed, refer to the section of this manual under the section MONITOR LCD.
- 8 Exit MONITOR TEST and select INPUT TEST
- 9 **INPUT TEST screen**
Select "INPUT TEST" in the GAME TEST MODE to bring up the INPUT TEST screen, allowing you to test the input devices to verify operation.
- 10 Press TEST and SERVICE together to exit and return to the GAME TEST MENU. Select OUTPUT TEST.
- 11 **OUTPUT TEST screen**
Select "OUTPUT TEST" in the GAME TEST MENU to bring up the OUTPUT TEST screen, allowing you to test devices such as lamps and LED's

6-10 APPLYING WARNING LABELS (EPILEPTIFORM SEIZURES)

⚠ CAUTION

- The operator **MUST** apply the Epileptiform Seizure Label to this product. Failing to apply this label may result in the player/observer suffering from a photosensitive seizure. Warning the potential player/ observer of this before the start of a game may prevent such accidents.
- It is also important to apply the correct language label for each location. There are nine (9) different language labels - please apply the label which matches your location.

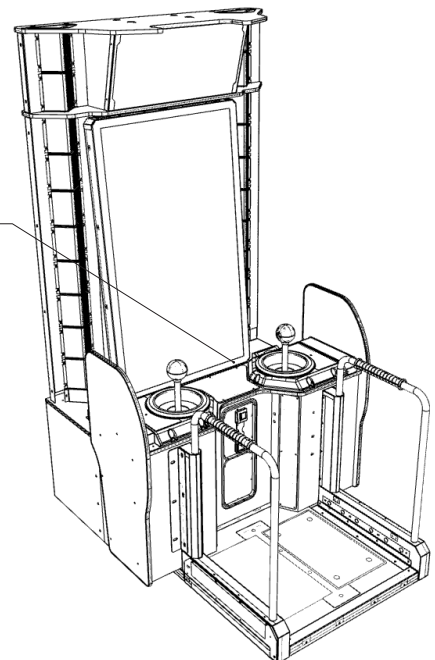
STOP IMPORTANT

Application of any warning labels must be placed in a location which is easy for the player/observer to read. Please follow the instructions below and apply the label in the location stated.

The Epileptiform Seizure label is supplied in 12 different languages. Please choose the label which matches your language location.



Apply the label centrally to the outer mask (do not apply it to the screen). This location is unobstructed and can be easily read by players.



7 PRECAUTIONS WHEN MOVING THE MACHINE

WARNING

- As used in these instructions, the term “moving” refers to moving of the product within the same building, store or facility. These instructions do not cover moving between different buildings, areas, stores or facilities, since diverse factors are involved, not only packaging but also loading onto transport vehicles, and securing the product in place during transport. To transport the product to a different building or store, contact the vendor where the product was purchased or the office indicated in these instructions. Or request that moving be done for you. This product is made up of parts that are of large size and heavy weight. Unless work is entrusted to someone with expertise in packaging and transport of such parts, a serious accident might occur.
- Even when the product is to be moved within the same building, store or facility, contact the point of purchase or the office indicated in these instructions if there will be level differences or narrow or low level entrances while moving. Or request that moving be done for you. Never disassemble the product in any way not covered in these instructions. Otherwise there could be a fire, electric shock and/or short circuit.
- Always disconnect the power cable before moving the product. If it is moved with the power cable connected, the cable could be damaged, causing fire or electric shock.
- A qualified electrician is required for moving product parts within a store and for changing indoor wiring. Do not have work performed by anyone who is not qualified. Otherwise there could be electric shock.
- 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.
- Do not try to move this product while it is still assembled. Always remove the Billboard and split the cabinets before moving.
- Because it is structurally difficult for exterior lighting to enter the cabinet, have auxiliary lighting available. Working within a dark environment can lead to accidents.
- For instructions on separation and disassembly of the cabinet, refer to Chapter 6 & 7 of this manual. Failure to follow the instructions given by this manual leaves a high risk of accidents such as electric shock occurring.
- 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 wiring. Before separating parts that have wiring connections, disconnect the wiring connections, unravel wire bundles and undo fastenings. Only after that, remove fasteners (screws, nuts, etc.). If wiring becomes damaged, there could be an electric shock, short circuit or fire.

WARNING

- 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 wire and connector terminal fixtures could be damaged; and there could be a short circuit or fire. There could also be poor connectivity.
- Do not move unit with the adjusters in contact with the floor. Otherwise parts might be damaged or deformed and there might be accidents.
- Whenever any fasteners (e.g. screws, nuts) have been lost, always 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.
- Do not place the cabinet on inclines or uneven surfaces. This could result in the unit falling over.
- Check surroundings carefully while moving the unit. If you should get caught between the unit and a wall, for instance, there could be a serious accident.
- Have on hand a number of workers appropriate for each task that needs to be done. Make calculations by approximating that one worker can lift roughly 15 kg of weight. If an insufficient number of workers try to lift a heavy object, it could result in a worker stumbling and the object being dropped, crushing someone or something underneath. Workers could also injure their backs, etc.
- When lifting a heavy object, be sure to carefully consider the area where it will be lifted. If possible, lift the object by its handles or base. If weak fasteners or fragile parts are gripped, they could be damaged under the weight of the object, and this could result in a worker stumbling and the object being dropped, causing personal injury.
- 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.
- Do not attempt to tilt the unit to fit it through narrow doorways. Moving the unit while it is tilted can result in an accident. It can also cause deformations and damage to parts, as well as deviations of fastening positions, which could result in accidents during operation.

IMPORTANT

- If moving through a door or places that may become narrow, i.e corridors or places which have low ceilings such as an elevator, you should remove the billboard.

CAUTION

- Do not push plastic parts or any part associated with the moving mechanism. Do not lift or support the product by any plastic part. Parts can be damaged, and fragments can cause injury.
- Do not push on or hold onto the LCD or controllers to move the unit. Doing so could break the parts and lead to people getting injured..
- 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.
- Do not hold onto the controllers to use as a lever or leverage. Doing so may cause damage resulting in injury to the player or impaired game play.

IMPORTANT

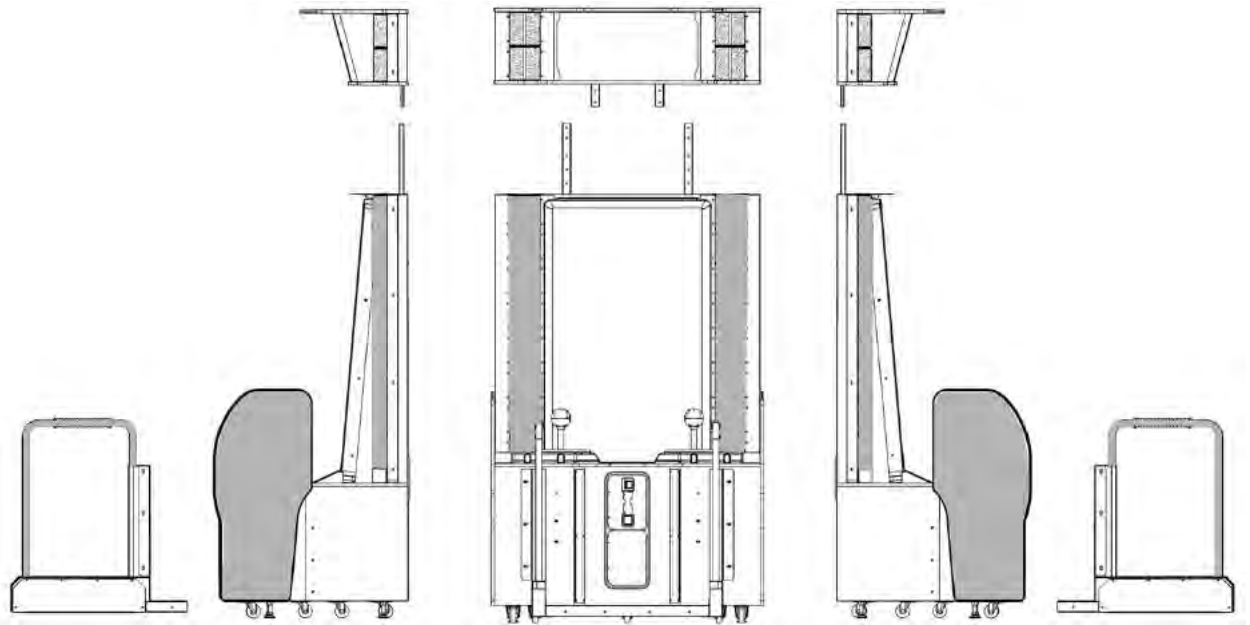
- If the unit is moved over floor surfaces where there is carpet, decorative panel, etc., there might be friction or soiling.
- Movement by casters can damage the floor, depending on the floor material. Have a mat or thin plate available for moving casters. If rugs, for instance, have been laid out, remove them before moving.
- Be careful not to damage delicate parts as the Controller levers etc whilst moving the product. Always push/pull the product levering from the bolted on metal parts or by the lower sections such as the base.
- Do not apply rope directly to the product's surface. Use protective material at locations where rope is applied taking care not to damage components attached to the machine.

IMPORTANT

- The strength of this product's joints were not designed such that the product can be moved while assembled. Attempting to push on the cockpit, etc. to move the unit while assembled can result in damage, deformation, and misalignment of the joints. Abnormalities in the joints can result in improper operation or breakdown in internal mechanisms.

STOP IMPORTANT

- The cabinet has some delicate areas which when under stress may damage. Do Not move the cabinet by holding onto the area highlighted in grey. Moving the cabinet by using these areas may cause damage or personal injury.



8 GAME DESCRIPTION

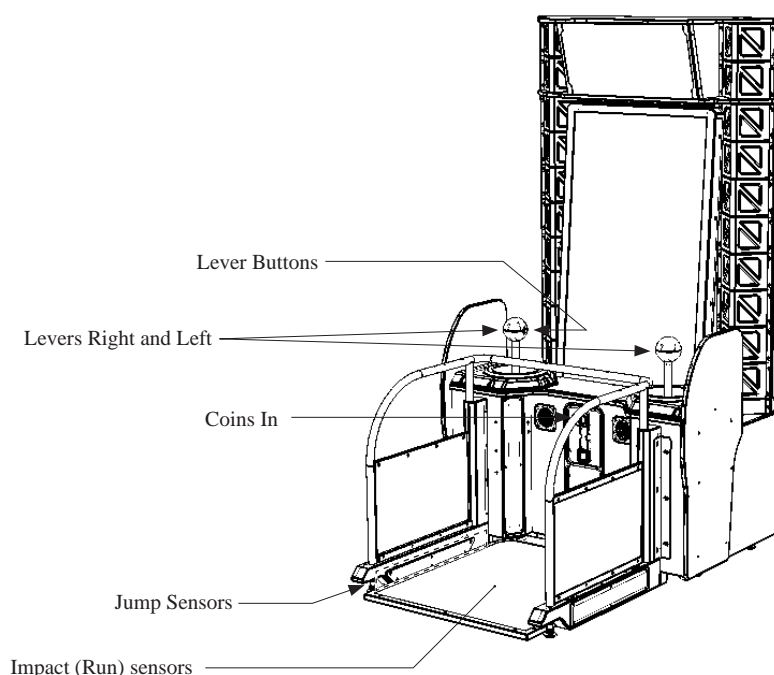
8-1 GAME SUMMARY

This game is a physical action game whereby players control Mario, Sonic, etc and compete in several Olympic events. Players can either run, jump or use the levers and lever buttons to control their character.

This game is available for up to 4 players when cabinets are linked with one another to create a competitive environment. Players can either compete or choose to play as a single player.

8-2 HOW TO CONTROL THE GAME

Only one player can control the game at any one time per cabinet.



Lever Button L (R)	<ul style="list-style-type: none"> • Press Lever Button to start games. • Confirm selection on game screen. • Control action during game. • Skip sequences.
Lever L (R)	<ul style="list-style-type: none"> • Use lever to select items on game screen. • Control action during game events.
Coin Slot	<ul style="list-style-type: none"> • Input a coin denomination to begin/continue game
Jump Sensors	<ul style="list-style-type: none"> • Used to control Jumping actions performed by the player.
Impact (Run) Sensors	<ul style="list-style-type: none"> • Used to control action during certain events.

8-3 GAME FLOW

To Start a Game.

Apply the minimum amount of credit required to start the game.
Press the button upon the lever.

Players Entry

Waiting for players. A maximum of 4 players are available when 4 cabinets are linked.

Character Select

Use the lever to choose a character and the lever button to select.

Event Select

Use the lever to choose an event. Once the event has been chosen, use the lever button to select.

Event Start

The chosen event will begin and the player will participate.

Final Result

If the operator selection for the winners ceremony is set to ON then a Ceremony will be held after the event, showing the results of players.

Game Over

9 EXPLANATION OF TEST AND DATA DISPLAY

Perform tests and data checks periodically by manipulating the TEST Button and SERVICE Button in the cabinet. Follow the instructions in this chapter to conduct checks when the game machine is first installed, when money is being collected, or when the game machine does not operate properly.

Shown overleaf are the tests and screens to be used for different problems.

STOP IMPORTANT

- 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.

In the SYSTEM TEST MODE, the main activities include checking Nu 1.1 information and actions and the setting of coin/credit.

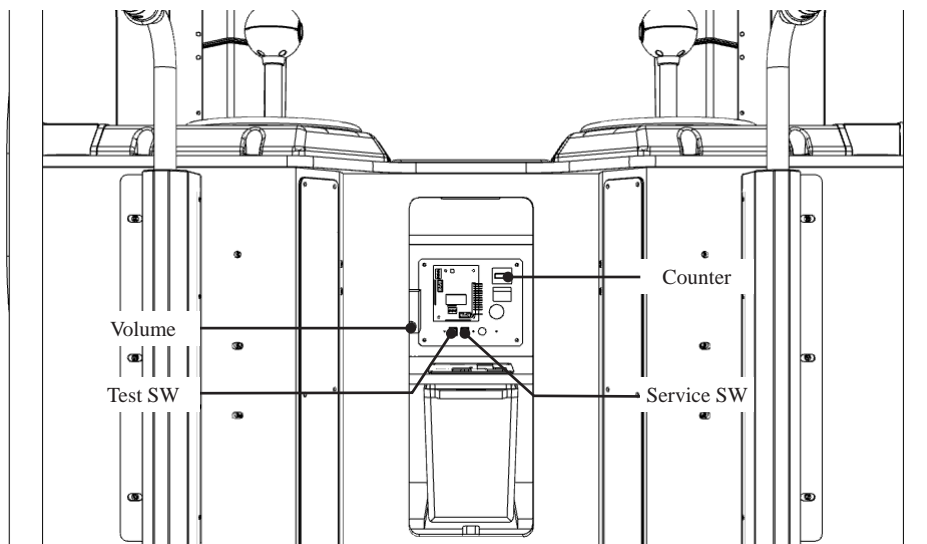
For details, see the GAME BD section of this manual.

STOP IMPORTANT

- Adjust the sound to the optimum volume, taking into consideration the environmental requirements of the installation location.

9-1 SWITCH UNIT AND COIN METER.

The SWITCH UNIT and COUNTERS are housed within the COINTOWER. To access these controls you will need to open the COIN door, the switches and counters can be found directly on the rear panel.



DEVICE	FUNCTION
TEST BUTTON	Press to enter TEST MODE - Also used to enter choices selected within TEST MODE
SERVICE BUTTON	Press for SERVICE CREDIT - Also used to scroll through TEST MENUs
COIN IN COUNTER	Counts inserted coins (£0.10 or \$0.10 = 1 count)
VOLUME CONTROL	Adjusts audio level

9-2 TEST MENU

STOP IMPORTANT

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

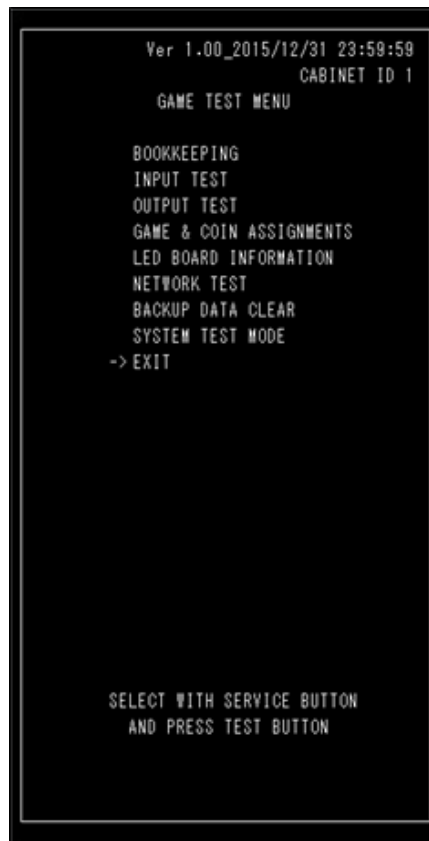
GAME TEST MODE can be used to check the information or the operation of Nu 1.1 Game Board, adjust and perform coin/credit settings. e.t.c.

- 1 Press the TEST Button after powering on the unit to display the following GAME TEST MENU

9-3 GAME TEST MENU

Use the SERVICE button to move the cursor to the desired item.

Press the TEST button to confirm.



GAME TEST MENU

In this instance we shall use the Service Button to choose Bookkeeping. Press the Test button to enter your selection.

BOOKKEEPING

Inspects and sets up BOOKKEEPING.

INPUT TEST

Checks the input of the I/O.

OUTPUT TEST

Checks the output of the I/O.

GAME & COIN ASSIGNMENTS

Configures all settings related to the game and coinage.

LED BOARD INFORMATION

LED board firmware version can be viewed..

MONITOR TEST

Checks screen alignment and colour.

BACKUP DATA CLEAR

Erases all types of Game recordings, such as: TOTAL COINS IN, TOTAL CREDITS, GAME TIMES etc.

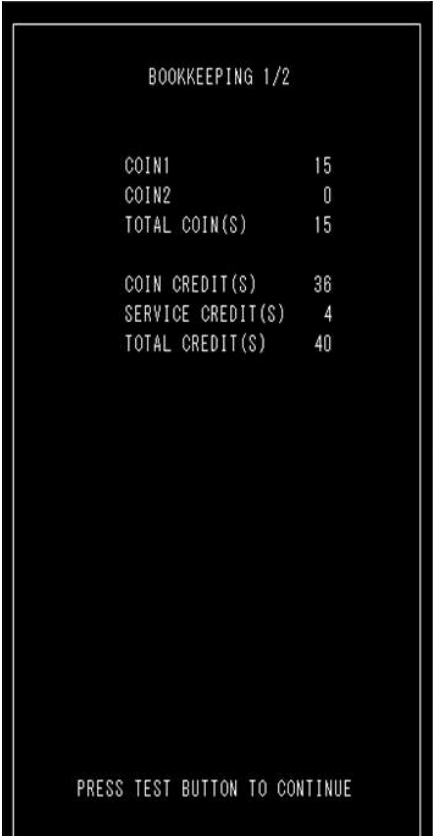
SYSTEM TEST MODE

EXIT

9-4 BOOKKEEPING

Bookkeeping. 1 of 2
Each coin input and service input is recorded.
The current status of coins and credits can be viewed.

9 EXPLANATION OF TEST AND DATA DISPLAY



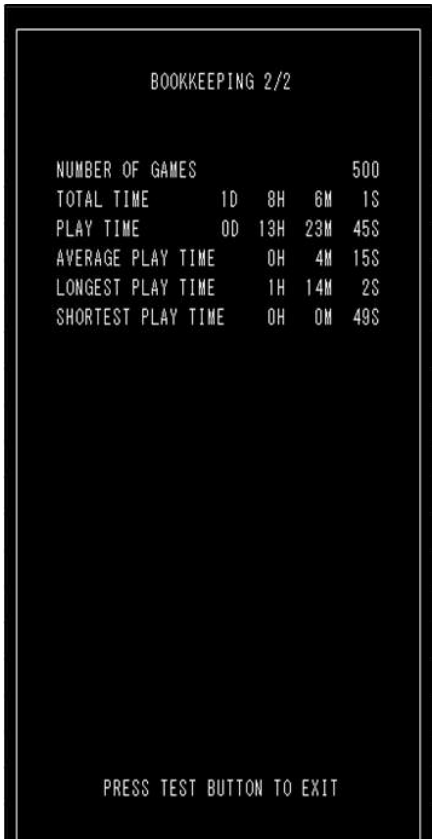
BOOKKEEPING SCREEN 1

COIN1-2	-	Number of “COIN IN” registered for the particular coin slot.
TOTAL COINS	-	Total number of credit in game mode.
COIN CREDITS	-	Total number of coins inserted into the machine in game mode.
SERVICE CREDITS	-	Total number of times the service credit button was pressed in game mode.
TOTAL CREDITS	-	Total number of credit in game mode.

Press the TEST button or Lever button R or L to view the BOOKKEEPING SCREEN 2

Bookkeeping. 2 of 2
Each game and event is recorded.

The current status of games played and time taken.



BOOKKEEPING SCREEN 2

- NUMBER OF GAMES - Total number of games played.
- TOTAL TIME - Total time the cabinet has been in operation (Except in TEST MODE).
- PLAY TIME - Total amount of time during game play..
- AVERAGE PLAY TIME - Average time displayed for each game.
- LONGEST PLAY TIME - Displays the longest game times.
- SHORTEST PLAY TIME - Displays the shortest game times.

Press the Lever button to return to Game Test Menu Screen.

9-5 INPUT TEST

From the GAME TEST MENU screen -

Using the SERVICE BUTTON to select INPUT TEST MODE and press the TEST BUTTON to enter
The INPUT TEST allows you to check each device separately. Please check regularly.



INPUT TEST SCREEN

TEST	Press the TEST button. The function will be displayed on screen ON/OFF	Left device is shown of the Left and the Right device is shown on the right
SERVICE	Press the SERVICE button. The function will be displayed on screen ON/OFF	
LEVER UP	Push lever UP . The function UP will be displayed on screen	
LEVER RIGHT UP	Push lever RIGHT UP . The function RIGHT UP will be displayed on screen	
LEVER RIGHT	Push lever RIGHT . The function RIGHT will be displayed on screen	
LEVER RIGHT DOWN	Push lever RIGHT DOWN . The function RIGHT DOWN will be displayed on screen	
LEVER DOWN	Push lever DOWN . The function DOWN will be displayed on screen	
LEVER LEFT DOWN	Push lever LEFT DOWN . The function LEFT DOWN will be displayed on screen	
LEVER LEFT	Push lever LEFT . The function LEFT will be displayed on screen	
LEVER LEFT UP	Push lever LEFT UP . The function LEFT UP will be displayed on screen	
LEVER BUTTON	Push LEVER BUTTON . The function LEVER BUTTON will be displayed on screen	
FOOT	Step upon the FOOT sensor and the function ON will be displayed on screen	
JUMP 1	When JUMP 1 sensor is interacted, the function will display ON on screen.	
JUMP 2	When JUMP 2 sensor is interacted, the function will display ON on screen.	
JUMP 3	When JUMP 3 sensor is interacted, the function will display ON on screen.	
JUMP 4	When JUMP 4 sensor is interacted, the function will display ON on screen.	
JUMP 5	When JUMP 5 sensor is interacted, the function will display ON on screen.	
JUMP 6	When JUMP 6 sensor is interacted, the function will display ON on screen.	

Press the TEST and SERVICE button simultaneously to return to the GAME TEST MODE screen.

9-6 OUTPUT TEST

From the GAME TEST MENU screen -

Using the SERVICE BUTTON to select OUTPUT TEST MODE and press the TEST BUTTON to enter
The OUTPUT TEST allows you to check each device separately. Please check regularly.



OUTPUT TEST SCREEN

LED BAR LCD LEFT	The LEDs at the sides of the monitor will illuminate. With every press of the TEST button the sequence will change.
LED BAR LCD RIGHT	
LEVER BUTTON LAMP LEFT	OFF - RED - GREEN - BLUE - WHITE - OFF
LEVER BUTTON LAMP RIGHT	The lamp on the LEFT lever will illuminate ON/OFF
EXIT	The lamp on the RIGHT lever will illuminate ON/OFF
	Leaves the OUTPUT TEST and returns to GAME TEST MENU

Using the SERVICE BUTTON to select EXIT and return to the GAME TEST MENU.

9-7 GAME & COIN ASSIGNMENTS

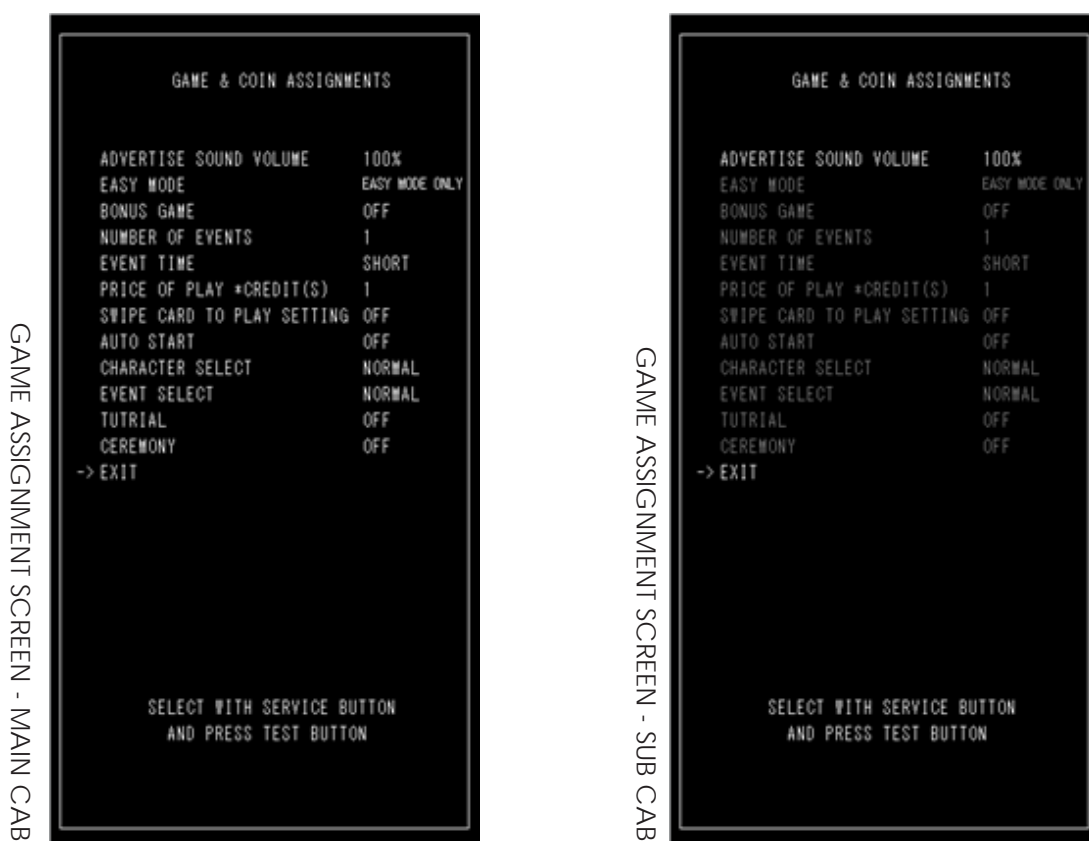
From the GAME TEST MENU screen -

Using the SERVICE BUTTON to select GAME & COIN ASSIGNMENTS and press the TEST BUTTON to enter. This test allows you to configure coins / game specifics and volume control.

Please note:

When cabinets are linked, only the ATTRACT SOUND VOLUME will be accessible from the sub cabinets. (Cabinets 2, 3 or 4)

9 EXPLANATION OF TEST AND DATA DISPLAY



Using the SERVICE BUTTON to select the desired item. Press the TEST button to confirm selection.

ADVERTISE SOUND VOLUME	100% - 75% - 50% - 25% - 0% - 100% -
EASY MODE	Set to EASY MODE for simple play or "SELECTABLE" for experience player
BONUS GAME	Awards bonus events for good results. Set difficulty "EASY-NORMAN-HARD-OFF"
NUMBER OF EVENTS	Set the number of events per game.
EVENT TIME	Set the time for timed events for Archery, Javelin, Hammer and Long Jump. "SHORT" = 1 round / "MEDIUM" = 2 rounds. (Default = Short)
PRICE OF PLAY	Set the Price of Play for each game. Settings 1 to 8 Credits. (Default = 1 Credit)
SWIPE CARD TO PLAY	Changes the text at the bottom of the screen "SWIPE CARD TO PLAY". When set to "OFF" INSERT COINS/MORE COINS will be displayed. (Default - OFF)
AUTO START	When set to "ON" the game will automatically start without the need to press the start button.
CHARACTER SELECT	Set the character select sequence. If the option is set to "RANDOM" the character will be assigned automatically to the player. (Default = OFF)
EVENT SELECT	Set the event select sequence. If the option is set to "RANDOM" the event will be assigned automatically to the player. (Default = OFF)
TUTORIAL	When option is OFF the game will start and skip the tutorial. (Default - OFF)
CEREMONY	When option is OFF the game will skip the Ceremony at the end of the event. (Default = OFF)

9-8 LED BOARD INFORMATION

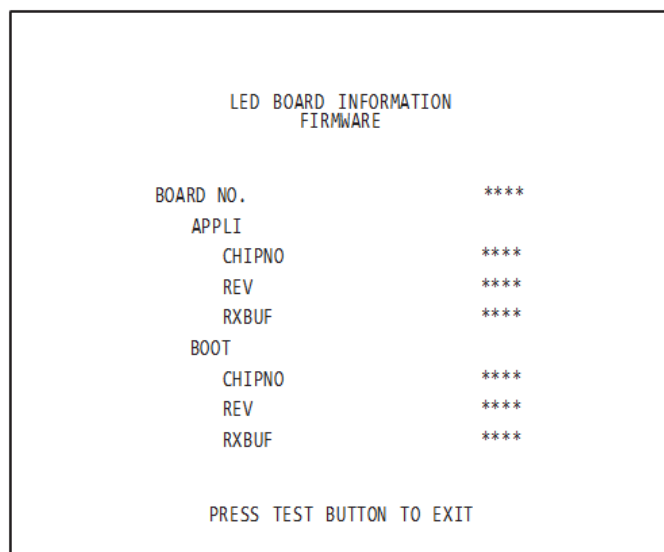
STOP

IMPORTANT

For Technical Staff only

From the GAME TEST MENU screen -

Using the SERVICE BUTTON to select LED BOARD INFORMATION and press the TEST BUTTON to enter
This test allows you to view the LED BOARD firmware.



LED BOARD INFORMATION SCREEN

CONTROL

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

9-9 NETWORK TEST

From the GAME TEST MENU screen -

Using the SERVICE BUTTON to select NETWORK TEST and press the TEST BUTTON to enter
This test allows you view the Network status.



NETWORK TEST INFORMATION SCREEN

Description

IP ADDRESS	IP Address receiving Test
CONNECT MAIN CABINET	Communication between each cabinet Test
N/A	Failed or Cancelled Test

Result

GOOD	Network Test successful
BAD	Network Test Failed
N/A	Failed or Cancelled Test

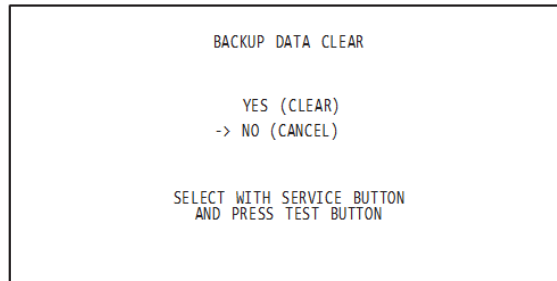
CONTROL

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

9-10 BACKUP DATA CLEAR

From the GAME TEST MENU screen -

Using the SERVICE BUTTON to select BACKUP DATA CLEAR and press the TEST BUTTON to enter



BACKUP DATA CLEAR

Select this option to Initialize and clear existing bookkeeping data including credits/income data when you choose “YES” using SERVICE and press TEST to confirm

When the command is executed, “COMPLETED” or ”CANCELLED” is shown.
Return to the menu by pressing TEST.

EXIT

10 CONTROLLER UNIT(S), SWITCHES AND BUTTONS

10 CONTROL UNIT

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.
- Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.
- Exercise due caution in performing soldering work. If soldering iron is handled carelessly, there could be fires or burns.

CAUTION

- When fastening plastic parts, be careful not to tighten screws or nuts excessively. If these are tightened to excess, parts could be damaged, resulting in injuries from fragments, etc.
- After the unit has been disassembled and reassembled again, check carefully that the unit has been reassembled correctly.
- Be sure to inspect the outer covers on both gear and hand brake units.
- 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.

IMPORTANT

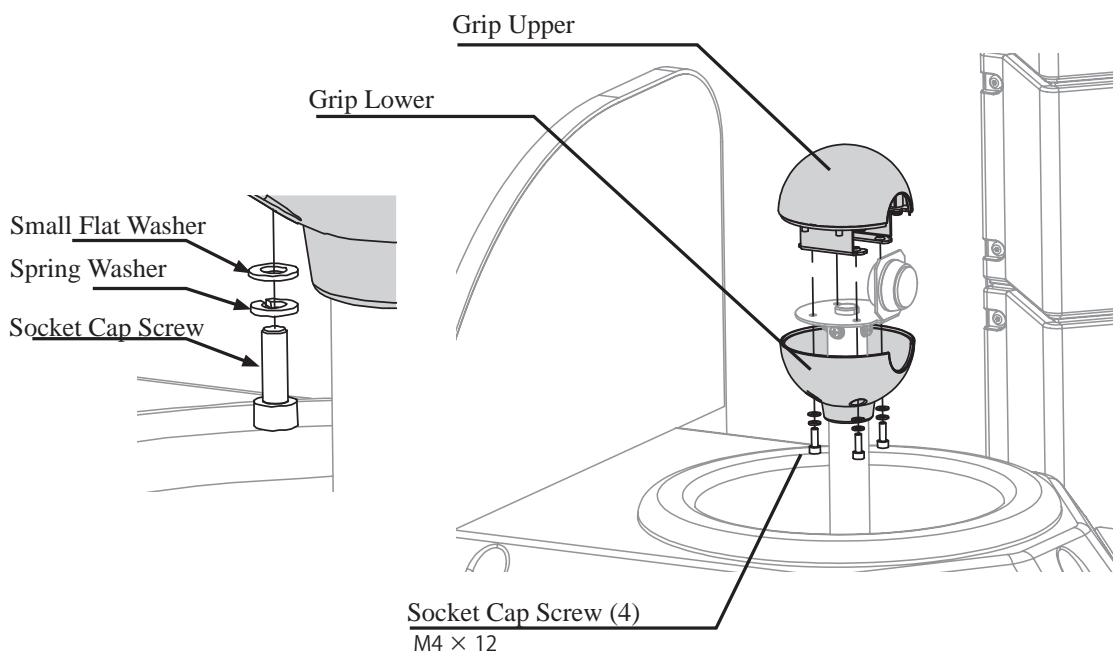
- There is a possibility that the electronic components on the IC Board may be prone to damage by static electricity. Please make sure to discharge any build up of static electricity from your body prior commencing any work.
- Power OFF machine before commencing any work.

STOP IMPORTANT

Some fixings are small. be careful not to lose any fixings. In particular the small flat washer within the lever grip.

10-1 REPLACING THE LEVER BUTTON

- 1 Turn OFF the power to the machine and remove the Power cable.
- 2 Using a 3mm Hexagon Key wrench. remove the (4) M4x12 SKT CAP SCR from the underside of the Lever Grip. Support the lower section whilst doing so as it may fall which may result in losing components.

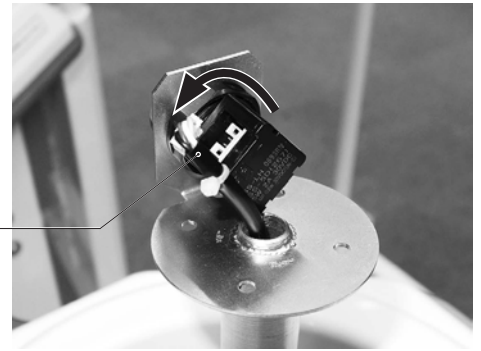


- 3 Disconnect the single connector to the switch assy.



-
- 4** Rotate the Switch 45 degrees counterclockwise. Unlock and remove.

Switch

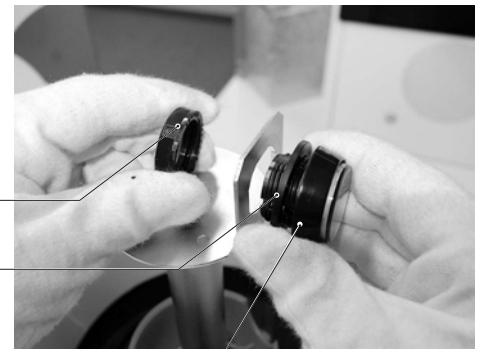


-
- 5** Unscrew the plastic nut from the base of the button and remove.

Nut

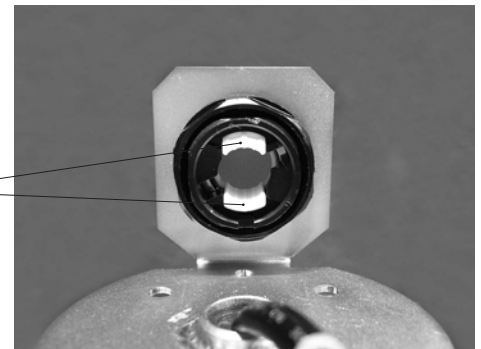
Washer

Button



-
- 6** Squeeze both tabs towards the centre of the button housing and remove.

Tabs

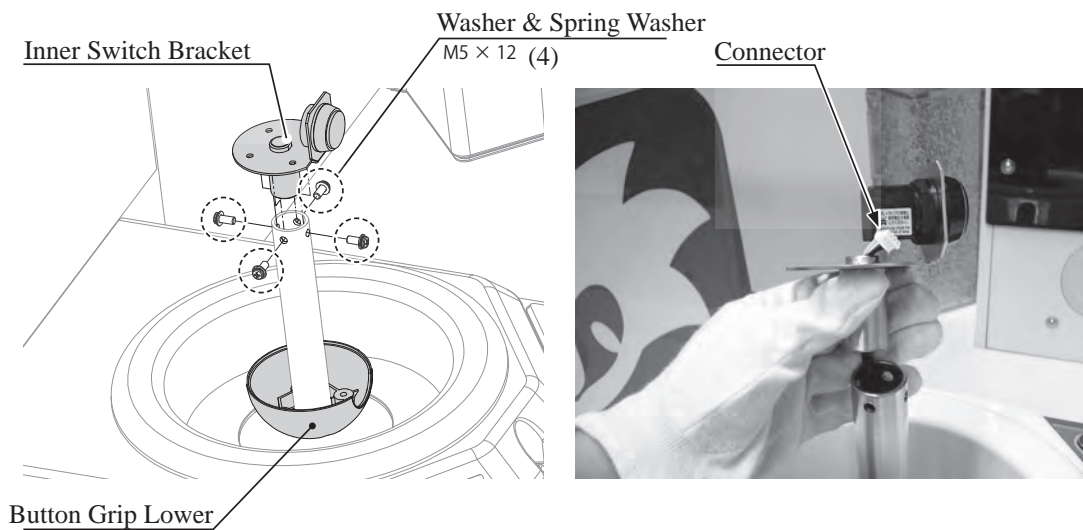


-
- 7** Once the button has been replaced, follow Steps 2 to 6 in reverse order to reassemble.

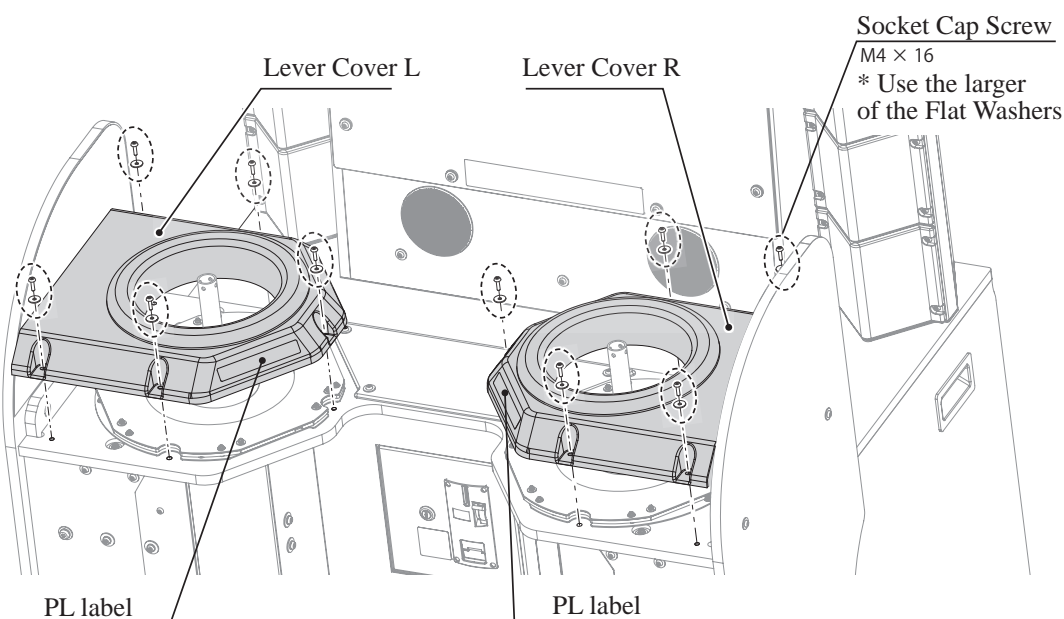
10-2 REPLACING THE LEVER

This procedure explains the replacement of the Left Lever. When replacing the Right Lever please follow the same instructions.

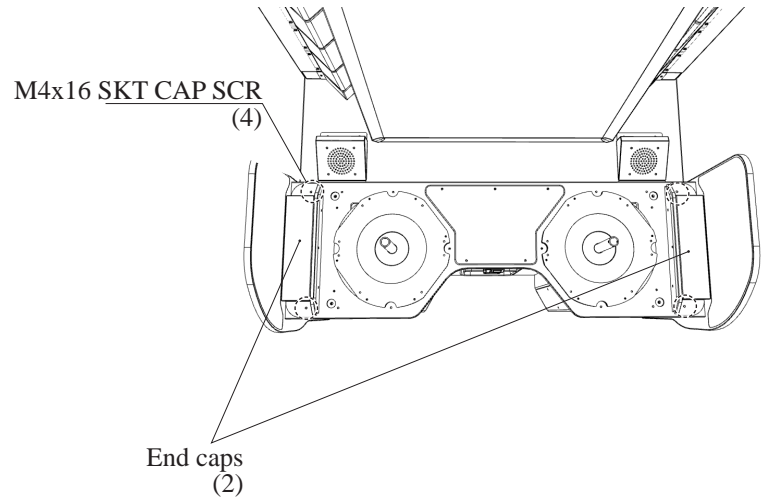
- 1 Remove power from the machine and disconnect the mains power connector.
- 2 Refer to Procedure 10-1, steps 2 & 3 to remove the Lever Grip.
- 3 Remove the (4) M5x12 screws from beneath the button housing. Take care not to damage any wires when removing the button housing from the lever.



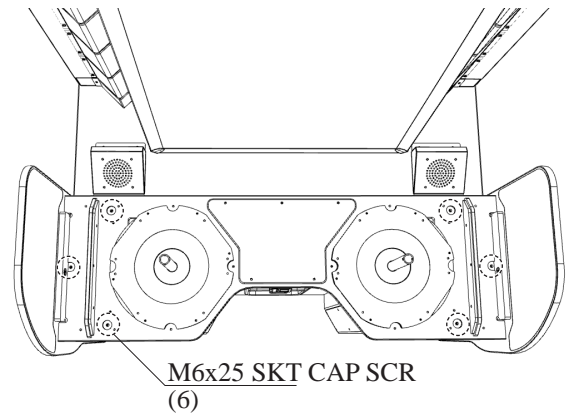
- 4 Remove the (10) M4x16 Socket Cap Screws which secure both Left and Right Lever Covers.



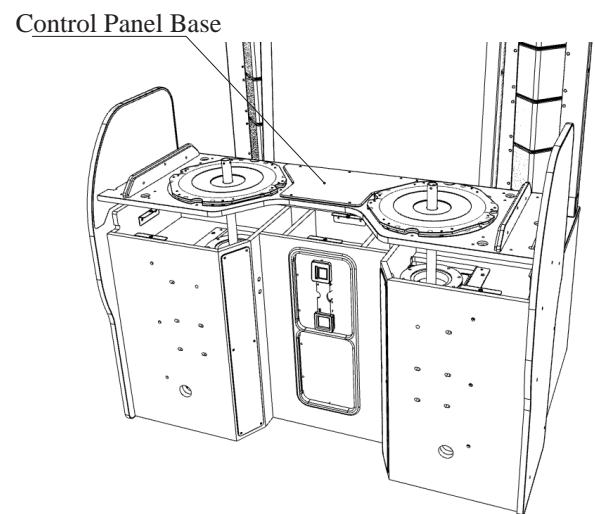
- 5** Remove the (4) M4x16 SKT CAP SCR from both Left and Right End Caps and remove.



- 6** Remove the (6) M6x25 SKT CAP SCR from both Left and Right ends of the Control Panel.

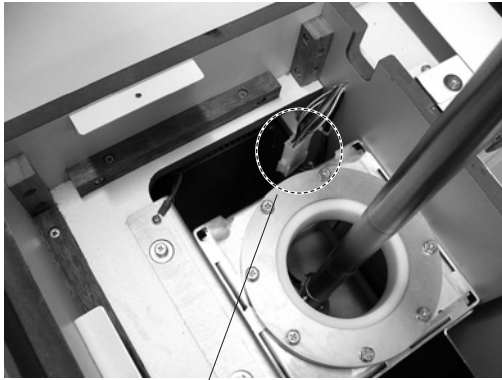


- 7** Once all fixings have been removed, carefully raise the Control Panel Base

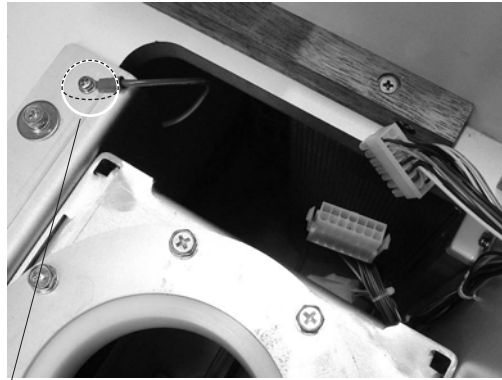


Note: Take care when reassembling not to trap any wires. Use one person to lower the Control Panel Base and another to steady the Levers.

- 8** Locate the 14 way connector which connects the Lever Assy to the Machine and disconnect. Remove the earth using a Phillips screwdriver.

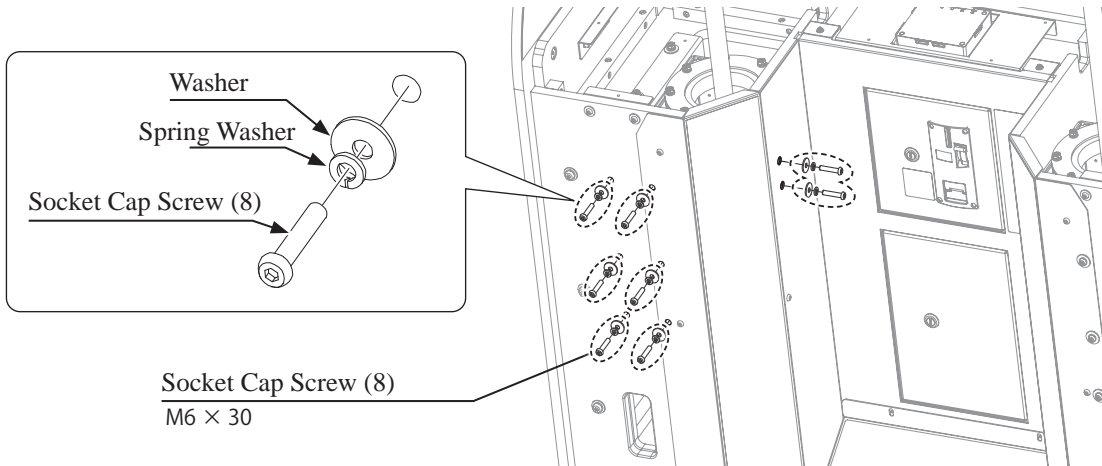


Connector 1P
C4201 14P

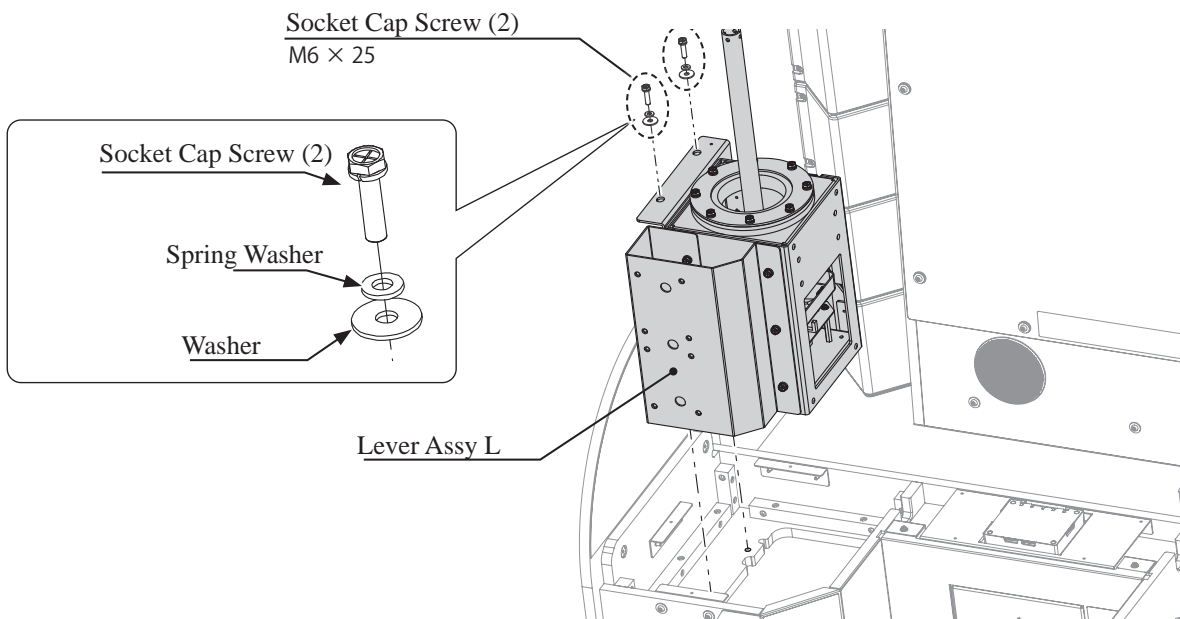


Earth Point

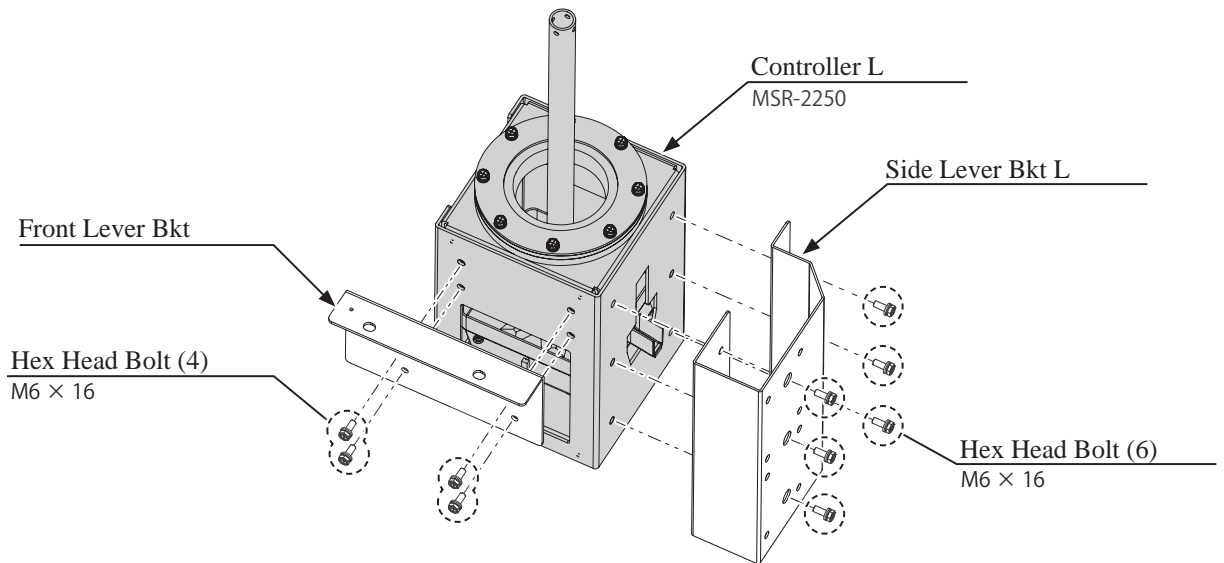
- 9** Locate and remove the (8) SKT CAP SCR which secure the lever to the cabinet.



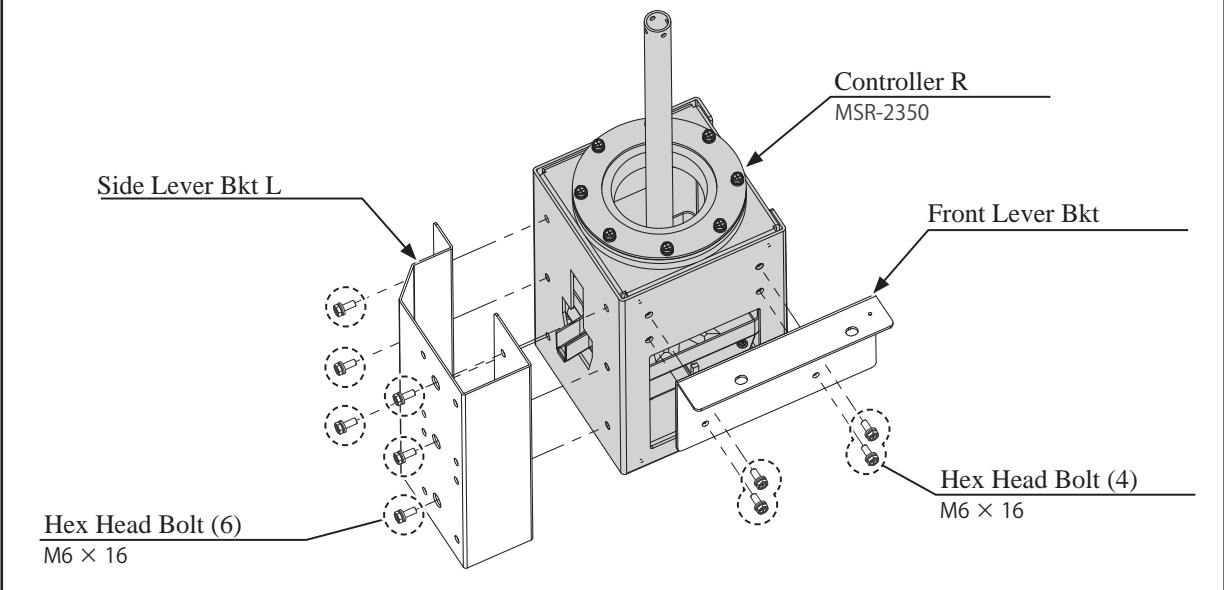
- 10** Remove the (2) M6x25 SKt CAP SCR which retain the Lever Assy. Carefully lift out the unit.



11 Remove the (10) M6x16 Hex Bolts from both side and front Lever brackets.

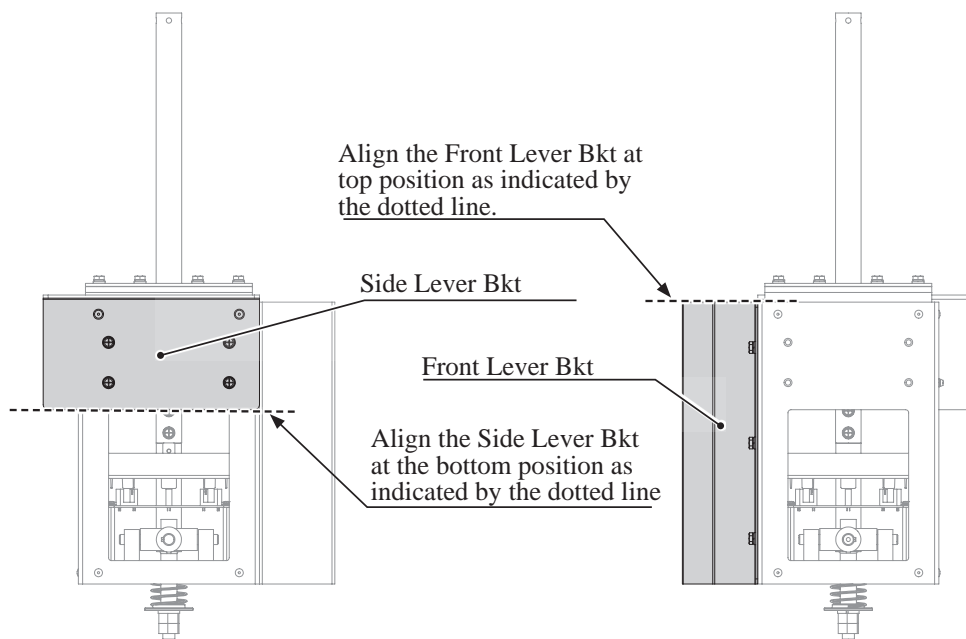


Note: Please see below for process when changing the Right Controller Lever.



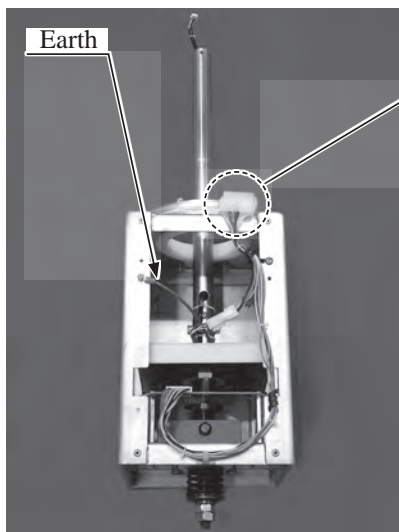
Note:

When reinstalling the Front and Side Lever brackets, align both brackets as shown below.

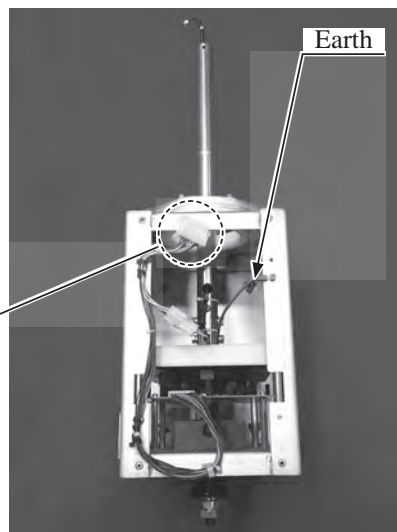


Note:

Please see below which highlights how to determine the difference between the Left Controller Lever and the Right Controller Lever.



Controller Lever L
(MSR-2250)



Controller Lever R
(MSR-2350)

12

To reassemble and replace the Controller, please follow Steps 3 to 11 in reverse order.

13

To reassemble the Lever Grips please refer to section 10-1, Steps 2 and 3 in reverse order.

11 VIDEO DISPLAY

CAUTION

The LCD display screen is adjusted prior to leaving the factory. Avoid any unnecessary adjustment.

IMPORTANT

- If the adjustment method in this manual does not resolve the problem contact the customer service number in this manual or your supplier.
- Do not stick tape, stickers or anything else onto the screen. Any kind of adhesive may damage the surface of the screen.

11-1 GENERAL DESCRIPTION

This specification applies to the 54.6 inch Color TFT-LCD Module P550HVN02.0. This LCD module has a TFT

active matrix type liquid crystal panel 1,920x1,080 pixels, and diagonal size of 54.6 inch. This module supports

1,920x1080 mode. Each pixel is divided into Red, Green and Blue sub-pixels or dots which are arranged in vertical

stripes. Gray scale or the brightness of the sub-pixel color is determined with a 10-bit gray scale signal for each

dot.

The P550HVN02.0 has been designed to apply the 10-bit 2 channel LVDS interface method. It is intended to

support displays where high brightness, wide viewing angle, high color saturation, and high color depth.

* General Information

Items	Specification	Unit	Note
Active Screen Size	54.6	Inch	
Display Area	1209.6(H) x 680.4(V)	mm	
Outline Dimension	1235.6(H) x 706.4(V) x 25.5(D)	mm	1
Driver Element	a-Si TFT active matrix		
Display Colors	10 bit (8bit+FRC), 1073.7M	Colors	
Number of Pixels	1,920x1080	Pixel	
Pixel Pitch	0.21 (H) x 0.63(W)	mm	
Pixel Arrangement	RGB vertical stripe		
Display Operation Mode	Normally Black		
Display Orientation	Landscape/Portrait Enable		
Surface Treatment	AG		Haze = 11%

11-2 CLEANING THE SCREEN

CAUTION

- Since the LCD display screen is susceptible to damage, pay careful attention to its handling. When cleaning, refrain from using water or volatile chemicals.
- Do not climb onto the control panel. This could lead to injuries, such as bumping your head or falling down.
- When reaching across the control panel to clean the screen there is a risk of hurting your shoulder or arm. Use a step ladder to reach higher places.

When the screen surface becomes dirty with dust, etc., clean it by using a soft cloth such as gauze. When water, and volatile chemicals such as benzene, thinner, etc., spill on the screen surface, it may be subject to damage, therefore, do not use them.

For stronger stains, moisten a soft lint free cloth with detergent heavily diluted in water. Wring out the cloth thoroughly before cleaning the screen.

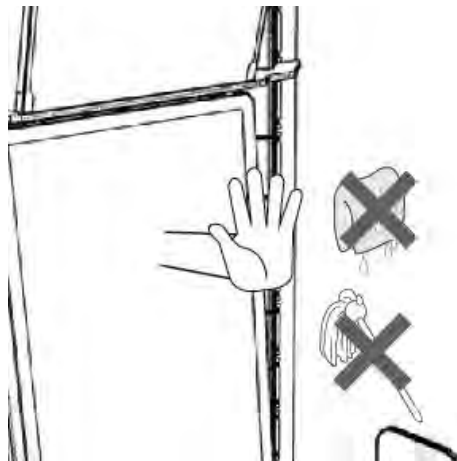


FIG. 11-1

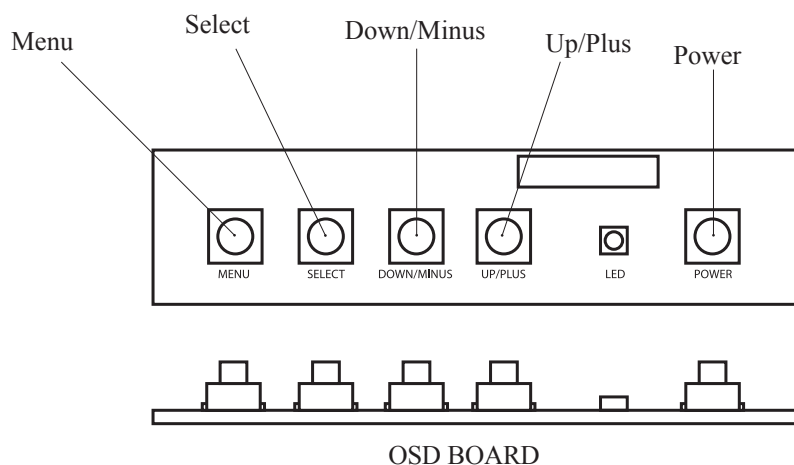
11-3 ON SCREEN ADJUSTMENT METHOD (OSD)

STOP IMPORTANT

- If the adjustment method in this manual does not resolve the problem contact the customer service number in this manual or your supplier.
- Do not stick tape, stickers or anything else onto the screen. Any kind of adhesive may damage the surface of the screen.
- The screen has been finely adjusted prior leaving the factory. Do not unnecessarily adjust the screen.

OSD (On Screen Display)

The OSD offers the user various possibilities of customizing the appearance of the TFT display. By using the OSD Board, brightness, contrast, input selection, OSD appearance and much more can be adjusted easily.



Operation and Buttons

Item	Description
Menu	Enter OSD main menu Leave sub menu Leave OSD main menu
Select	Navigate down in menu
Down/Minus	Navigate left in main menu Decrease value
Up/Plus	Navigate right in main menu Increase value
Power	Turn power on/off
2 colour LED	Red/Green

Hot Keys

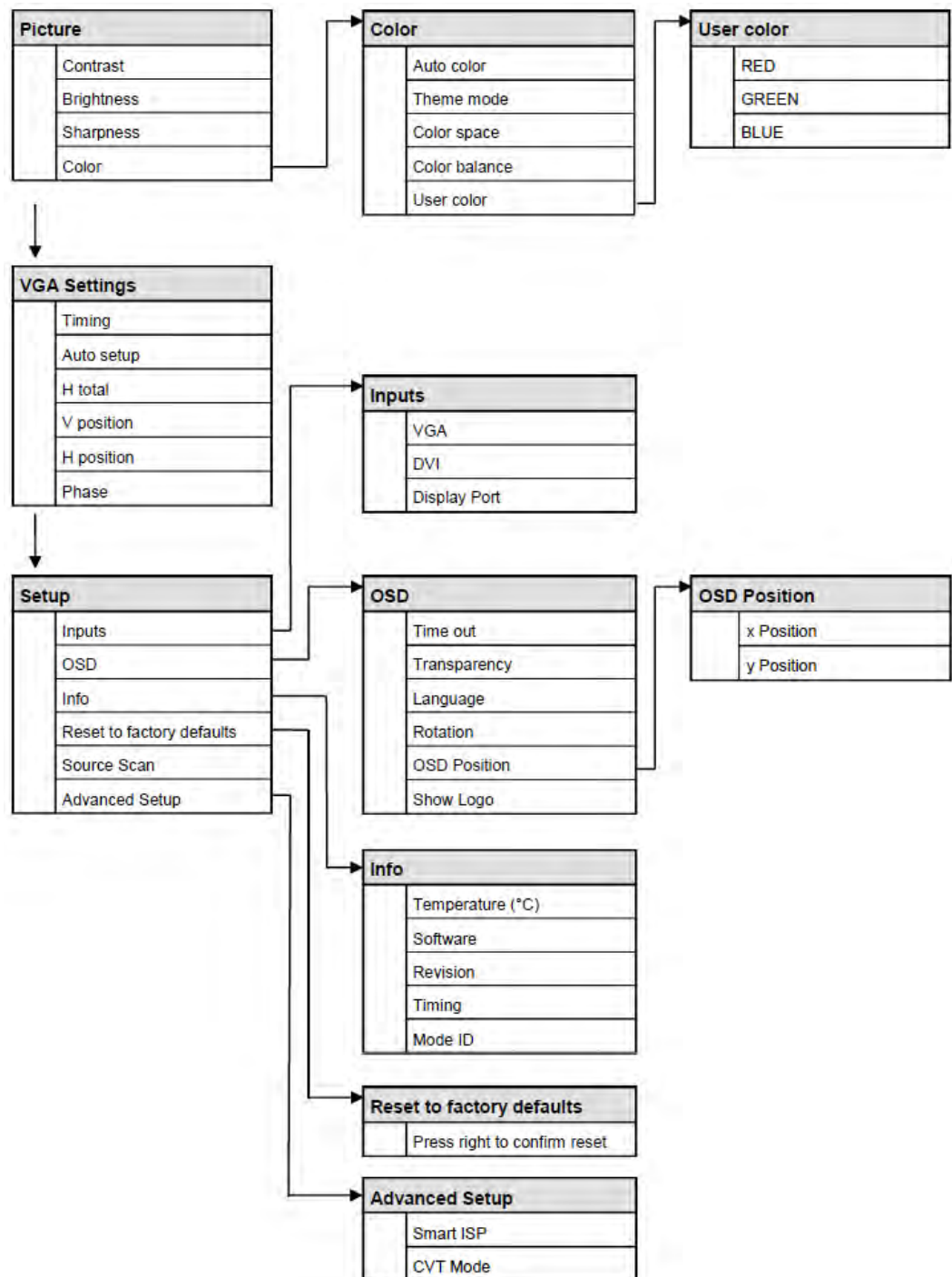
The OSD offers hot key functions. To access these functions the user must not open the OSD via the Main Menu. The hotkey functions offer direct access to each equivalent function.

Button	Direct access
Up/Plus	Source select, switch to next input
Down/Minus	Brightness
Select	Auto adjust

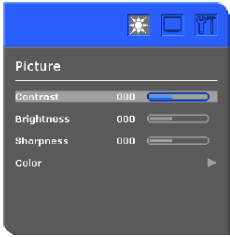
OSD Status LED

Condition	Description
Amber flashing	Standby (Searching Input)
Green flashing	Searching display mode (Source)
Green ON	OK (Displaying signal)
Red ON	Power off

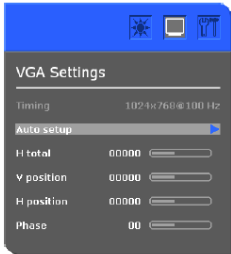
OSD Structure




Picture Menu

	Picture	Contrast
		Brightness
		Sharpness
		Color


VGA Settings Menu

	VGA Settings	Timing
		Auto setup
		H total
		V position
		H position
		Phase


Setup Menu

	Setup	Inputs
		OSD
		Info
		Reset to factory defaults
		Source scan
		Advanced Setup

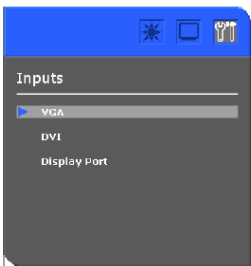
Colour Menu

	Color	Auto color
		Theme mode
		Gamma
		Color balance
		User color


User Colour Menu

	User color	RED
		GREEN
		BLUE


Input Menu

	Inputs	VGA
		DVI
		DisplayPort


OSD Menu

	OSD	Time out
		Transparency
		Language
		Rotation
		OSD Position
		Show logo

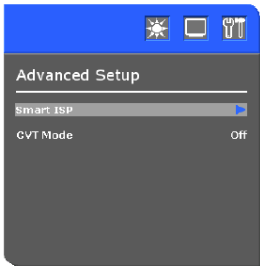
OSD Position Menu

	OSD Position	x Position
		y Position

Info Menu

	Info	Temperature (°C)
		Software
		Revision
		Timing
		Mode ID

Advance Setup Menu

	Advanced Setup	Smart ISP
		CVT Mode

12 COIN HANDLING

Handling the Coin Jam

If the coin is not rejected when the REJECT button is pressed, open the coin chute door and open the selector gate. After removing the jammed coin, put a normal coin in and check to see that the selector correctly functions.

12

COIN HANDLING

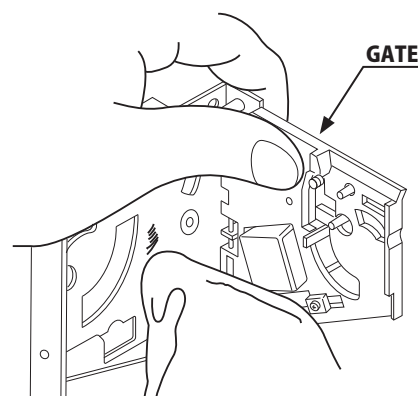
12-1 CLEANING THE COIN SELECTOR

STOP IMPORTANT

- Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- Never apply machine oil, etc. to the Coin Selector.
- After cleaning the Coin Selector, insert a regular coin in the normal working status and ensure that the selector correctly functions.

The Coin Selector should be cleaned once every 3 months.
When cleaning, follow the procedure below:

- 1 Turn the power for the machine OFF. Open the Coin Chute Door
- 2 Remove the Coin Selector from the Coin Chute Door
- 3 Open the gate and dust off by using a soft brush (Small soft Paint Brush, etc.)



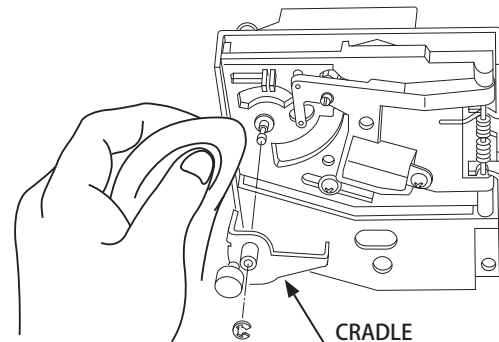
12-1 FIG 1

CLEANING THE COIN SELECTOR (MECHANICAL).

1 Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.

2 Remove the CRADLE.. When removing the retaining ring (E ring) be very careful so as not to bend the rotary shaft.

3 Remove stain from the rotary shaft and shaft receiving portions by wiping off with a soft cloth, etc.



12-1 FIG 2

4 After wiping off as per previous step, further apply a dry cloth to completely dry the Coin Selector.

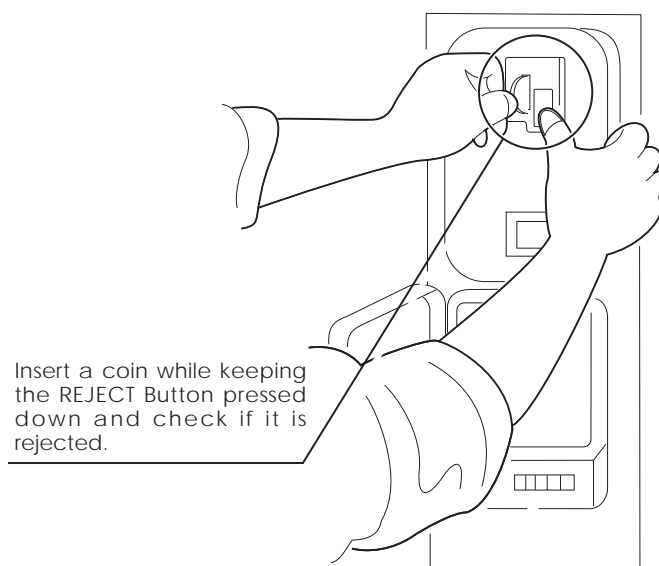
Coin Insertion Test

Once every month, when performing the Coin SW Test, simultaneously check the following:

Does the Coin Meter count satisfactorily?

Does the coin drop into the cashbox correctly?

Is the coin rejected when inserted while keeping the REJECT Button pressed down?



12-1 FIG 3

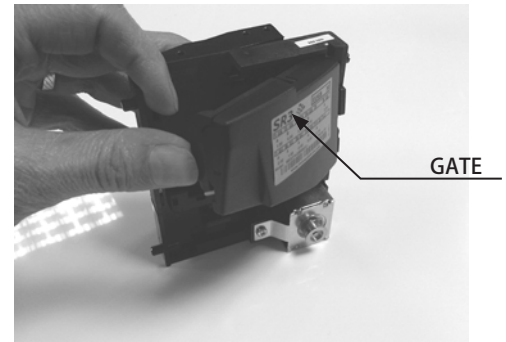
CLEANING THE COIN SELECTOR (SR3) <continued>

12

COIN HANDLING

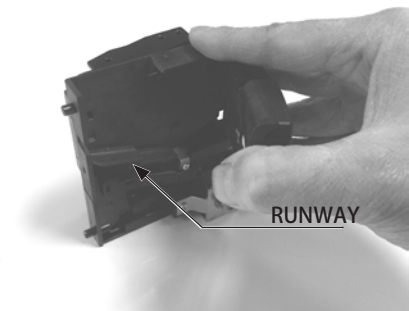
1

Remove and clean smears by using a damp soft cloth dipped in water. DO NOT use any diluted chemical detergent or cleansing agent as this will impair the workings of the component.



2

Open the reject gate to gain access to the rundown path.



3

Remove the dirt and stains from the runway by wiping off with a soft damp cloth.

4

After wiping off as per previous step, further apply a dry cloth to completely dry the coin Selector.



12-2 FAULT FINDING

Fault Finding

The following information is presented for customers' guidance in rectifying a fault but does not cover all possible causes.

All acceptors with electronic faults should be returned to an approved service centre for repair.

SYMPTOM	INVESTIGATE	POSSIBLE CAUSE
Acceptor does not work (all coins reject)	Connector	Poor Contact
		Loose Wire
	Power Supply	Not switched on
		Incorrect voltage
		Inadequate current
		Rise time too slow
	Inhibit all inputs	Acceptor Inhibited
	Accept gate	Gate not free or dislocated
	Accept channel	Obstruction
	Reject gate	Not fully closed
	LED on rear cover RED	EEPROM chksum error
		SR Sensor fault
		Credit opto fault
		Credit sensor blocked
		Reject lever pressed
	LED on rear cover YELLOW	Reinstall power
Poor Acceptance	Power Supply	Voltage less than 10v (Voltage drops when coil engages)
	Accept gate	Gate jam or dislocated
	Connector	Loose
	Coin rundown	Dirty
	Bank Select	Both banks enabled
Coin stick or jam in acceptor.	Accept channel	Acceptor dirty or may have some damage
	Accept gate	
	Reject gate	
A true coin type rejects	Label	Coin not programmed
No accept signal	Connector	Loose or broken wire
	Accept channel	Path dirty or obstructed

12-3 ADJUSTING THE PRICE OF PLAY (EXCEL)

STOP IMPORTANT

- The price of play is determined by the configuration of switches located on either an EXCEL board or VTS board. The type of board used is determined by product location. Switch settings for both types of board remain the same.

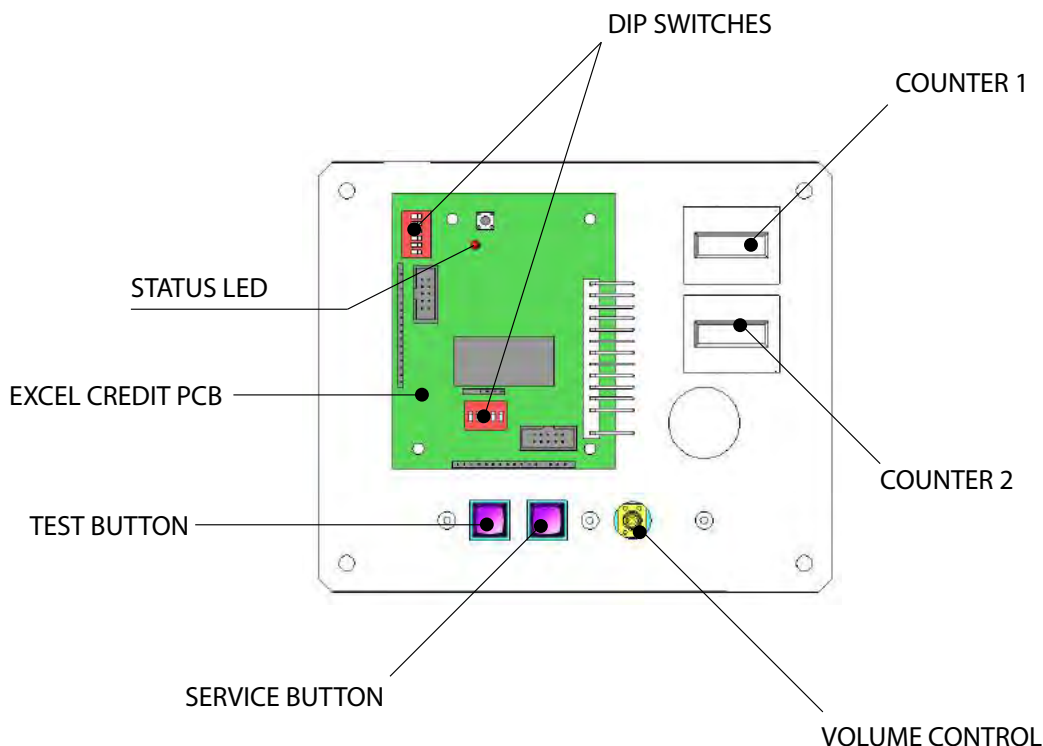
To adjust the price of play ALL credit setting are adjusted via the EXCEL CREDIT BOARD.

IMPORTANT!

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

The VTS BD has a built in Credit Board. This is controlled by 2 DIL Switches. These allow the operator to select the price of play, type of coin acceptor and region.

EXCEL Credit Board



DIL SW3 (Regional Settings)

Adjust these switches to specify the type of Coin Acceptor used and currency.

Default = SW1&SW2 ON - NRI in parallel mode, Sterling.

TEST BUTTON

Provides access to the TEST MENU when pressed.

SERVICE BUTTON

Provides a SERVICE CREDIT when pressed

Status LED

Flashes when functioning.

CHANNEL 1

To Coin Acceptor (SR3 TYPE.)

DIL SW1 (credit settings)

Adjust to required price of pay.

VOL CONTROL

MAIN VOLUME ADJUSTMENT (FRONT SPEAKERS)

12-4 QUICK VIEW COMMON COIN SETTINGS (USA)

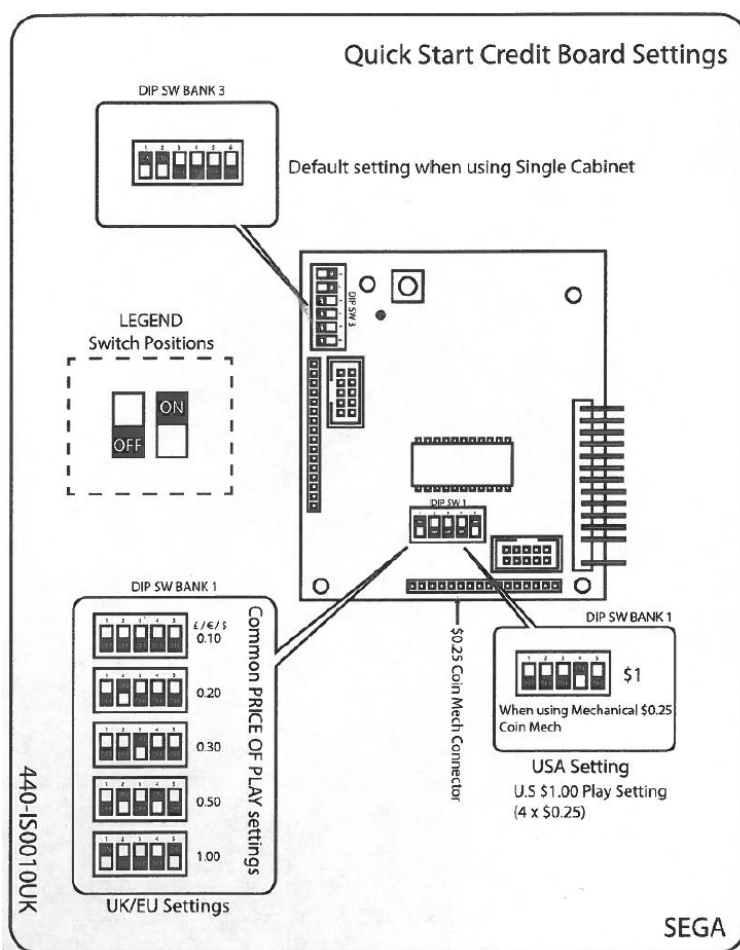


FIG. 12-4

DIL SWITCH BANK ONE (5 way SW1)						
Item	Price	SW1	SW2	SW3	SW4	SW5
1	25cent	OFF	OFF	OFF	OFF	OFF
3	50cent	OFF	ON	OFF	OFF	OFF
5	75cent	OFF	OFF	ON	OFF	OFF
9	\$1.00	OFF	OFF	OFF	ON	OFF
16	\$2.00	ON	ON	ON	ON	OFF
DIL SWITCH BANK TWO (6 way SW3)						
Type	SW1	SW2	SW3	SW4	SW5	SW6
USA	OFF	OFF	OFF	OFF	OFF	OFF

Table 1 12-4

12-5 ADJUSTING THE PRICE COMMON SETTINGS

SEGA EXCEL CREDIT BOARD PRICE OF PLAY SETTINGS

	Play Price £ / € / \$	Bonus adder	BANK 1				
			1	2	3	4	5
1	0.10	No Bonus	OFF	OFF	OFF	OFF	OFF
2	0.10	0.50 = 6 plays	ON	OFF	OFF	OFF	OFF
3	0.20	No Bonus	OFF	ON	OFF	OFF	OFF
4	0.20	0.50 = 3 plays 1.00 = 6 plays 2.00 = 12 plays	ON	ON	OFF	OFF	OFF
5	0.30	No Bonus	OFF	OFF	ON	OFF	OFF
6	0.30	- 1.00 = 4 plays 2.00 = 8 plays	ON	OFF	ON	OFF	OFF
7	0.30	0.50 = 2 plays 1.00 = 4 plays	OFF	ON	ON	OFF	OFF
8	0.40	No Bonus	OFF	OFF	OFF	ON	OFF
8	0.40	- 1.00 = 3 play 2.00 = 6 plays	ON	OFF	OFF	ON	OFF
9	0.50	No Bonus	OFF	ON	OFF	ON	OFF
10	0.50	- 1.00 = 3 plays 2.00 = 6 plays	ON	ON	OFF	ON	OFF
11	0.50	- 1.00 = 2 plays 2.00 = 5 plays	OFF	OFF	ON	ON	OFF
12	0.60	No Bonus	ON	OFF	ON	ON	OFF
13	0.60	- 1.00 = 2 plays 2.00 = 4 plays	OFF	ON	ON	ON	OFF
14	0.80	No Bonus	ON	ON	ON	ON	OFF
15	0.80	- 1.50 = 2 plays	OFF	OFF	OFF	OFF	ON
16	1.00	No Bonus	ON	OFF	OFF	OFF	ON
17	1.00	- 2.00 = 3 plays	OFF	ON	OFF	OFF	ON
18	1.00	- 2.00 = 2 plays 4.00 = 5 plays	ON	ON	OFF	OFF	ON
19	1.50	No Bonus	OFF	OFF	ON	OFF	ON
20	1.50	- 2.00 = 2 plays					
21	2.00	No Bonus	OFF	ON	ON	OFF	ON
22	2.00	- 5.00 = 3 plays					
23	3.00	No Bonus	OFF	OFF	OFF	ON	ON
24	3.00	- 5.00 = 2 plays	ON	OFF	OFF	ON	ON
25	5.00	No Bonus	OFF	ON	OFF	ON	ON
26	5.00	- 10.00 = 3 plays	ON	ON	OFF	ON	ON
27	7.50	No Bonus	OFF	OFF	ON	ON	ON
28	7.50	- 10.00 = 2 plays	ON	OFF	ON	ON	ON
29	10.00	No Bonus	OFF	ON	ON	ON	ON
30	FREE	Free Play	ON	ON	ON	ON	ON

*All shaded areas are default price of play values with no additional bonuses

Table 2 12-4

[illegible]

Set SW 1 according to the option settings found in the relevant Price of Play Settings Table on the following pages.

Set SW 3 on the VTS/Excel board as shown in the table above corresponding to the country required.

ADVANCE SETTINGS

STERLING PRICE OF PLAY SETTINGS (SW1)

		Bonus					DIL Switch 1				
	Price						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	50p = 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 = 1.66 plays	£1 = 3.33 plays	£2 = 6.66 plays			OFF	OFF	ON	OFF	OFF
6	30p	50p = 1.66 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	3x 50p = 1 play	£1 = 0.66 plays	£2 = 2 plays @ £1 per play			ON	OFF	ON	OFF	ON
23	£2	4x 50p = 1 play	£1 = 0.5 play	£2 = 1 play			OFF	ON	ON	OFF	ON
24	£2	4x 50p = 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 @ £3.33p 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 play	£30 = 3 play			OFF	ON	ON	ON	ON
32	Free Play										

12 COIN HANDLING

EURO PRICE OF PLAY SETTINGS (SW1)

ADVANCE SETTINGS

	Price	Bonus			DIL Switch 1				
					1	2	3	4	5
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 @ 16.66¢ 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 @ 33.33¢ 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 plays	€3 = 2 plays	OFF	OFF	ON	OFF	ON
22	€1.50	3x 50¢ = 1 play	€1 = 0.66 plays	€2 = 2 plays @ €1 per play	ON	OFF	ON	OFF	ON
23	€2	4x 50¢ = 1 play	€1 = 0.5 play	€2 = 1 play	OFF	ON	ON	OFF	ON
24	€2	4x 50¢ = 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 play	€30 = 3 play	OFF	ON	ON	ON	ON
32		Free Play			ON	ON	ON	ON	ON

12-5 UNIVERSAL CARD LINK (UCL)

The purpose of the UNIVERSAL CARD LINK is to harmonize the Coin-Operated Industry for a common/standard Card Reader Interface. Having a standard to which manufacturers of Video, Redemption and Card Systems adheres to eliminates confusion and simplified the coin handling process.

12

COIN HANDLING

Connections / Functionality.

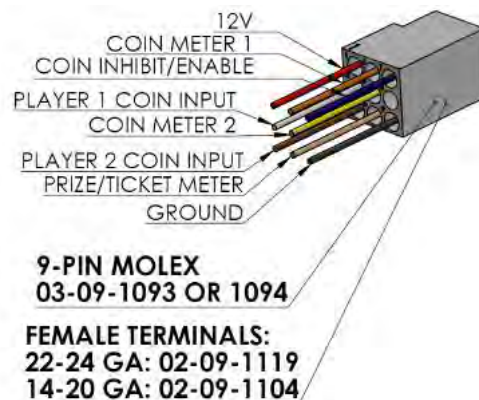
Pin 1	+12v- Supply to Card System = Minimum of 2A available for the card systems and a Max of 3A.
Pin 2	Player 1 or Coin 1 - input to the game PCB. This pin is used for games with only one coin input.
Pin 3	Empty - this is an unused pin and could be used for future expansion or other requirements.
Pin 4	Coin meter 1 - is connected to the coin meter 1 output from the game PCB and can be used by card systems for monitoring purposes. Not used if the game doesn't have this output.
Pin 5	Empty - this is an unused pin and could be used for future expansion or other requirements.
Pin 6	Prize or ticket Meter- is connected to the Prize or Ticket Meter output from the game PCB and can be used by card systems for monitoring purposes. Not used if the game doesn't have this output.
Pin 7	Coin Inhibit/Enable- is connected to the Coin or Note Inhibit/Enable output from the Game PCB and is used where the game has this feature for disabling any payment. This is normally for states like New Jersey that limit the amount of money that can be inserted at one time.
Pin 8	Ticket Run/Enable - is connected to the ticket run line between the game PCB and ticket dispenser in standard redemption games. This is commonly used for systems using paperless or E-ticket.
Pin 9	Ground- is connected to the common Ground connection, the same ground as the Game PCB.

Note:

This connector has been designed for use in many different types of games and from all different game manufacturers; because of this, some pin connections will not be populated in all games. The pins that are used will depend on the type of game and the specific inputs and outputs that the game and the manufacturer uses. Along with incorporating this Universal Card Link into your products, you will NEED to apply the "UCL" symbol decal near and on the connector or coin mech/door area to allow the customer to easily recognize that their game can be quickly hooked up to a debit card system.



1	DC+12V
2	P1 COIN IP
3	P2 COIN IP
4	COIN COUNTER 1
5	COIN COUNTER 2
6	PRIZE/TICKET/COUNTER
7	COIN INHIBIT/ENABLE
8	SPARE
9	GND



13 ACTIVE FLOOR ASSY

13-1 CLEANING THE JUMP SENSOR WINDOWS

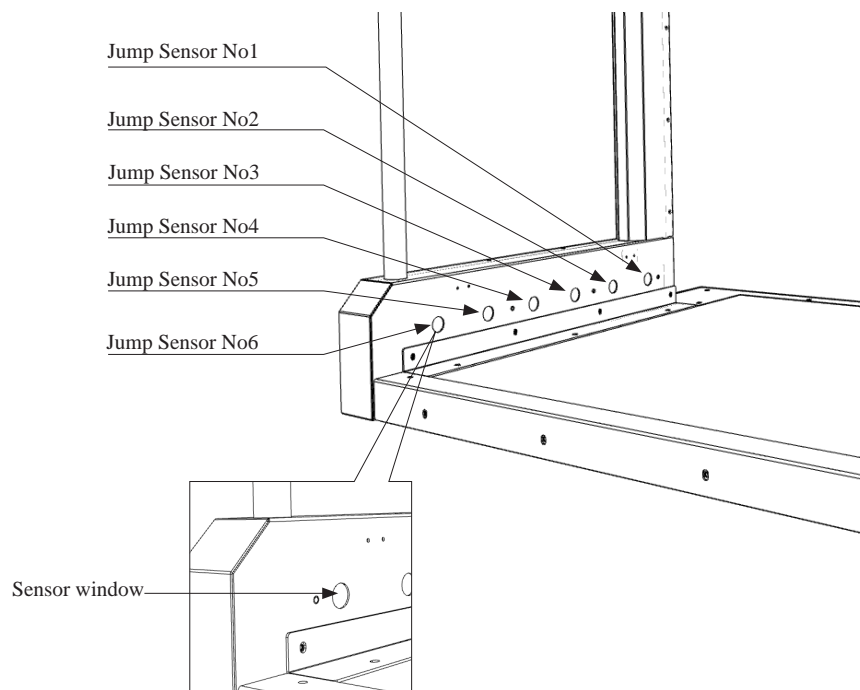
STOP IMPORTANT

- When cleaning the surface, always use a dry soft lint free cloth. It maybe necessary to dampen the cloth to remove heavier stains.
- Please adhere to the following when using a detergent.
- When using a detergent to remove stronger stains, only use a small amount of neutral household detergent diluted with water. Use a soft lint free cloth to wipe the surfaces. Always wring out the cloth before applying.
- Do not apply a wet cloth to clean the surface.
- Do not use abrasive detergents such as a bleach or any acidic or alkaline detergents. Do not use any agents such as thinners or solvents such as alcohol (ethanol).
- Do not vigorously rub the surface. Do not use a brush or scourer.
- Always take care when cleaning the floor surfaces. Be aware of the side frame and avoid any sudden movements.

13-1-1 Periodic cleaning of the sensor windows.

Depending on the environment it is recommended that the Sensor Windows are checked frequently to ensure that they are kept clean. Failing to keep the Sensor Windows clean will affect the performance of the game.

Clean the outside of the using a soft damp lint free cloth. Use a compressed air blower such as a keyboard air aerosol to clean the inside of the windows.



13-2 CLEANING THE FLOOR MAT

CAUTION

- Please clean the Floor Mat daily. When cleaning, always check for flaws, damage or loose screws on its surface. Objects left on the floor may induce a trip or fall hazard.

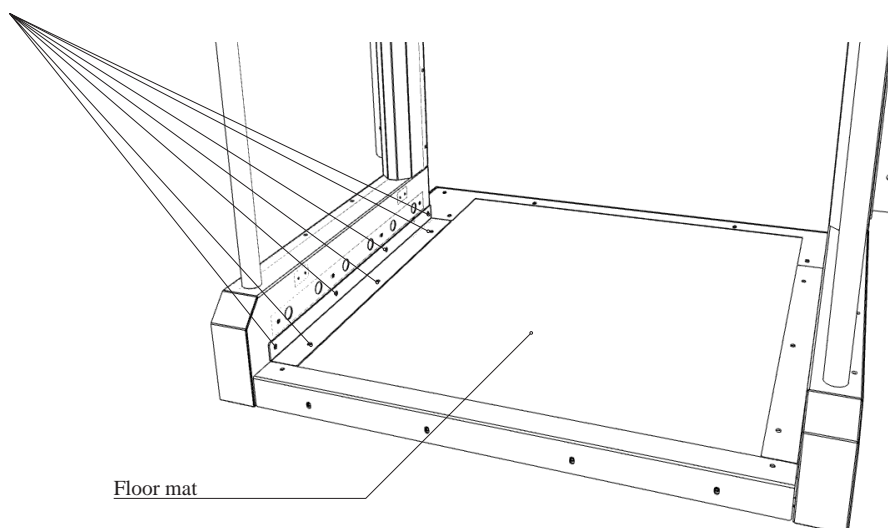
IMPORTANT

- When cleaning the surface, always use a dry soft lint free cloth. It maybe necessary to dampen the cloth to remove heavier stains.
- Please adhere to the following when using a detergent.
- When using a detergent to remove stronger stains, only use a small amount of neutral household detergent diluted with water. Use a soft lint free cloth to wipe the surfaces. Always wring out the cloth before applying.
- Do not apply a wet cloth to clean the surface.
- Do not use abrasive detergents such as a bleach or any acidic or alkaline detergents. Do not use any agents such as thinners or solvents such as alcohol (ethanol).
- Do not vigorously rub the surface. Do not use a brush or scourer.
- Always take care when cleaning the floor surfaces. Be aware of the side frame and avoid any sudden movements.

13-2-1 Periodic cleaning of the Floor mat.

Depending on the environment it is recommended that the Floor Mat is checked frequently to ensure that it is clean. When cleaning, always check for flaws, damage or loose screws on its surface. Objects left on the floor may induce a trip or fall hazard.

Check that screws are not loose



13-3 REPLACING THE FLOOR MAT

WARNING

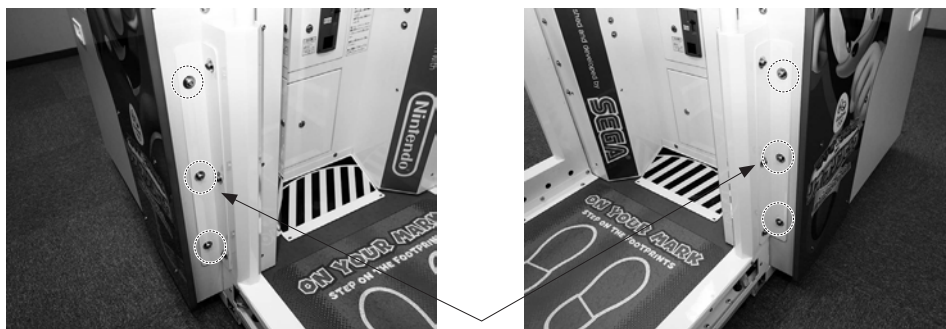
- Work should be carried out by a qualified maintenance person(s) or technician. Failing to use qualified personnel may result in injury or electric shock.
- Turn off the power and remove the mains connector from the machine before attempting any work..
- Take care not to damage any wiring. Damaged wires can cause and electric shock or fire hazard.

CAUTION

- Whilst working on the ASSY FLOOR take care not to make any sudden movements and be aware of your surroundings. Failing to do so may result in accidents and/or injury.

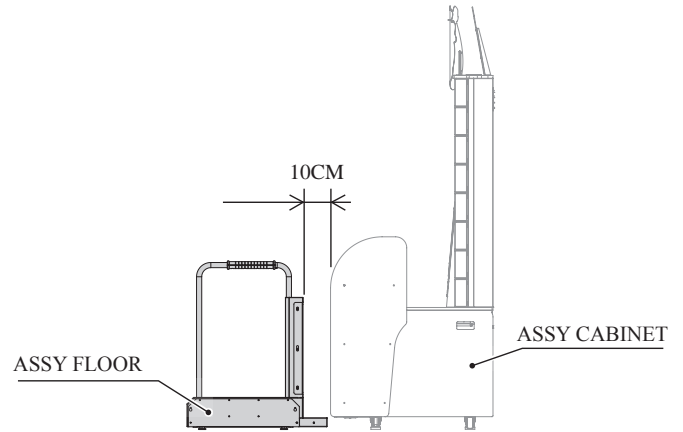
1 Remove the power from the machine and disconnect the mains input connector from the wall socket.

2 Using a 5mm Allen Wrench, remove the (6) M8x20 SKT CAP SCR from both sides of the Floor Frame.



Socket Head Cap Screw
M8x20

- 3 Pull the ASSY FLOOR away from the cabinet (approx 10cm). Take care not to damage the wires or connectors when carrying out this operation.



- 4 Carefully disconnect the (4) connectors which connect the Assy Floor to the Main Cabinet.

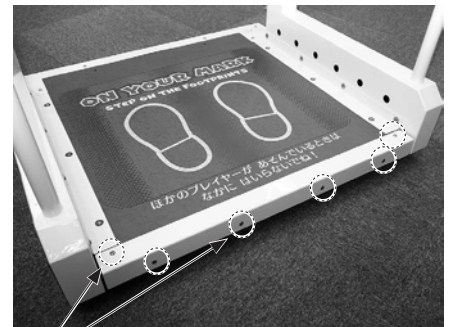


Connections (2)
LHS



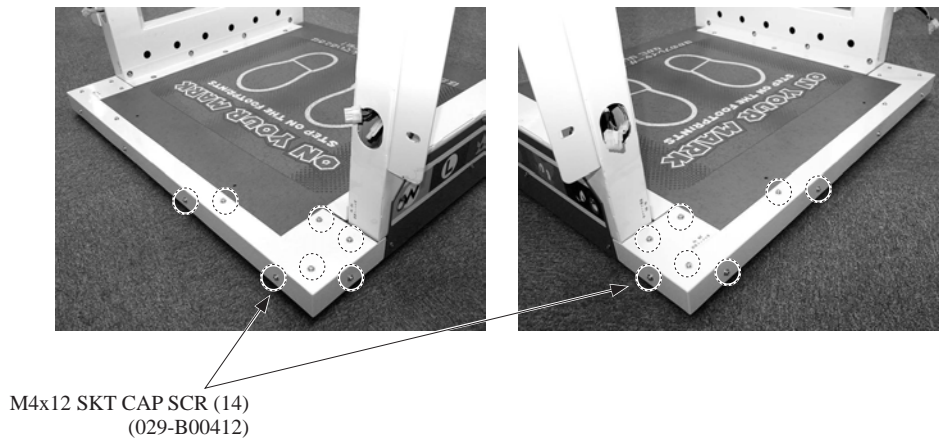
Connections (2)
RHS

- 5 Remove the (6) M4x12 SKT CAP SCR (029-B00412) which secure the BKT FLOOR REAR to the FLOOR BASE.

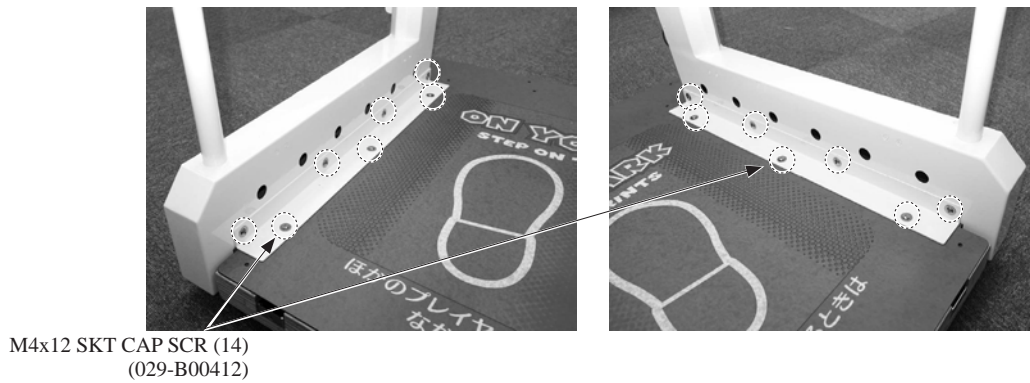


M4x12 SKT CAP SCR (6)
(029-B00412)

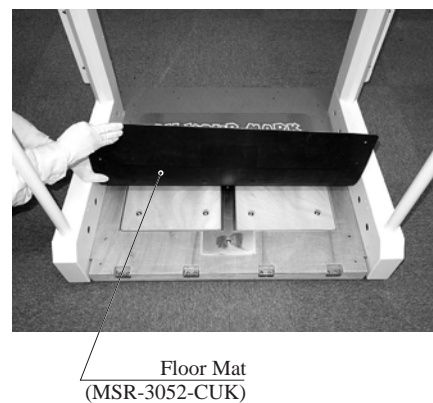
- 6** Remove the (14) M4x12 SKT CAP SCR (029-B00412) which secure the BKT FLOOR FRONT to the FLOOR BASE.



- 7** Remove the (14) M4x12 SKT CAP SCR (029-B00412) which secure the L&R SIDE SASH PLATES to the FLOOR BASE.



- 8** Carefully remove the Floor MAT from the Floor Base.



- 9** Replace the FLOOR MAT and reassemble following the instructions 2 to 8 in reverse order.

13-4 REPLACING THE FLOOR FOOT SENSORS

WARNING

- Work should be carried out by a qualified maintenance person(s) or technician. Failing to use qualified personnel may result in injury or electric shock.
- Turn off the power and remove the mains connector from the machine before attempting any work..
- Take care not to damage any wiring. Damaged wires can cause and electric shock or fire hazard.

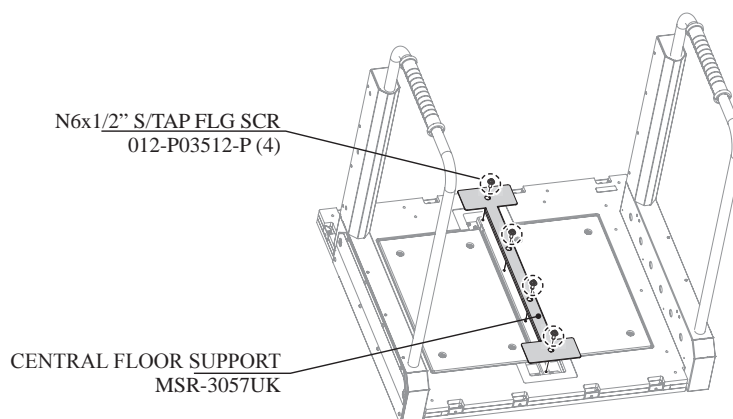
CAUTION

- Whilst working on the ASSY FLOOR take care not to make any sudden movements and be aware of your surroundings. Failing to do so may result in accidents and/ or injury.

The following procedure describes the replacement of the Left side Foot Pressure Sensor. Please follow the same procedure when replacing the Right side Foot Pressure Sensor.

It is recommended that this work be carried out by 2 people.

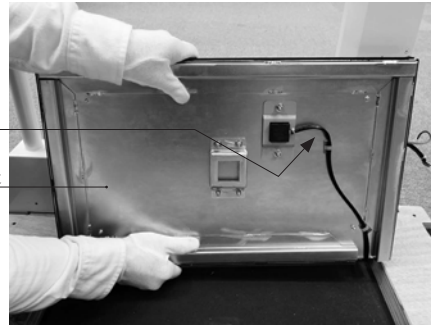
- 1 Remove the power from the machine and disconnect the mains input connector from the wall socket.
- 2 Follow steps 2 to 8 from section 13-3 “Replacing the Floor Mat”
- 3 Remove the (4) N6x1/2” S/TAP FLG SCR from the CENTRAL FLOOR SUPPORT.



- 4** Tilt up the FLOOR PLATE from the centre taking care not to damage the foot sensor wires.

Sensor Harness

Floor Plate Left

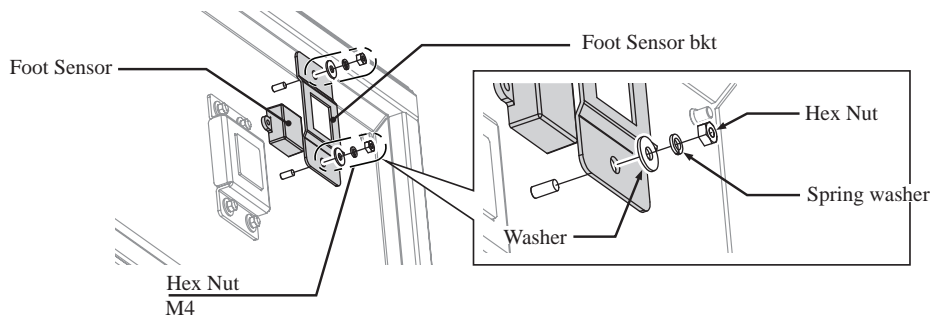


- 5** Disconnect the single connector from the Foot Sensor.

Connector
GH3P



- 6** Remove the (2) Hex Nut which retain the Sensor to the Floor Plate



- 7** Replace the Foot Sensor and reassemble the Floor Base by following Steps 3 to 6 in reverse order.

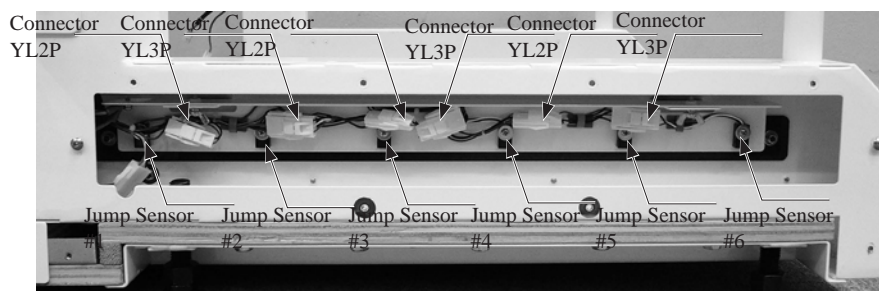
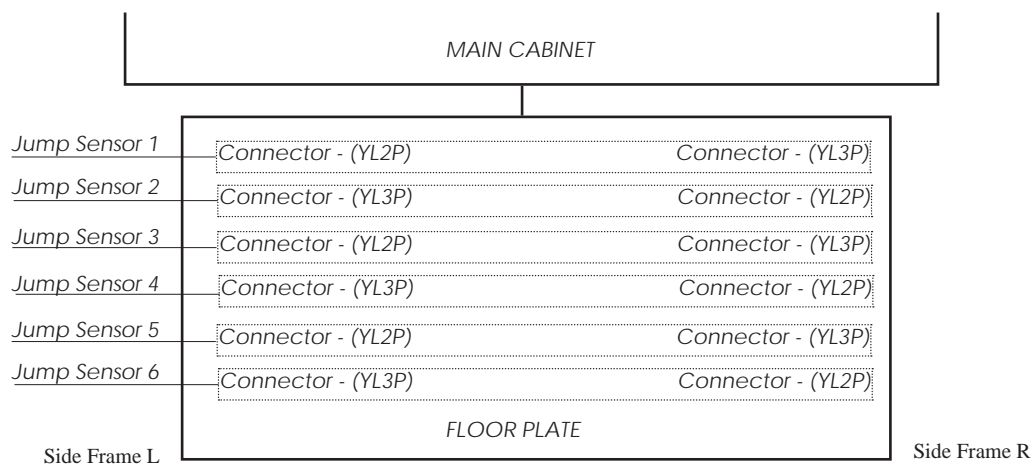
- 8** Reassemble the Assy Floor by following steps 2 to 9 in section 11-3 in reverse order.

13-5 REPLACING THE JUMP SENSORS

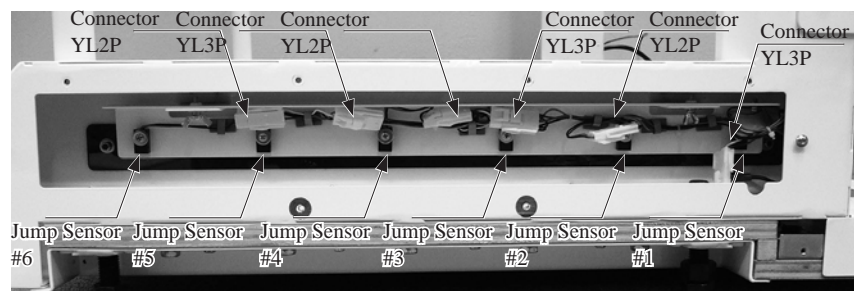
This procedure describes the replacement of Jump Sensor 6 located within the Side Frame Left or Right. Please follow these procedures when changing any other of the Jump Sensors.

STOP IMPORTANT

- The jump sensors are set as a pair. Each of the 6 sensors have both a Transmitter and Receiver set opposite each other.
- When changing a sensor be sure to change both Transmitter and Receiver.
- The Jump sensors are set in a staggered in position. When changing be sure to keep same locations.



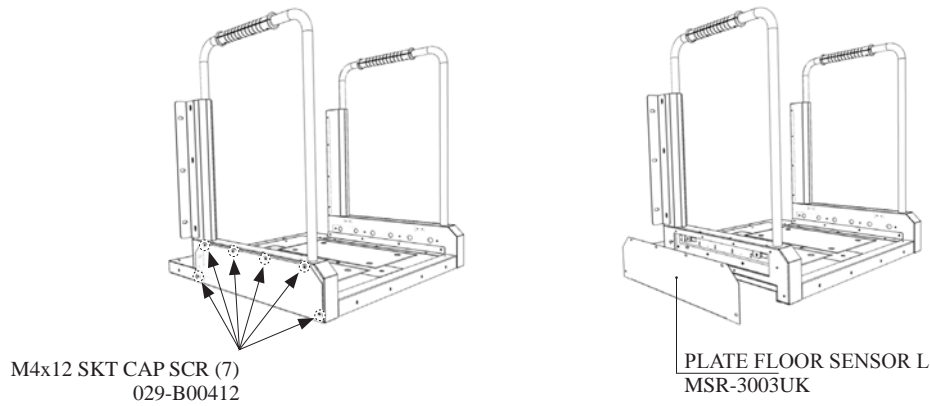
Side Frame L



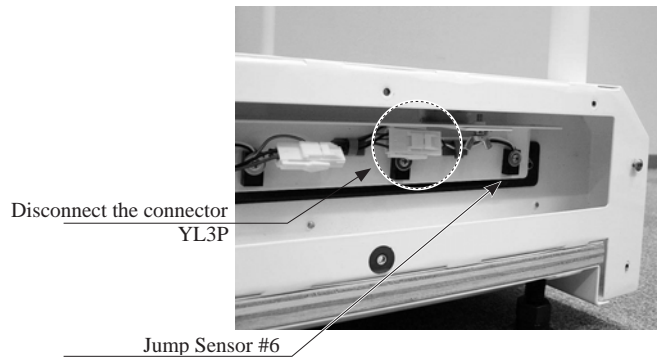
Side Frame R

1 Remove the power from the machine and disconnect the mains input connector from the wall socket.

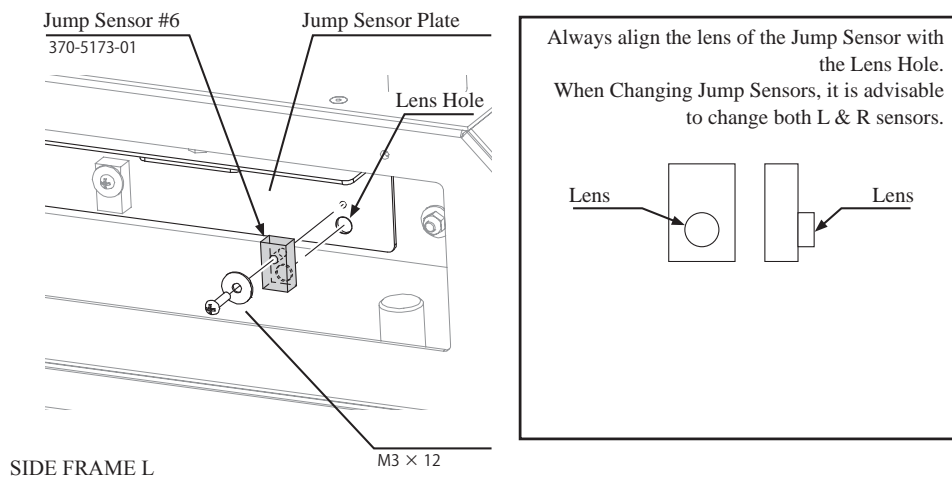
2 Remove the (7) M4x12 SKT CAP SCR from the side of the FLOOR PLATE SENSOR.



3 Locate the sensor to be changed (in this case it is sensor 6). Disconnect the connector relevant to the Sensor to be changed.



4 Remove the single fixing which secures the Jump Sensor to the Side Frame L.



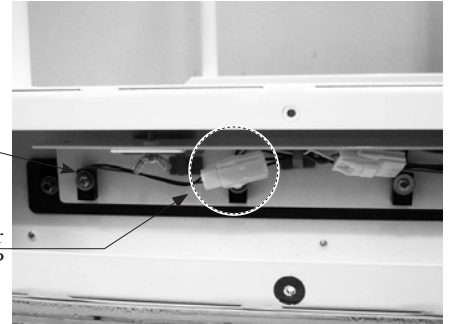
5 Once the Jump Sensor has been replaced please reassemble by following Steps 2 to 4 in reverse order.

6 Refer to Step 2 to remove the FLOOR PLATE SENSOR R.

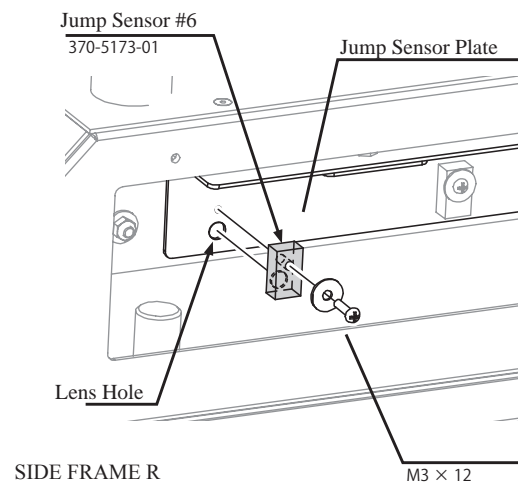
7 Locate the corresponding Sensor (Sensor #6).

Jump Sensor #6

Disconnect the connector
YL2P



8 Remove the single fixing which secures the Jump Sensor to the Side Frame R.



Always align the lens of the Jump Sensor with the Lens Hole.

When Changing Jump Sensors, it is advisable to change both L & R sensors.



9 Reassemble by following Steps 7 to 5 in reverse order.

14 PERIODIC INSPECTION

The items listed below require periodic check and maintenance to retain the performance of this machine and to ensure safe business operation.

When handling the controller, the player will be in direct contact with it. In order to always allow the player to enjoy the game, be sure to clean it regularly. Also, it is advisable to provide wet tissue, etc. available for player use.

WARNING

- Every 6 months check to see if power cords are damaged, the plug is securely inserted, dust is accumulated between the socket outlet and the power plug, etc. Dust will accumulated if using the product regularly. Continued use with the presence of accumulated dust may result in a fire and or electric shock.
- 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 abnormalities such as odors from burning.
- For all normal maintenance procedures, always turn off the power before beginning. Starting the procedures with the power still on can result in electric shocks or short circuits.
- 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.

CAUTION

- Be careful not to get your fingers caught when opening/closing or attaching/removing doors, lids and other such parts.
- When working inside the cabinet, you could get caught on parts or scratch yourself on them. Check the inside of the cabinet and be aware of where the parts are before performing the work.

Cleaning the Cabinet Surfaces

When the cabinet surfaces are badly soiled, remove stains with a soft cloth dipped in water or diluted with a chemical detergent and squeezed dry. To avoid damaging surface finish, do not use such solvents as thinner, benzine, etc. other than ethyl alcohol, or abrasives, bleaching agent and chemical dustcloth.

Some general-purpose household, kitchen and furniture cleaning products may contain strong solvents that degrade plastic components, 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.

DISPLAY (LCD SCREEN Cleaning)

When the Display LCD Screen surfaces are dirty, smudges or greasy, gently wipe the display with a dry, lint-free, soft cloth. If you see a scratch-like mark on your display, it might be a stain which has been transferred from food like matter when the screen was depressed from the outside. To avoid damaging surface finish, do not use such solvents as thinner, benzine, etc. the same applies to ethyl alcohol, or abrasives, bleaching agent and chemical dustcloths.

Wipe or dust the stain gently with a dry, soft cloth. If the stain remains, moisten a lint-free, soft cloth with water or a 50-50 mixture of isopropyl alcohol and water that does not contain impurities. Wring out as much of the liquid as possible and wipe the display again; do not let any liquid drip from the cloth.

Antistatic and purpose made LCD cleaning wipes are also acceptable alternatives.

STOP IMPORTANT

Isopropyl Alcohol is a flammable liquid.

Do not use this cleaner near an exposed flame or clean the screen when it is powered on..

PERIODIC INSPECTION TABLE

PERIOD	ITEMS	DESCRIPTION
As appropriate	CABINET SURFACE	Cleaning
	ELECTRONIC COMPONENTS	Inspection
	JUMP SENSORS	Cleaning
	MONITOR	Cleaning
Daily	CABINET	Confirm adjusters contact floor
		Floor Joint Bkt - Loose Screws
	CONTROLLER LEVER	Cleaning / Loose Screws
	CASH BOX	Empty Coins
Weekly	LEVERS	Check Input/Output in Test
	FOOT SENSORS	Check Input/Output in Test
	JUMP SENSORS	Check Input/Output in Test
Monthly	SPEAKERS	Check volume
	LEVER MECH	Check Output in Test
	LEDs	Check Output in Test
	COIN SELECTOR	Coin switch inspection
		Coin insertion test
	GAME BD Nu 1.1	Settings check
Every 3 Months	COIN SELECTOR	Cleaning
1 year	GAME BD Nu 1.1	Cleaning
	POWER PLUG	Inspection, Cleaning
	FRONT CABI INTERIOR	Inspection. Cleaning

15 TROUBLESHOOTING

15-1 TROUBLESHOOTING (WHEN NO ERROR MESSAGE IS SHOWN)

WARNING

- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. Depending on the cause of the functioning, using the Circuit Protector as is without removing the cause can cause generation of heat and fire hazard.
- In the event that a problem cannot be resolved by employing the procedures listed in this Manual, be sure to request service from the office shown on this Manual or the dealer from whom the product was originally purchased. Attempts to employ procedures other than those specified in this Manual can cause electrical shock, shorting, or fire.
- In the event of a problem that is not described here, be sure to contact the office shown on this Manual or the dealer from whom the product was originally purchased. Careless attempts at repair can result in electrical shock, shorting, or fire.

Replacing Fuses

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 so as not to damage wirings. Damaged wiring can cause electric shock and short circuit accidents.
- 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.

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. 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 wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- 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.
- When the power has been engaged or the TEST MODE has been terminated, initialization takes place automatically. If anyone is near the product, they could come in contact or collide with it. Check carefully to be sure that no one is near the product and that no tools or items have been left on the product, then engage the power or terminate TEST MODE.
- 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.

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.

15 TROUBLESHOOTING

PROBLEM	CAUSE	COUNTERMEASURE
With main switch ON there is no activation	Power is not supplied	Insert power lead all the way into outlet
	Supply voltage is not correct	Make sure that supply voltage is correct
	Circuit protector activated	Reset circuit protector/replace fuse
There is sound and lighting but no video signal	Video signal connector or monitor power connector is not properly connected	Check connections of the monitor and Nu 1.1 connector
No sound	Volume not properly adjusted	Adjust volume
	Poor connection of connectors	Check connections of Nu1.1 and amp
	Board, amp or speaker fault	Run speaker test to check.
Incorrect colour on monitor	Poor connection of video cable	Confirm connection of video/DVI cable.
	Monitor fault	Contact point of purchase
Screen saturation and brightness not correct	Screen not properly adjusted	Adjust screen settings
Switch and volume pot input does not work	Poor connection of connectors	Check connection to I/O bd
		Check the connection to Nu1.1
Start button input does not work	Switch fault	Replace switch
Lever button does not light	Lamp failure	Replace lamp
Stays on Nu1.1 logo and does not go to advertise screen (error)	Poor condition of cabinet	Refer to list of errors
	Nu1.1 error	Contact point of purchase
Controller does not work properly	Improper controller adjustment	Configure using TEST mode
	Poor attachment of harness	Check harnessing to Controllers
Floor does not work correctly	Check connections within harnessing.	Turn the power on/off and make sure the initialization operation completes successfully
	Sensor failure	Replace Jump or Foot sensor

16 GAME BOARD (Nu1.1)

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.
- Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.
- Do not use this product with connectors other than those that were connected and used with the game board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.

CAUTION

In this product, setting changes are made during the test mode. The game board need not be operated. Use the game board, etc. as is with the same setting made at the time of shipment so as not to cause electric shock and malfunctioning.

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.

16

GAME BOARD

16-1 HANDLING PRECAUTIONS

16

GAME BOARD

WARNING

- To prevent electric shock or IC Board malfunctioning, be sure to turn off the power for the cabinet when installing or removing the IC Board.
- Extraneous matter such as dust on the IC Board can cause the IC Board to generate heat and result in a fire due to short circuit, etc. Ensure the IC Board surfaces are always kept clean.
- Always follow the usage conditions from SEGA as well as the usage conditions for the cabinet you are using for Nu1.1. Failure to do so may cause an overheating and fire.

 STOP

IMPORTANT

- Be sure to connect the IC Board and connectors completely. Insufficient insertion can damage IC Board, etc.
- For the IC Board circuit inspection, only the use of Logic Tester is permitted. The use of ordinary testers is not permitted as these can damage the IC Board.
- Do not subject the IC Board to static electricity when installing the IC Board in the cabinet or when connecting wire harness connectors to the IC Board.
- When soldering buttons, etc. to the wire harnesses, be sure to remove the wire harnesses from the IC Board so as not to subject the IC Board to heat.
- Some parts are the ones designed and manufactured not specifically for this product. The manufacturers may discontinue, or change the specifications of, such general-purpose parts. If this is the case, SEGA cannot repair or replace a failed product whether or not a warranty period has expired.

 STOP

IMPORTANT

- It is important that the Nu1.1 Game Bd is cleaned free from dust regularly. If dust accumulates within the Nu1.1 Game bd, the Game bd may malfunction.
- If any components are removed during cleaning be sure to reconnect them in the same manner as they were removed. Ill fitted components may malfunction, become faulty or may possibly cause a fire hazard.
- If you are unsure about refitting components then please contact the point of sale to arrange for a return or replacement Nu1.1 Game Bd.

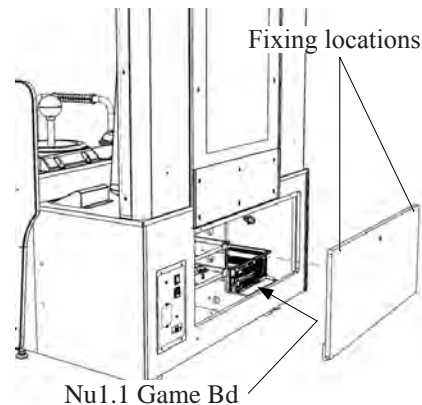
16-2 GAME BOARD (Nu1.1) - LOCATION & REMOVAL

WARNING

- When returning the game board after making repairs or replacements, make sure that there are no errors in the connection of connectors. Erroneous connections can lead to electrical shock, short circuits or fires.
- 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.

The Nu1.1 Game Bd is fitted at the rear of the cabinet and mounted to the inside RH base.

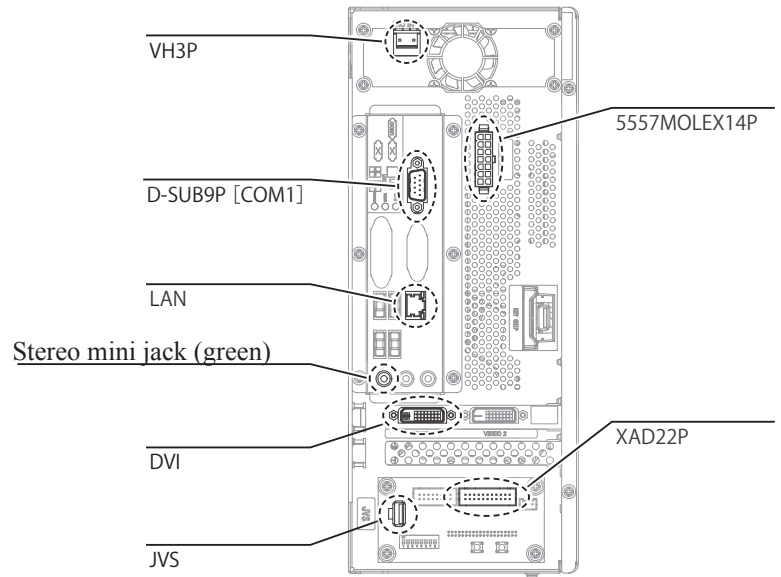
- 1 Remove the power from the machine and disconnect the Power lead.
- 2 Remove the (2) fixings from the upper corners of the door. Unlock and remove the door using the key (supplied)
- 3 The Nu1.1 is located directly inside mounted to the right hand side of the cabinet..



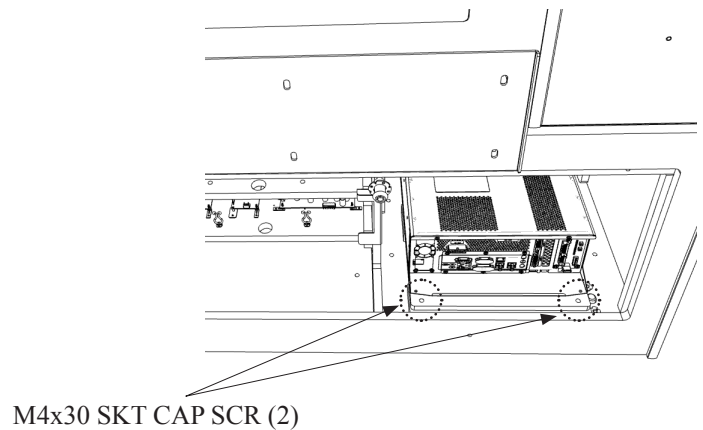
- 4 Prepare to disconnect all the connections to the face of the Nu1.1 Game Bd.



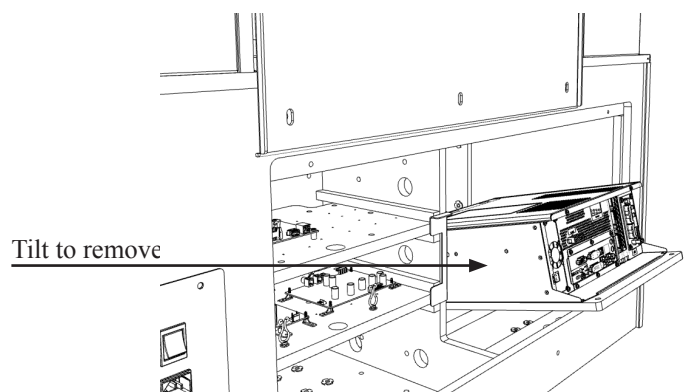
- 5** Carefully disconnect all connectors attached to the Nu1.1 Game Board. The VGA video cable (type D-sub) and DVI cable can be disconnected by loosening the thumb screws either side of the connector. A small flat bladed screwdriver may be used if these seem too tight.



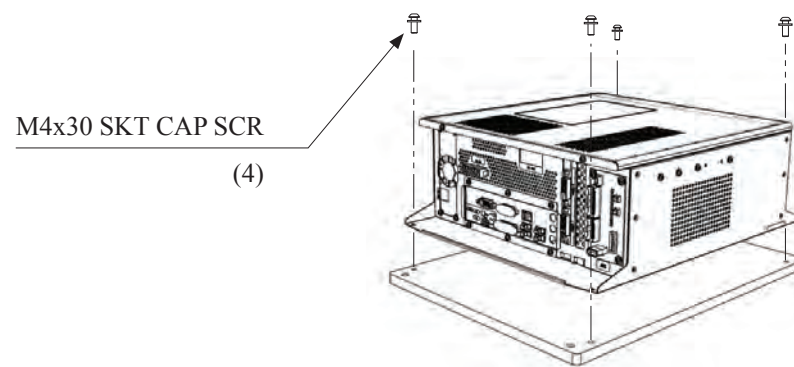
- 6** Remove the (2) fixings which secure the Nu1.1 mount to the cabinet.



- 7** Carefully tilt the Nu1.1 Game Board to remove. Taking care not to damage any wires..



-
- 8** Unscrew the (4) fixings M4x30 SKT CAP SCR located at each corner of the Nu1.1 Game Board. Carefully lift away the Game Bd.



-
- 9** Reassemble and fit the Nu1.1 back into position by following Steps 2 to 8 in this process in revers order.

16-3 Nu1.1 CLEANING

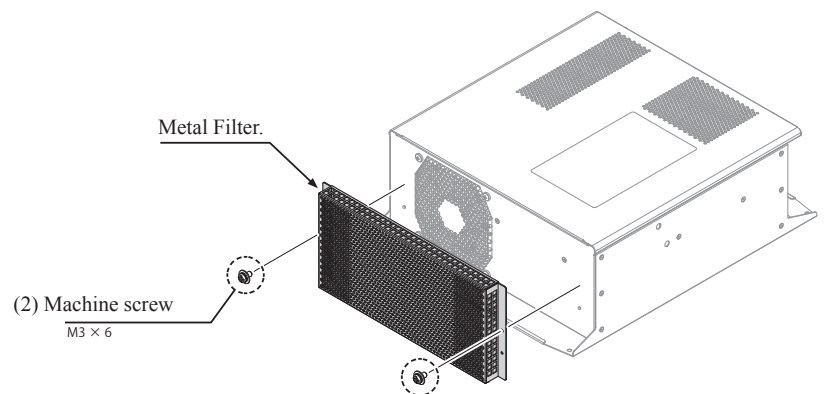
STOP IMPORTANT

- If either ERROR 0090 or ERROR0091 are displayed then the Game bd must be cleaned and made free from dust particles. These ERRORS have been put in place to prevent the Game bd from overheating in not cleaned on a regularly basis.

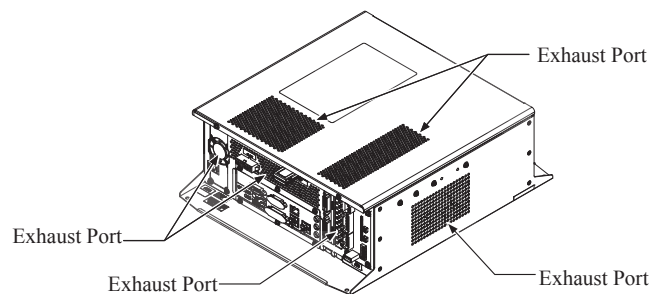
It is important that once a year the cooling vents are cleaned and made free from dust. Please refer to section 16-2 for the Nu1.1 removal procedure.

1 Refer to section 16-2 of this manual for removal of the Nu1.1 Game Bd procedure.

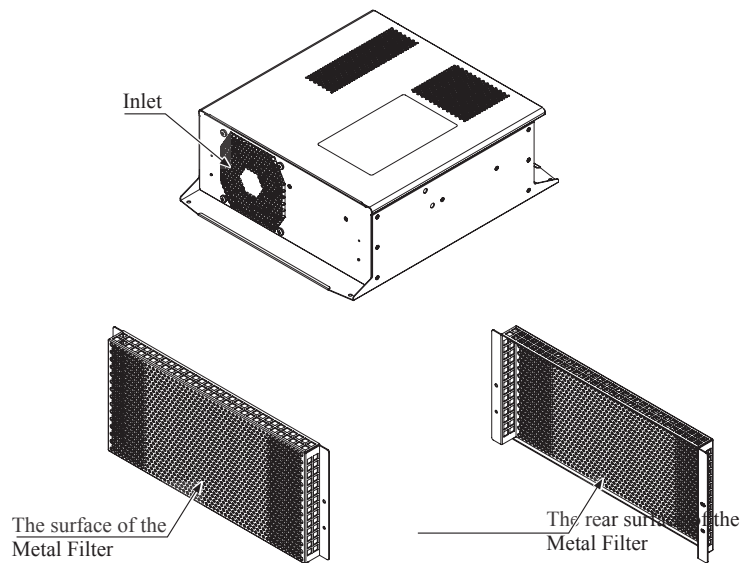
2 Remove the (2) M3x6 machine screws located either side of the rear vent. (opposing side to the connectors).



3 Clean both intake and exhaust ports using a vacuum cleaner with a hand brush attachment or similar.



4 Clean both front and back sides of the Metal filters.



5 Also clean the inside of the cabinet in the area where the Game Bd is housed. This will prevent debris being attracted to the newly cleaned filters.

6 To reassemble please follow these instructions in reverse order. To mount Game Bd back into the cabinet please follow instructions 3 to 8 in section 16-2.

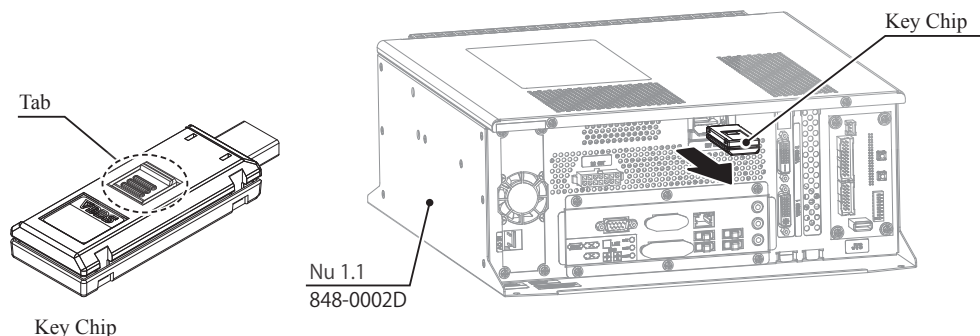
16-3 REPLACING Nu 1.1 GAME BD

16 GAME BOARD

1 Remove power from the machine and disconnect the power cable.

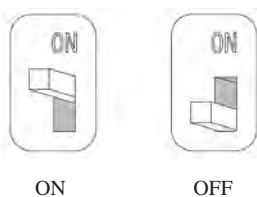
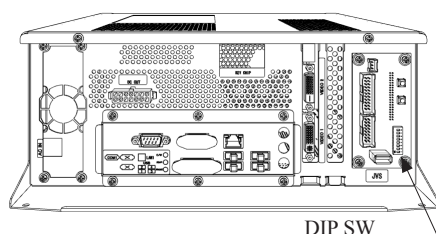
2 Refer to section 16-1 Nu 1.1 Removal to remove the Game bd.

3 Once the Nu 1.1 Game Board has been removed, unplug the key chip from the Nu 1.1.



4 Insert the Key Chip into the replacement Nu 1.1 Game bd (See Step 3)

5 Set up the DIP SW as per the original Nu 1.1 Game Bd. If you are operating just 1 cabinet without any communication then please set up machine as the “main machine” (1P). If however you are operating a number of cabinets (1 to 4) with communication, then set the DIP SW to the corresponding cabinet position. (See DIP SW settings below).



DIP SW Settings

Cabinet 1 (1P) / Cabinet ID:1

1	2	3	4	5	6	7	8
ON	OFF	OFF	ON	ON	ON	ON	OFF

Cabinet 2 (2P) / Cabinet ID:2

1	2	3	4	5	6	7	8
OFF	ON	OFF	ON	ON	ON	ON	OFF

Cabinet 3 (3P) / Cabinet ID:3

1	2	3	4	5	6	7	8
OFF	OFF	ON	ON	ON	ON	ON	OFF

Cabinet 4 (4P) / Cabinet ID:4

1	2	3	4	5	6	7	8
OFF	ON	ON	ON	ON	ON	ON	OFF

6 Reassemble and reconnect the Nu 1.1 Game Bd by following in reverse order procedures 2 to 8 in section 16-2 of this manual.

16-3 SYSTEM TEST MODE

STOP

IMPORTANT

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

STOP

IMPORTANT

- Settings other than coin settings are saved at the point the TEST Button is pressed after selecting EXIT at each TEST screen. Be careful because if the power is turned off before that point, changes to the settings will be lost.
- Coin settings are saved at the point the TEST Button is pressed after selecting EXIT at the SYSTEM TEST MODE screen. Be careful because if the power is turned off before that point, changes to the settings will be lost.
- This manual does not explain the GAME TEST MODE that is used for such as setting the difficulty of games. Refer to the manual for each game.
- The TEST screen display may change depending on the OS version.

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

Press the TEST Button to enter the test mode and to display the following SYSTEM TEST MODE.

```

                                SYSTEM TEST MODE

SYSTEM INFORMATION
STORAGE INFORMATION
JVS TEST
MONITOR TEST
SPEAKER TEST
COIN ASSIGNMENTS
CLOCK SETTING
NETWORK SETTING
->EXIT

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```

SYSTEM TEST MODE screen

CONTROLS

- Press the SERVICE Button to select menu item.
- Press the TEST Button to execute the selected item.
- Select EXIT and press the TEST Button to return to the game play screen.

16

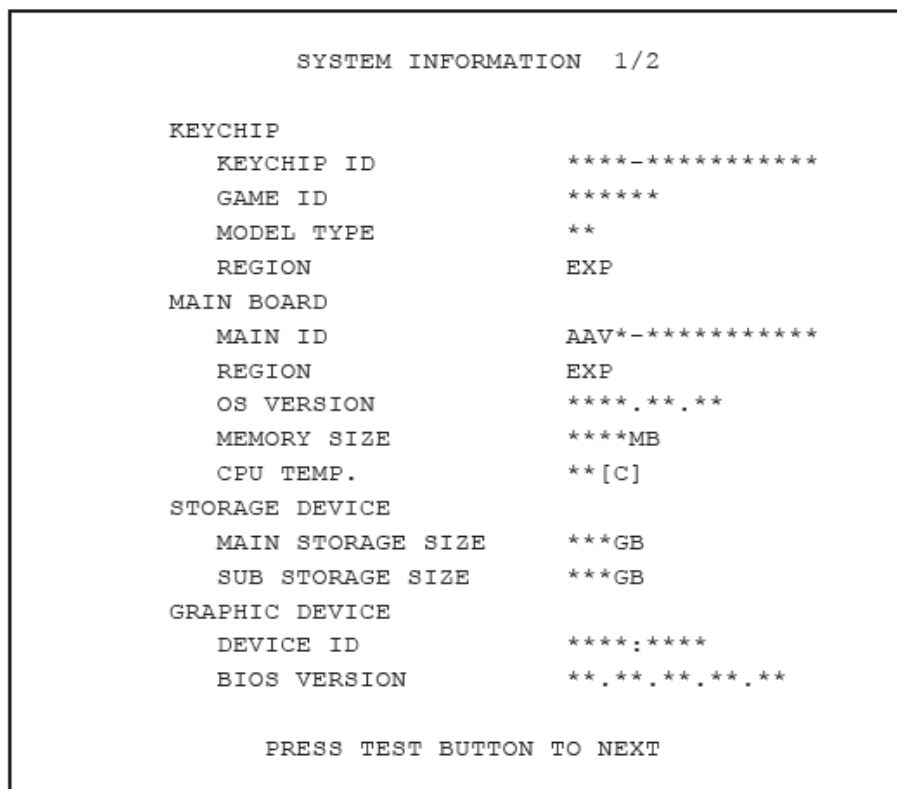
GAME BOARD

MENU ITEMS

SYSTEM INFORMATION	Displays system information. (See 3-1.)
STORAGE INFORMATION	Displays information on the game stored in the program. (See 3-2.)
JVS TEST	Displays information on the connected JVS I/O boards. (See 3-3.)
MONITOR TEST	Displays the screen to check the output of the monitor. (See 3-4.)
SPEAKER TEST	Displays the screen to test the output of the speaker. (See 3-5.)
COIN ASSIGNMENTS	Displays the screen to alter the credit settings. (See 3-6.)
CLOCK SETTING	Displays the screen to set the date and time. (See 3-7.)
NETWORK SETTING	Displays the screen to determine network settings or to test the network. (See 3-8.)

16-3-1 SYSTEM INFORMATION

The SYSTEM INFORMATION screen displays system information.



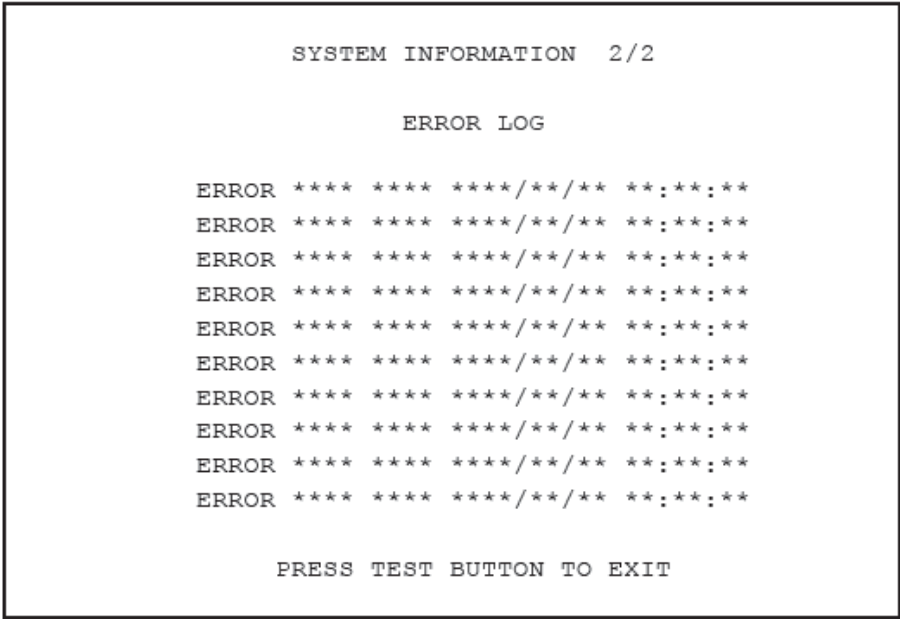
SYSTEM INFORMATION 1/2 screen

CONTROLS

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

MENU ITEMS

KEYCHIP	KEYCHIP ID	The serial number of the key chip
	GAME ID	The game ID of the key chip
	MODEL TYPE	The model type
	REGION	The region setting of the key chip
MAIN BOARD	MAIN ID	The serial number of the game board
	REGION	The region setting of the game board
	OS VERSION	The version of the system program (OS)
	MEMORY SIZE	The onboard memory size
	CPU TEMP.	The temperature of the CPU in Celsius
STORAGE DEVICE	MAIN STORAGE SIZE	The capacity of the main storage
	SUB STORAGE SIZE	The capacity of the sub storage
GRAPHIC DEVICE	DEVICE ID	The graphic device's ID
	BIOS VERSION	The graphic device's software version



SYSTEM INFORMATION 2/2 screen

CONTROLS

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

MENU ITEMS

ERROR LOG	History list of the error occurred Displays the most recent 10 errors that have occurred in the past. It may not be displayed depending on the version of the installed system program. It may not also be displayed depending on the error.
------------------	---

16-3-2 STORAGE INFORMATION

STOP IMPORTANT

Do not use FORMAT SUB STORAGE or UNINSTALL without good reason for doing so. Using either of these commands will require the game program to be reinstalled.

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

Some time may be required to display the file list depending on the timing that TEST MODE was entered. The game program cannot be erased until UNINSTALL is selectable.

If the Nu does not contain any game data, "GAME PROGRAM NOT FOUND" screen will be displayed on the item of [Application Title] part.

[illegible]

STORAGE INFORMATION screen

CONTROLS

- Press the SERVICE Button to select menu item. Items displayed in grey cannot be selected.
- Press the TEST Button to execute the selected item.
- Select EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

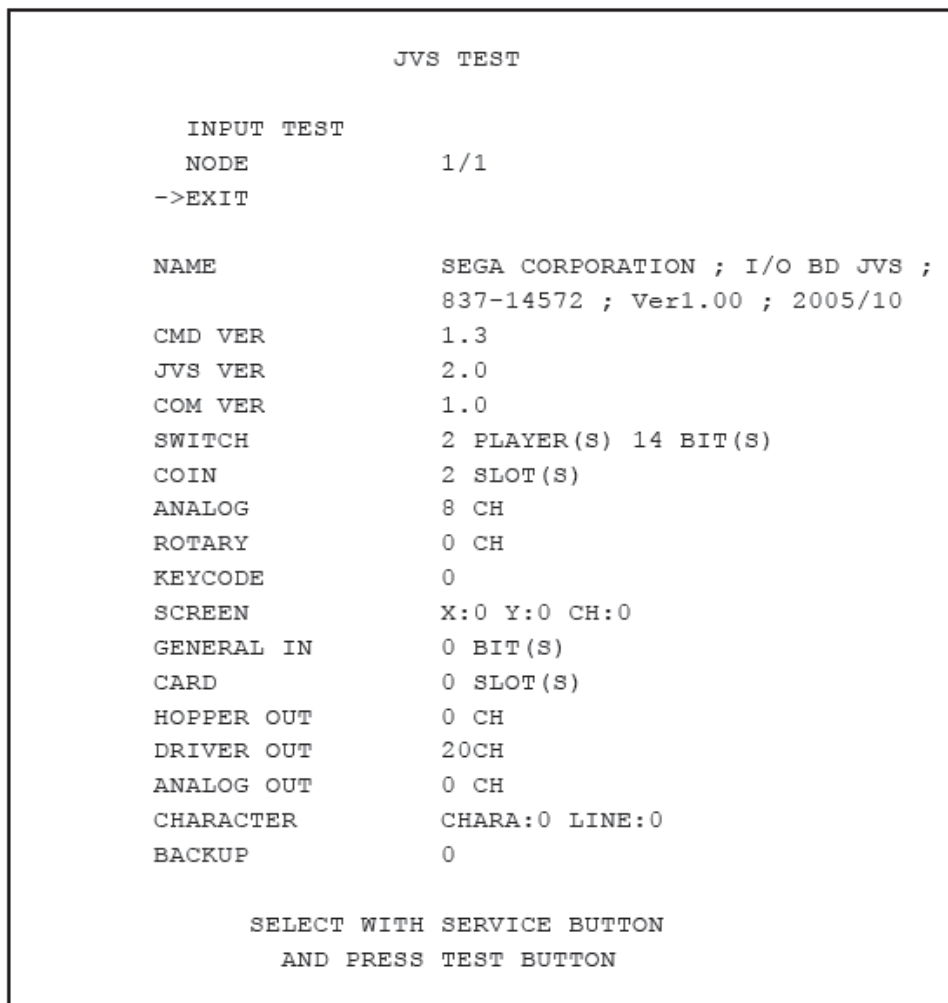
MENU ITEMS

Application Title	Name of installed game program
FILE LIST	Displays the file name for the installed game image. A single page displays up to 10 files. If the files cannot be displayed on a single page, it is possible to switch to and view other pages by selecting NEXT and PREVIOUS.
NEXT	Advances to the next page.
PREVIOUS	Returns to the previous page.
FORMAT SUB STORAGE	Formats the hard disk drive (HDD). Erases all files including the game program currently installed. Select the item and press the TEST Button. YES and NO displays to the right of the item. Press the SERVICE Button to move the underline for selecting items. Move the underline to YES and press the TEST Button to initialize settings and reboot. When the process has completed after rebooting, a message displays that states "DO NOT TURN OFF THE POWER..." When NO is selected, the screen returns to the STORAGE INFORMATION screen without erasing files.
UNINSTALL	The game program currently installed can be erased. Performing this action erases all game programs. It is not possible to select and erase specific files. Select the item and press the TEST Button, YES and NO displays to the right of the item. Press the SERVICE Button to move the underline for selecting items. Move the underline to YES and press the TEST Button to erase the files. If TEST MODE ends, an error is displayed. (See Chapter 4.) When NO is selected, the screen returns to the STORAGE INFORMATION screen without erasing files.

16-3-3 JVS TEST

The JVS TEST screen displays information on the connected JVS I/O boards.

The screen display will vary depending on the JVS I/O board that is connected. The following figure is one example.



JVS TEST screen (when connecting JVS I/O boards)

CONTROLS

- Press the SERVICE Button to select menu item. Items displayed in grey cannot be selected.
- Press the TEST Button to execute the selected item.
- Select EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

MENU ITEMS

INPUT TEST	Advances to the JVS I/O board INPUT TEST screen.
NODE	The currently displayed JVS I/O board number and the total number of connected JVS I/O Boards. When there are multiple JVS I/O boards, press the TEST Button while selecting a board to switch between the JVS I/O boards.
NAME	Name of the connected JVS I/O board, etc.
CMD VER	Command format version
JVS VER	JV standard (JVS) version
COM VER	Communication version
SWITCH	Number of players and number of 1P switches
COIN	Number of coin slots
ANALOG	Number of analog channels
ROTARY	Number of rotary encoders
KEYCODE	Key code input active/inactive
SCREEN	Screen position input (X axis, Y axis, number of channels)
GENERAL IN	Number of standard switches
CARD	Number of card slots
HOPPER OUT	Number of hoppers
DRIVER OUT	Number of standard output drivers
ANALOG OUT	Number of analog output channels
CHARACTER	Number of characters/lines displayed
BACKUP	Backup present/absent

The following displays when there are no JVS I/O boards connected.

```

                JVS TEST

                NO JVS NODE

->EXIT

        SELECT WITH SERVICE BUTTON
        AND PRESS TEST BUTTON

```

JVS TEST screen (when not connecting JVS I/O boards)

JVS INPUT TEST

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

The screen display will vary depending on the JVS I/O board that is connected. The following figure is one example.

JVS TEST INPUT TEST	
NODE	* / *
SYSTEM	00
PLAYER 1	0000
PLAYER 2	0000
COIN 1	0000
COIN 2	0000
ANALOG 0	0000
ANALOG 1	0000
ANALOG 2	0000
ANALOG 3	0000
ANALOG 4	0000
ANALOG 5	0000
ANALOG 6	0000
ANALOG 7	0000
ANALOG 8	0000
PRESS TEST BUTTON AND SERVICE BUTTON TO EXIT	

JVS INPUT TEST screen

CONTROLS

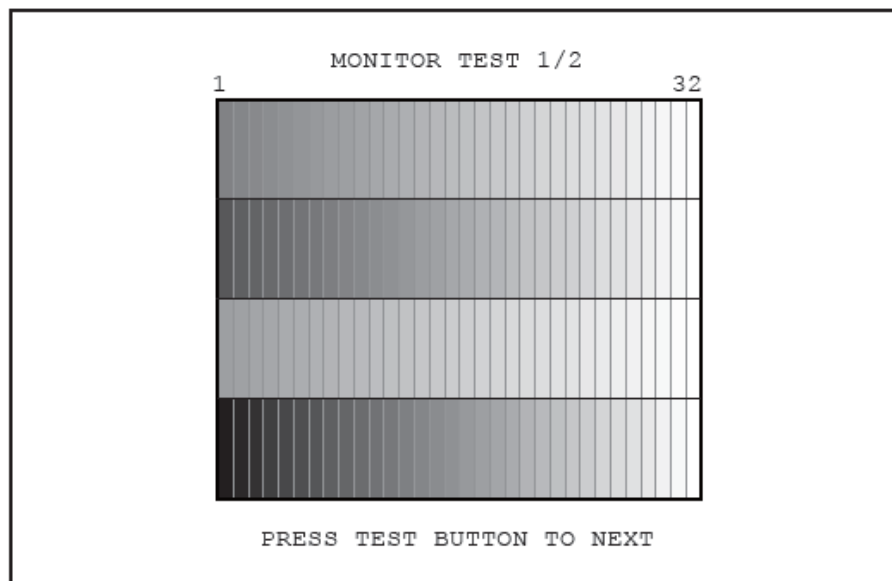
Press the SERVICE and TEST Buttons simultaneously to return to the JVS TEST screen.

MENU ITEMS

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

16-3-4 MONITOR TEST

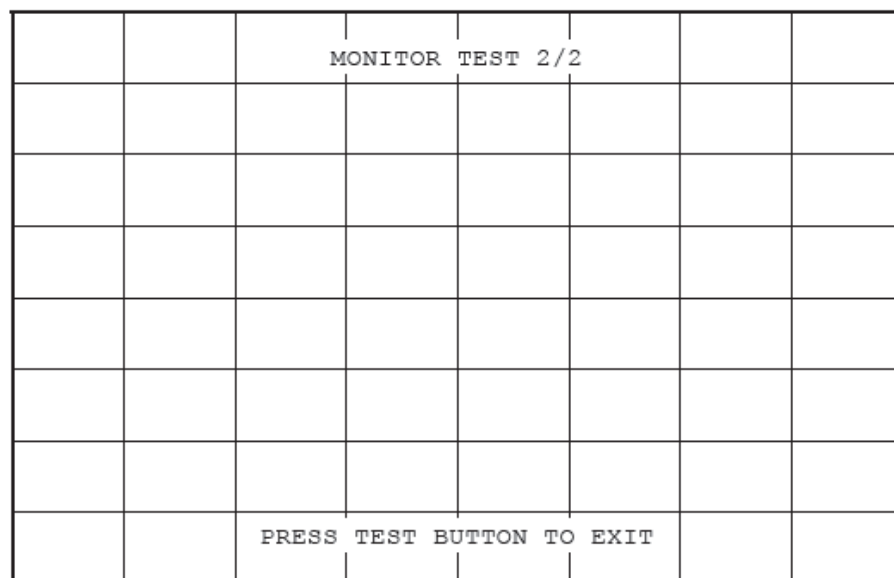
Use MONITOR TEST to check the output of the monitor.



MONITOR TEST 1/2 screen

CONTROLS

- Displays a gradation of red, green, blue and white from the top in that order. "1" is the darkest, and moving towards "32" incrementally becomes lighter. Ensure that each color displays correctly.
- Press the TEST Button to move to the MONITOR TEST 2/2 screen.



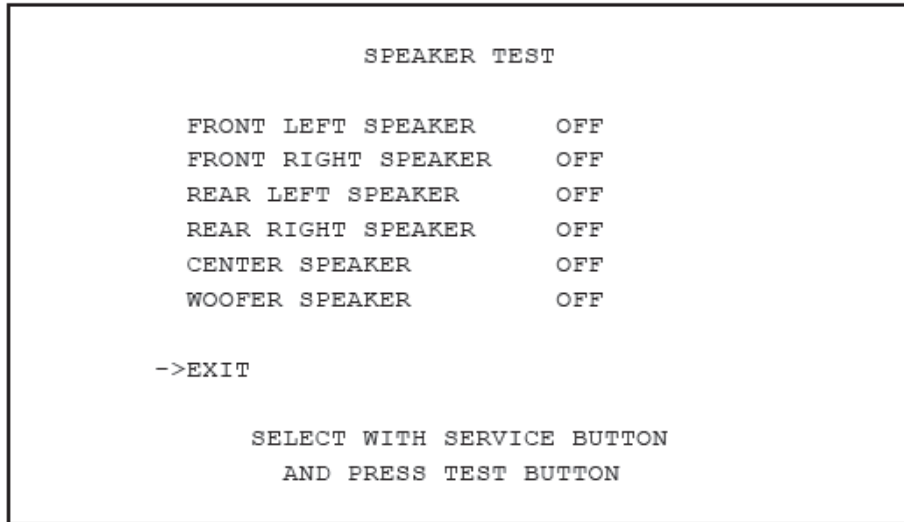
MONITOR TEST 2/2 screen

CONTROLS

- A grid displays on the entire screen. Ensure there are no distortions on the display.
- Press the TEST Button to return to the SYSTEM TEST MODE screen.

16-3-5 SPEAKER TEST

Use SPEAKER TEST to check the output of each speaker.



SPEAKER TEST screen

CONTROLS

- Press the SERVICE Button to select each speaker.
- Press the TEST Button to toggle between ON and OFF to the right of the selected speaker. When set to ON, a test sound will be emitted from that speaker. It is possible to set multiple speakers to emit the test sound at the same time. Depending on the cabinet used, some items will be displayed but no sound will be emitted.
- Select EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

16-3-6 COIN ASSIGNMENTS

Sets the coin/credit (charge).

To enable the changed settings, return to the SYSTEM TEST MODE screen and exit. After exiting the screen, the changes to the settings are saved and the changes are then enabled. If the power is turned off without exiting, the changed settings are not saved.

There are designated coin/credit settings depending on the game program. Refer to the manual for each game for details.

COIN ASSIGNMENTS

COIN CHUTE TYPE	COMMON
SERVICE TYPE	COMMON
COIN CHUTE #1 COIN TO CREDIT RATE	
1 COIN(S) COUNT AS 1 CREDIT(S)	
COIN CHUTE #2 COIN TO CREDIT RATE	
1 COIN(S) COUNT AS 1 CREDIT(S)	
DETAIL SETTING	
GAME COST SETTING	
->EXIT	

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

COIN ASSIGNMENTS screen (COIN CHUTE TYPE: COMMON)

CONTROLS

- Press the SERVICE Button to select menu item.
- Press the TEST Button to change settings for the selected item, or proceed to the selected settings screen.
- Select EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

16

GAME BOARD

MENU ITEMS

COIN CHUTE TYPE	Specify according to the cabinet coin chute specifications.	
	COMMON	This is for cabinets that use a coin chute shared by multiple players. Coins inserted by each player are handled as shared credit. Up to 2 coin chutes (#1, #2) can be used, and it is possible to set a coin chute multiplier for #1 and #2 separately.
	INDIVIDUAL	This is for cabinets set up for each coin chute for multiple players. Coins inserted by each player are handled as credit for each individual player. The setting for the coin chute multiplier is common to each coin chute.
SERVICE TYPE	Sets the operation for when pressing the SERVICE Button, when there are multiple SERVICE buttons.	
	COMMON	All players receive service credit no matter which SERVICE Button is pressed.
	INDIVIDUAL	The player that corresponds to the SERVICE Button being pressed only receives credit.
COIN/CREDIT SETTING	Sets the amount of credit associated with inserted coins. "X COIN(S) COUNT AS Y CREDIT(S)" indicates that when X coins are inserted, Y credits are received. Setting to FREE PLAY allows you to play the game without credits. When COIN CHUTE TYPE is set to COMMON, the coin chute #2 setting is limited to a certain extent more than the coin chute #1 setting.	
DETAIL SETTING	Advances to a screen for more detailed settings than COIN/CREDIT SETTING to set the amount of credit associated with inserted coins. (See 3-6-1.) When using DETAIL SETTINGS, settings for the COIN/CREDIT SETTING are disabled.	
GAME COST SETTING	Advances to a screen where settings can be specified such as for the required quantity of credits to begin a game. (See 3-6-2.) The range for setting values, the screen display and other similar items are different depending on the game program. Refer to the manual for each game for details.	

COIN/CREDIT SETTING TABLE 1-1 (COIN CHUTE TYPE: COMMON)

When operating coin chute #1, coin chute #2 is linked to the operation and changes accordingly.

COIN CHUTE #1 COIN TO CREDIT RATE
1 coin counts as 1 credit
2 coins count as 1 credit
3 coins count as 1 credit
4 coins count as 1 credit
5 coins count as 1 credit
1 coin counts as 2 credits
1 coin counts as 3 credits
1 coin counts as 4 credits
1 coin counts as 5 credits
Free play (no coins required)

COIN CHUTE #2 COIN TO CREDIT RATE
1 coin counts as 1 credit
2 coins count as 1 credit
3 coins count as 1 credit
4 coins count as 1 credit
5 coins count as 1 credit
1 coin counts as 2 credits
1 coin counts as 3 credits
1 coin counts as 4 credits
1 coin counts as 5 credits
Free play (no coins required)

COIN/CREDIT SETTING TABLE 1-2 (COIN CHUTE TYPE: COMMON)

When operating coin chute #2, coin chute #1 does not change.

COIN CHUTE #1 COIN TO CREDIT RATE
Same as table 1-1 above.

COIN CHUTE #2 COIN TO CREDIT RATE
1 coin counts as 1 credit
1 coin counts as 2 credits
1 coin counts as 3 credits
1 coin counts as 4 credits
1 coin counts as 5 credits

COIN/CREDIT SETTING TABLE 2 (COIN CHUTE TYPE: INDIVIDUAL)

COIN CHUTE #1 COIN TO CREDIT RATE
1 coin counts as 1 credit
2 coins count as 1 credit
3 coins count as 1 credit
4 coins count as 1 credit
5 coins count as 1 credit
1 coin counts as 2 credits
1 coin counts as 3 credits
1 coin counts as 4 credits
1 coin counts as 5 credits
Free play (no coins required)

COIN CHUTE #2 COIN TO CREDIT RATE
When set to INDIVIDUAL, coin chute #1 and coin chute #2 have the same coin/credit setting.

DETAIL SETTING

```

          COIN ASSIGNMENTS
          DETAIL SETTING

COIN CHUTE #1 MULTIPLIER
  1 COIN COUNT AS  1 COIN(S)
COIN CHUTE #2 MULTIPLIER
  1 COIN COUNT AS  1 COIN(S)
BONUS ADDER          NO BONUS ADDER

COIN TO CREDIT      1 COIN(S) 1 CREDIT
->EXIT

          COIN CHUTE #1 OPERATION
COIN      1  2  3  4  5  6  7  8  9
CREDIT    1  2  3  4  5  6  7  8  9

          COIN CHUTE #2 OPERATION
COIN      1  2  3  4  5  6  7  8  9
CREDIT    1  2  3  4  5  6  7  8  9

          SELECT WITH SERVICE BUTTON
          AND PRESS TEST BUTTON

```

DETAIL SETTING screen (COIN CHUTE TYPE: COMMON)

CONTROLS

- Press the SERVICE Button to select menu item.
- Press the TEST Button to change the selected item's setting.
- Select EXIT and press the TEST Button to return to the COIN ASSIGNMENTS screen.

MENU ITEMS

COIN CHUTE #* MULTIPLIER	Sets how many coins to count for a single inserted coin. "1 COIN COUNT AS X COIN(S)" [1 coin inserted counts as X coin(s)] indicates that 1 coin is converted into X number of coins. When COIN CHUTE TYPE is set to COMMON, coin chute #1 and #2 can be set separately.
BONUS ADDER	Sets how many coins converted at COIN CHUTE #* MULTIPLIER are required to give 1 bonus coin. When COIN CHUTE TYPE is set to COMMON, the sum of the number of coins for coin chute #1 and #2 is used for the calculation. "X COINS GIVE 1 EXTRA COIN" (X coins inserted successively award 1 bonus coin) indicates that 1 bonus coin is given for X amount of coins. The NO BONUS ADDER setting means that no bonus coin is given.
COIN TO CREDIT	"X COIN(S) 1 CREDIT" [X coin(s) give 1 credit] indicates that X number of coins is converted to 1 credit.

DETAIL SETTING 1 (COIN CHUTE TYPE: COMMON)

COIN CHUTE #1 MULTIPLIER
1 coin inserted counts as 1 coin
1 coin inserted counts as 2 coins
1 coin inserted counts as 3 coins
1 coin inserted counts as 4 coins
1 coin inserted counts as 5 coins
1 coin inserted counts as 6 coins
1 coin inserted counts as 7 coins
1 coin inserted counts as 8 coins
1 coin inserted counts as 9 coins

COIN CHUTE #2 MULTIPLIER
1 coin inserted counts as 1 coin
1 coin inserted counts as 2 coins
1 coin inserted counts as 3 coins
1 coin inserted counts as 4 coins
1 coin inserted counts as 5 coins
1 coin inserted counts as 6 coins
1 coin inserted counts as 7 coins
1 coin inserted counts as 8 coins
1 coin inserted counts as 9 coins

DETAIL SETTING 2 (COIN CHUTE TYPE: INDIVIDUAL)

COIN CHUTE #1 MULTIPLIER
1 coin inserted counts as 1 coin
1 coin inserted counts as 2 coins
1 coin inserted counts as 3 coins
1 coin inserted counts as 4 coins
1 coin inserted counts as 5 coins
1 coin inserted counts as 6 coins
1 coin inserted counts as 7 coins
1 coin inserted counts as 8 coins
1 coin inserted counts as 9 coins

COIN CHUTE #2 MULTIPLIER
When set to INDIVIDUAL, coin chute #1 and coin chute #2 have the same coin/credit setting.

DETAIL SETTING 3 (BONUS ADDER)

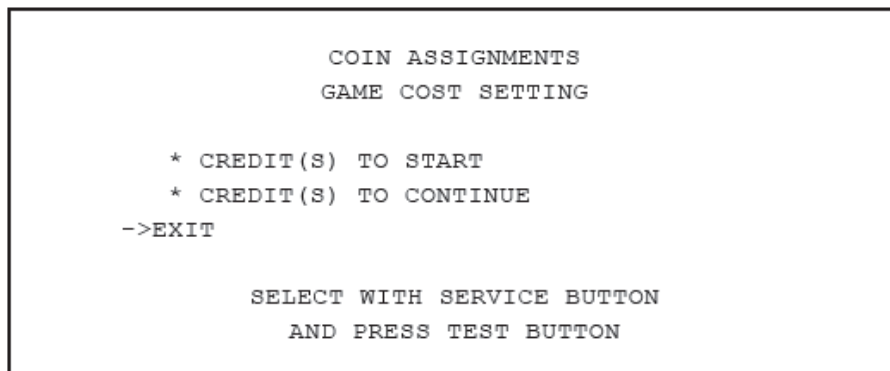
No bonus coin given
2 coins inserted successively award 1 bonus coin
3 coins inserted successively award 1 bonus coin
4 coins inserted successively award 1 bonus coin
5 coins inserted successively award 1 bonus coin
6 coins inserted successively award 1 bonus coin
7 coins inserted successively award 1 bonus coin
8 coins inserted successively award 1 bonus coin
9 coins inserted successively award 1 bonus coin

DETAIL SETTING 4 (COIN TO CREDIT)

1 coin gives 1 credit
2 coins give 1 credit
3 coins give 1 credit
4 coins give 1 credit
5 coins give 1 credit
6 coins give 1 credit
7 coins give 1 credit
8 coins give 1 credit
9 coins give 1 credit

GAME COST SETTINGS

The range for setting values, the screen display and other similar items are different depending on the game program. The following figure is one example.



GAME COST SETTING screen

CONTROLS

- Press the SERVICE Button to select menu item.
- Press the TEST Button to change the selected item's setting.
- Select EXIT and press the TEST Button to return to the COIN ASSIGNMENTS screen.

MENU ITEMS

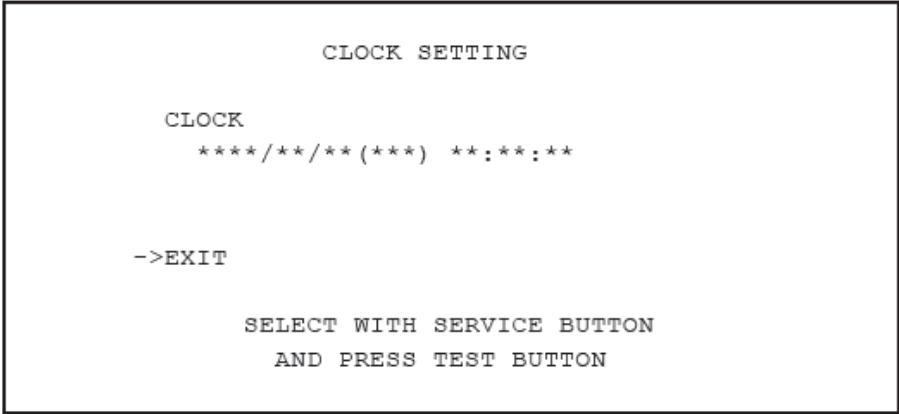
* credit(s) to start	Sets the number of credits required to start the game.
* credit(s) to continue	Sets the number of credits required to continue the game.

16-3-7 **CLOCK SETTINGS**

Use **CLOCK SETTING** to set the date and time. Displays the current date and time. This can also be changed. Ensure the date and time is set correctly because it is used for error logs, game test mode **BOOKKEEPING** and other such features.

Be aware that changing the time setting may make it not possible to play ALL.Net compatible games. ALL.Net compatible games are time synchronized by ALL.Net authentication when the game program is started, and the time setting is overwritten. Set up a network environment that can connect to an ALL.Net server.

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GAME BOARD



CLOCK SETTING screen

CONTROLS

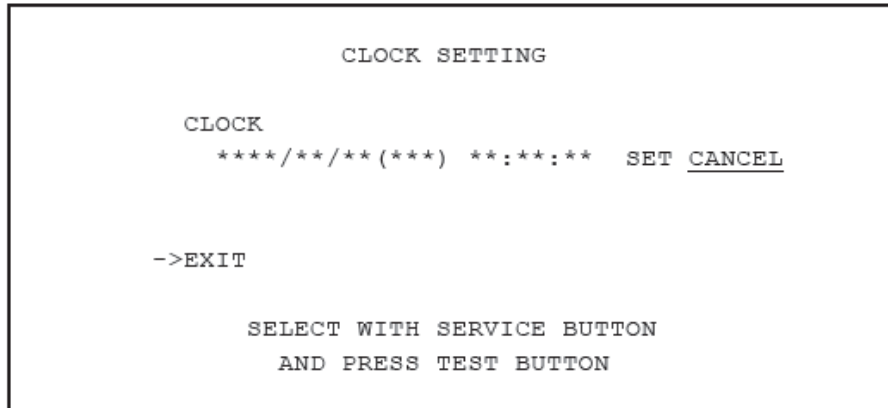
- Press the **SERVICE** Button to select menu item.
- Select **EXIT** and press the **TEST** Button to return to the **SYSTEM TEST MODE** screen.

MENU ITEMS

CLOCK	Displays the current date and time. Select the item and press the TEST button to change the date and time.
--------------	--

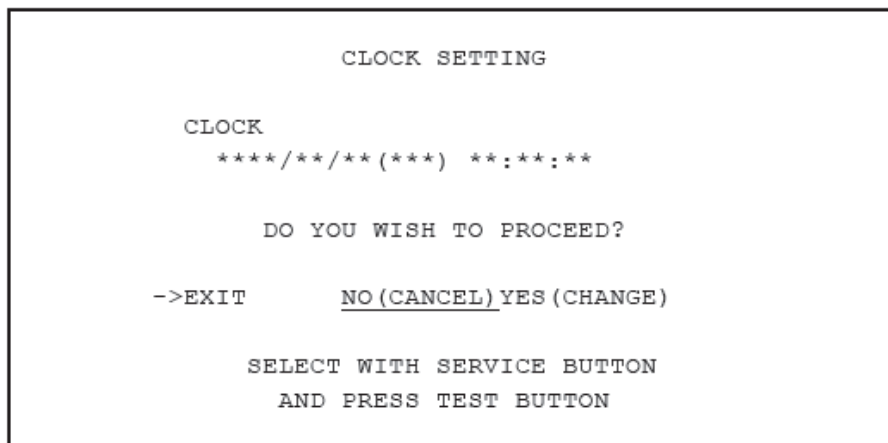
How to set the time

- 1 Press the SERVICE Button to move through the selections of CANCEL→Year→Month→Day→Hour→Minutes→Seconds→SET→CANCEL→...in that order. Press the TEST Button to increase the value of the selected item. Also, press and hold the TEST Button to increase the value. Select CANCEL and then press the TEST button to return to the CLOCK SETTING screen.



CLOCK SETTING screen (while changing)

- 2 Select SET and then select EXIT, and press the TEST Button. A confirmation message displays.

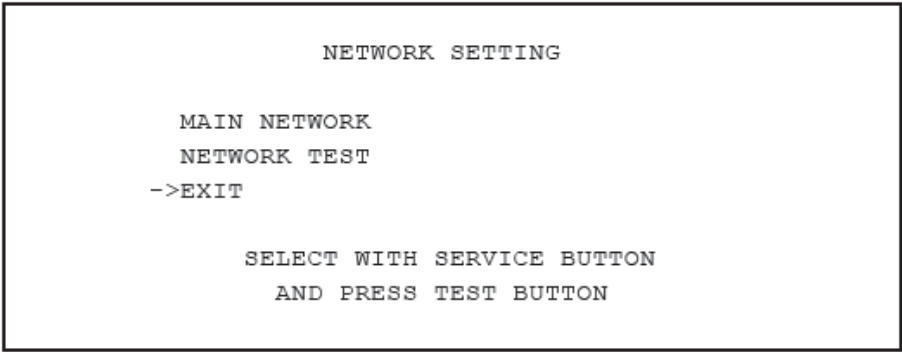


CLOCK SETTING screen (confirmation message)

- 3 Press the SERVICE Button and select from NO (CANCEL) or YES (CHANGE). When YES (CHANGE) is selected and the TEST Button is pressed, the changes are saved and the screen returns to the SYSTEM TEST MODE screen. When NO (CANCEL) is selected and the TEST Button is pressed, the screen returns to the SYSTEM TEST MODE screen without saving the changes.

16-3-8 NETWORK SETTINGS

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



NETWORK SETTING (Setting Menu) screen

CONTROLS

- Press the SERVICE Button to select menu item.
- Press the TEST Button to execute the selected item.
- Select EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

MENU ITEMS

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

MAIN NETWORK

The screen display will vary depending on the game program. The following figure is one example.

```

                                NETWORK SETTING
                                MAIN NETWORK

MAC ADDRESS      ***-**-**-**-**-**-**
DHCP             ****
IP ADDRESS
    ***.***.***.***
SUBNET MASK
    ***.***.***.***
GATEWAY
    ***.***.***.***
PRIMARY DNS
    ***.***.***.***
SECONDARY DNS
    ***.***.***.***
->EXIT

                SELECT WITH SERVICE BUTTON
                AND PRESS TEST BUTTON
    
```

MAIN NETWORK screen

CONTROLS

- Press the SERVICE Button to select menu item.
- Press the TEST button to display the underline for SET and CANCEL to the right of the character string under the selected item.

```

->SUBNET MASK
    ***.***.***.*** SET CANCEL
GATEWAY
    ***.***.***.***
PRIMARY DNS
    ***.***.***.***
SECONDARY DNS
    ***.***.***.***
EXIT
    
```

MAIN NETWORK screen (while changing)

- With the underline displayed, press the SERVICE button to move the underline.
- Pressing the TEST Button increases the value at the location where the underline is displayed.
- When saving the value for the changed setting, move the underline to SET and press the TEST Button. If you do not want to save the changes, move the underline to CANCEL and press the TEST Button.
- When the underline is selecting either SET or CANCEL and the TEST Button is pressed, SET, CANCEL and the underline disappear.
- Select EXIT and press the TEST Button to return to the NETWORK SETTING (Setting Menu) screen.

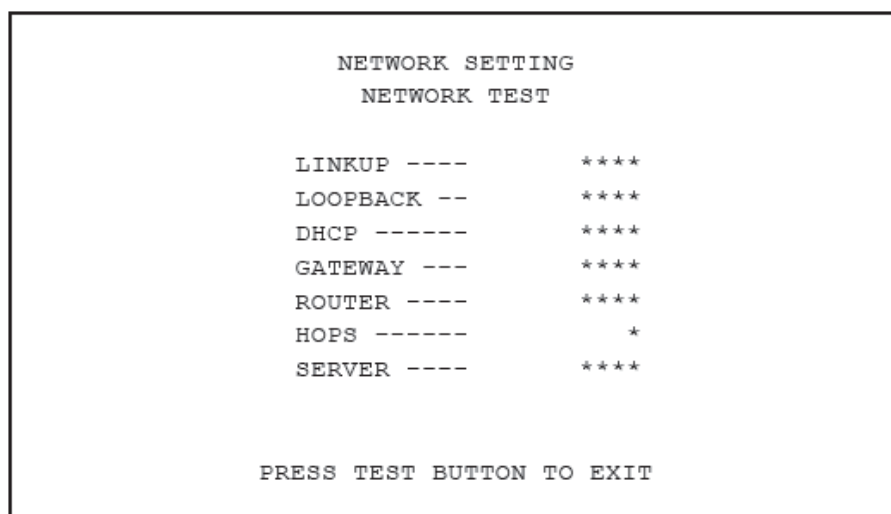
MENU ITEMS

MAC ADDRESS	The individual ID number assigned to each device using the Ethernet.	
DHCP	Set automatic acquisition of network settings.	
	ENABLE	Acquire network settings automatically.
	DISABLE	Input network settings manually.
IP ADDRESS	A setting required for the network. See the manual supplied with each game software for the correct setting. After setting the numbers, select SET and press the TEST Button to save the setting. When DHCP is set to ENABLE, this item cannot be selected.	
SUBNET MASK		
GATEWAY		
PRIMARY DNS		
SECONDARY DNS		

NETWORK TEST

This section is for performing operation tests for communication connectivity. No operation is possible until the test results are displayed.

The screen display will vary depending on the game program. The following figure is one example.



NETWORK TEST screen

CONTROLS

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

MENU ITEMS

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

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

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

17 DESIGN-RELATED PARTS

For the warning display stickers, refer to Section 1.

17

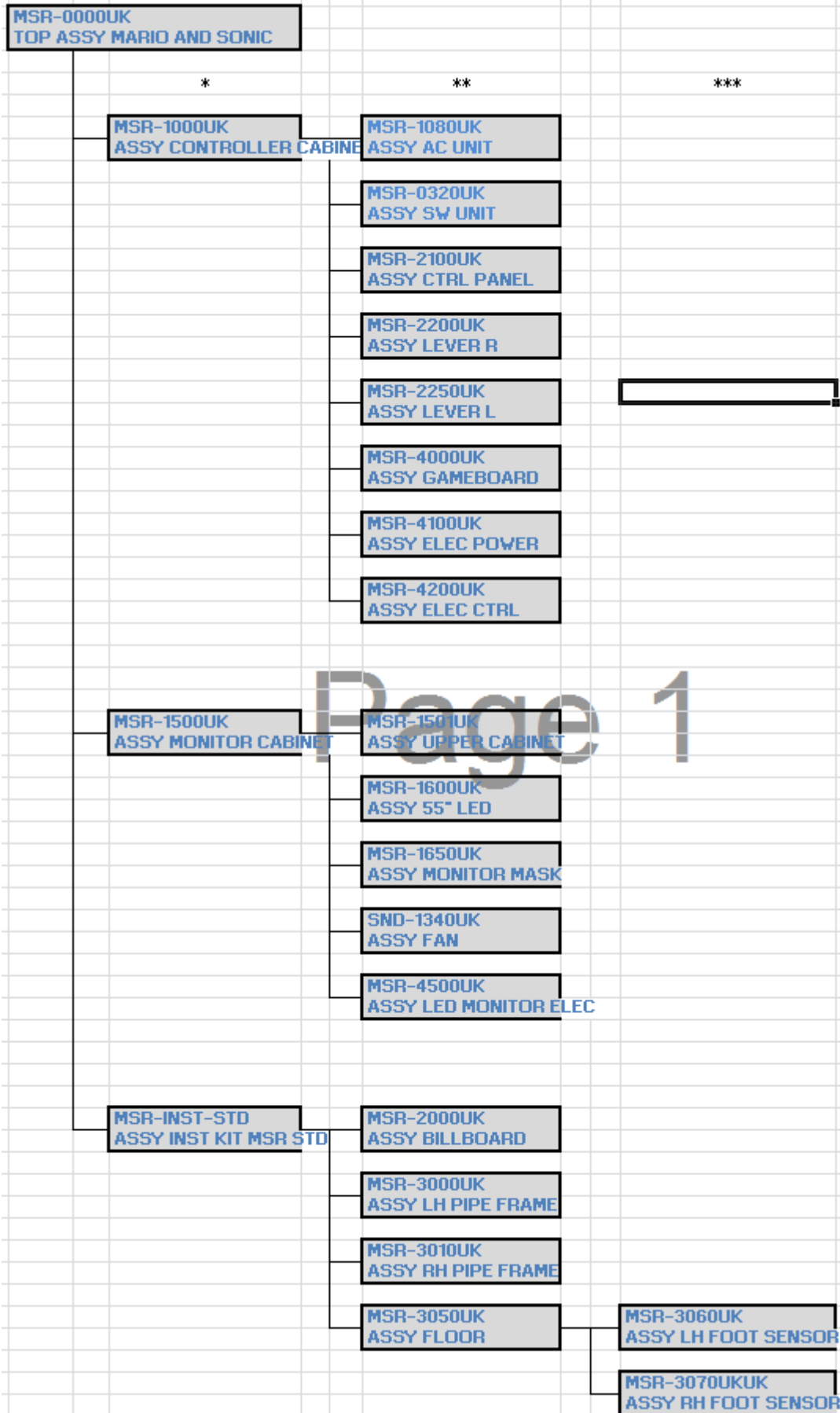
DESIGN - RELATED PARTS



18 PARTS LIST

ASSY TOP MARIO & SONIC AT 2016 RIO OLYMPIC GAMES

MARIO AND SONIC TOP ASSY BOM STRUCTURE (rev1_130116_ecnS2185)

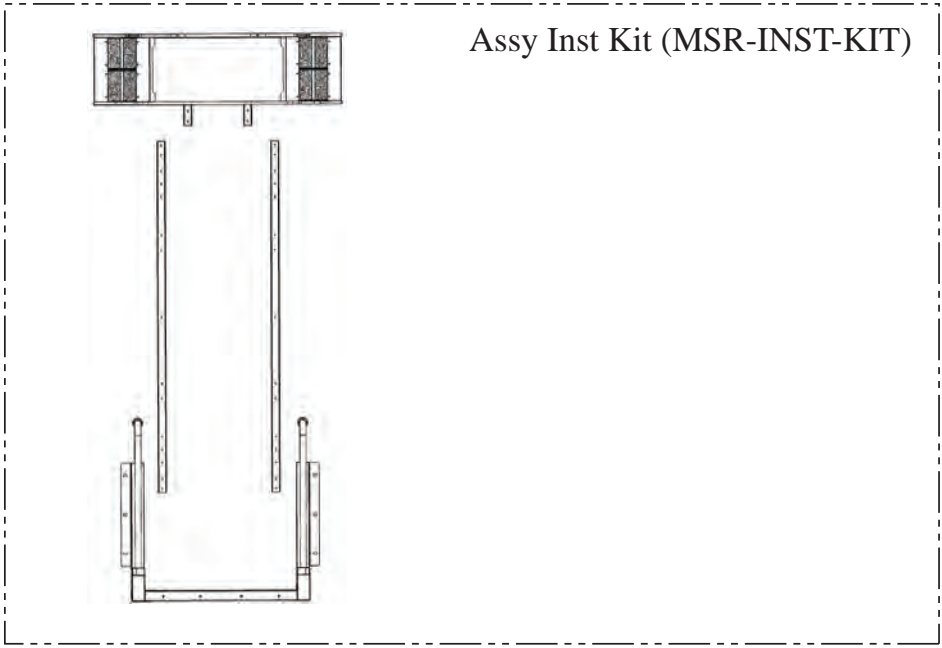
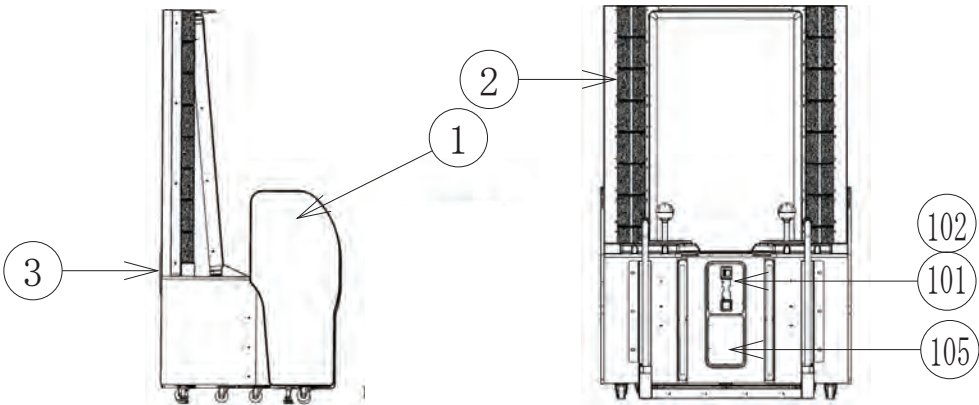


① ASSY TOP MARIO & SONIC (MSR-0000UK)

(D-1/2)

18

PARTS LIST



① ASSY TOP MARIO & SONIC (MSR-0000UK)

(D-2/2)

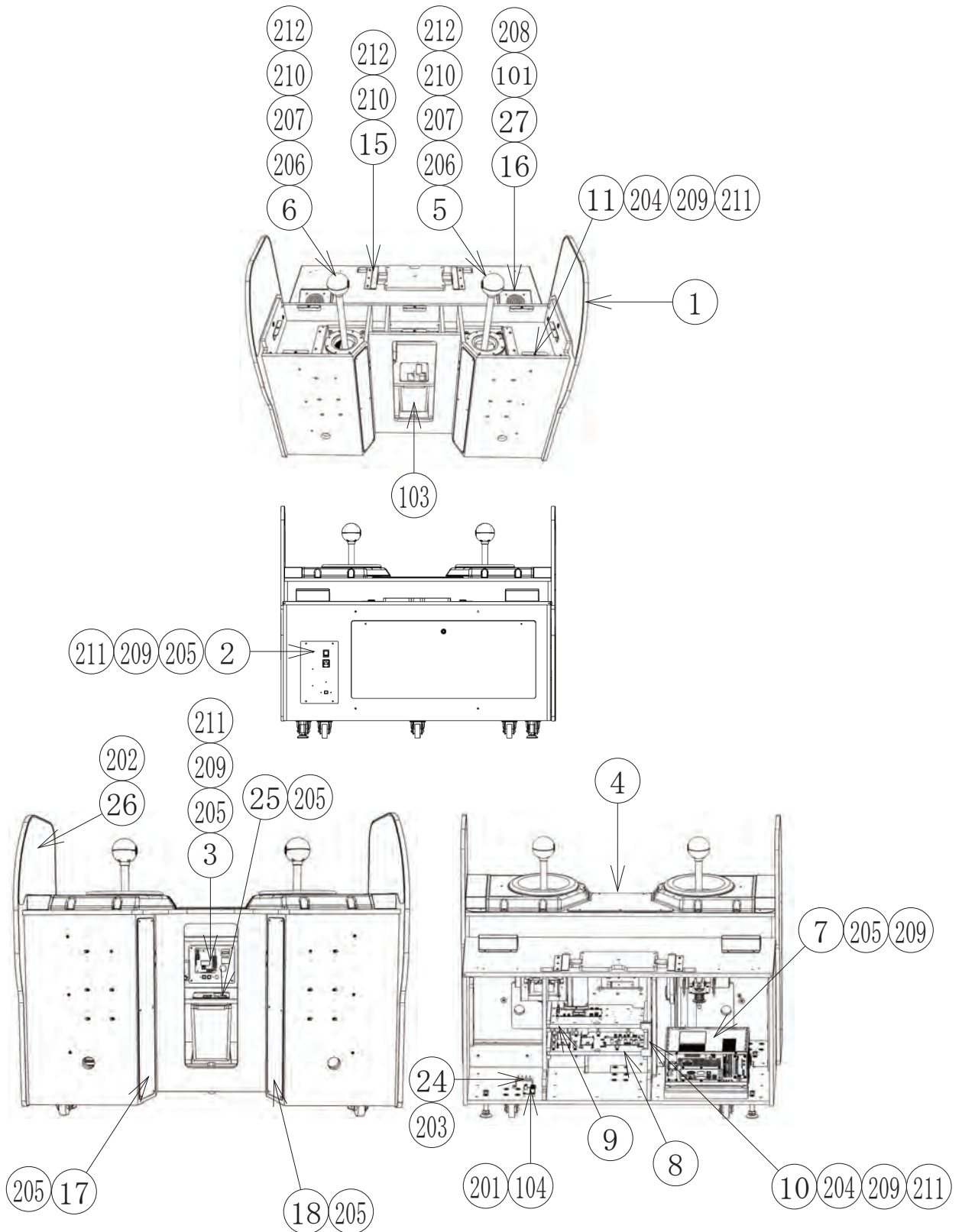
ITEM NO	PART NO	DESCRIPTION	QTY
*1	MSR-1000UK	ASSY CONTROLLER CABINET	1
*2	MSR-1500UK	ASSY MONITOR CABINET	1
*3	MSR-0004UK	PLATE REAR BRACE	1
*20	421-7988-91UK	STICKER SERIAL NUMBER UK	1
*21	440-WS0010UK	STICKER WARNING HI-VOLTAGE	2
*24	LB1046	LABEL TESTED FOR ELEC. SAFETY	1
*25	LB1130	LABEL WEEE WHEELIE BIN	1
*26	440-CS0186-01UK	STICKER CAUTION EPILEPSY	1
*27	440-CS0010UK	STICKER CAUTION GENERIC	4
*28	440-DS0010UK	STICKER DANGER HIGH VOLTAGE	2
*29	LB1101	LABEL CAUTION BATTERY REPLACE	1
*101	220-5374-01	DOOR DFMD W/FR&LOCK C120 UNIV LOCK (J9117) KEY TO LIKE 22MM W	1
*102	220-5575UK	CAM	1
*103	OS1247	ALUMINIUM STICKY CLIP ASK-3	3
*105	220-5727-01B	DOOR CASH H.S. STS	1
*201	029-B00640	M6X40 SKT BH PAS	4
*202	029-B00860	M8X60 SKT BH PAS	5
*203	060-S00600	M6 WSHR SPR PAS	4
*204	060-S00800	M8 WSHR SPR PAS	5
*205	068-652016	M6 WSHR 20OD FLT PAS	4
*206	068-852216	M8 WSHR 22OD FLT PAS	5
*401	MSR-INST-STD	ASSY INST KIT MSR STD	1
*402	SAECE-xxx	DECLARATION OF CONFORMITY	1
*406	PK0506	PALLET MSR STD	1
*407	PK0468	SHRINK WRAP RD STD	1

② ASSY CONTROLLER CABI (MSR-1000UK)

(D-1/3)

18

PARTS LIST



② ASSY CONTROLLER CABI (MSR-1000UK)

(D-2/3)

ITEM	PART NO	DESCRIPTION	QTY
**1	MSR-1002UK	ASSY BASE CABINET	1
**2	MSR-1080UK	ASSY AC UNIT	1
**3	MSR-0320UK	ASSY SW UNIT	1
**4	MSR-2100UK	ASSY CTRL PANEL	1
**5	MSR-2200UK	ASSY LEVER R	1
**6	MSR-2250UK	ASSY LEVER L	1
**7	MSR-4000UK	ASSY PC	1
**8	MSR-4100UK	ASSY ELEC POWER	1
**9	MSR-4200UK	ASSY ELEC CTRL	1
**10	MSR-1004UK	BRKT ELEC BOARD	2
**11	MSR-1015UK	BRKT CTRL PANEL	8
**12	MSR-1016UK	BRKT GAMEBOARD	1
**13	MSR-1019UK	PLATE DBA POWER	1
**14	MSR-1020UK	PLATE DBA POWER COVER	1
**15	MSR-1021UK	BRKT MONITOR CAB LOCATING	2
**16	MSR-1032UK	POD SPEAKER	2
**17	MSR-1023UK	PANEL LOWER LH PERSPEX	1
**18	MSR-1024UK	PANEL LOWER RH PERSPEX	1
**20	MSR-1026UK	STICKER CTRL PANEL MARIO	1
**21	MSR-1027UK	STICKER CTRL PANEL SONIC	1
**22	MSR-1028UK	STICKER SIDE PANEL LH	1
**23	MSR-1029UK	STICKER SIDE PANEL RH	1
**24	CFB-4003-01UK	EARTH TERMINAL PLATE	1
**25	DUT-0302UK	PLATE COIN PATH	1
**26	MSR-1002-CUK	PANEL BASE CABINET OUTER	2
**27	MSR-1031UK	SPACER SPEAKER POD	2
**101	130-010-04020	SPKR 4OHM 20W FR10 HM4898	2
**103	PP1087	BOX CASH	1
**104	838-14551-02UK	BD AC DISTRIBUTION	1
**201	012-P00325	N4X1" S/TAP PAN PAS	4
**202	020-F00650-OB	M6X50 MSCR SKT CSK BLK	7
**203	012-P03512-F	N6X1/2" S/TAP FLG PAS	2
**204	029-B00412	M4X12 SKT BH PAS	28
**205	029-B00425	M4X25 SKT BH PAS	27
**206	029-B00625	M6X25 SKT BH PAS	22
**207	029-B00640	M6X40 SKT BH PAS	4
**208	050-F00400	M4 NUT FLG SER PAS	16
**209	060-S00400	M4 WSHR SPR PAS	55
**210	060-S00600	M6 WSHR SPR PAS	26
**211	068-441616	M4 WSHR 16OD FLT PAS	71
**212	068-652016	M6 WSHR 20OD FLT PAS	26

18

PARTS LIST

② ASSY CONTROLLER CABI (MSR-1000UK)

(D-3/3)

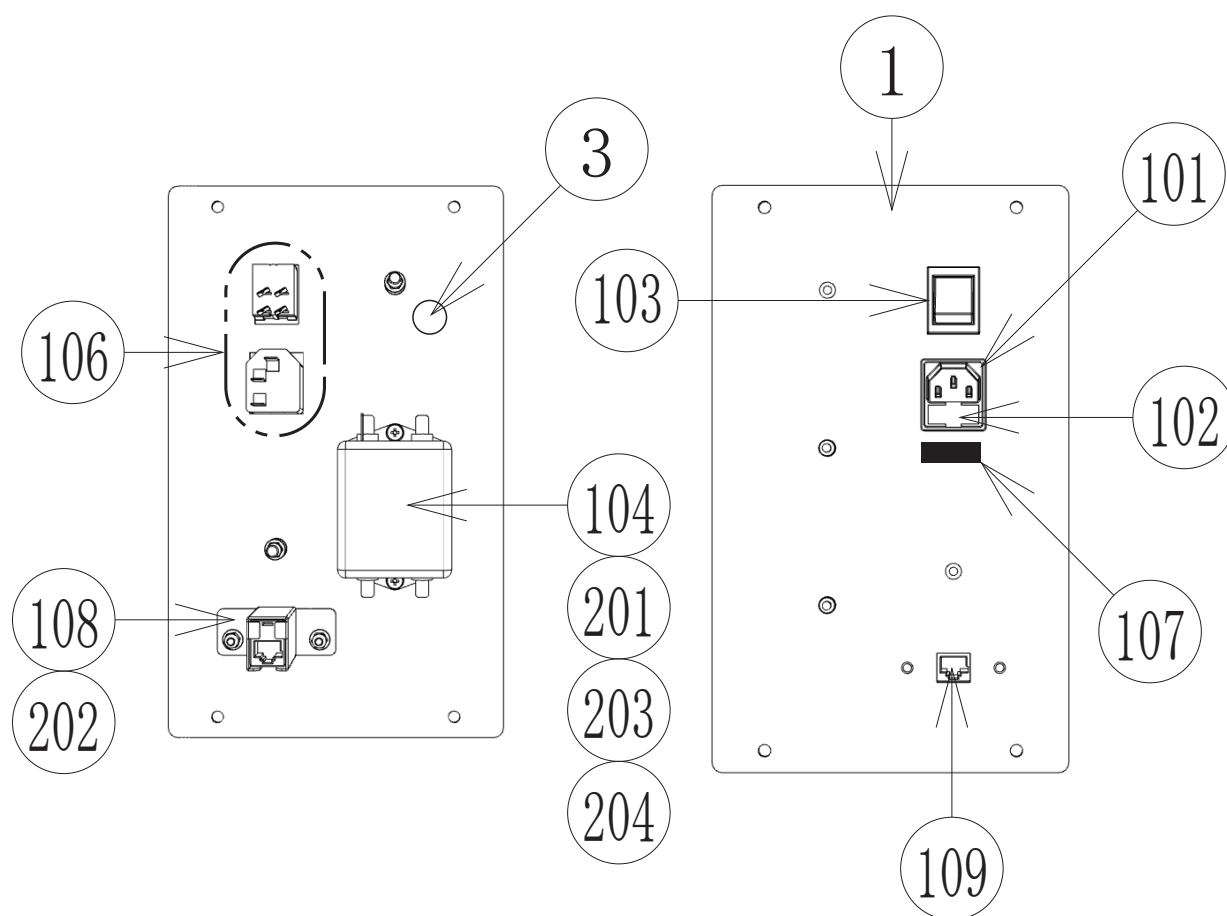
18

PARTS LIST

**301	MSR-60002UK	WH AC DIST	1
**302	MSR-60014UK	WH CTRL TO CAB	1
**303	MSR-60018UK	WH CAB TO FLOOR	1
**307	MSR-60024UK	WH DBA POWER	1
**309	MSR-60026UK	WH SPEAKERS B	1
**311	MSR-60028UK	WH CONTROLLER EXTN	2
**312	MSR-60029UK	WH CONTROLLER	1
**313	MSR-60030UK	WH LED PANELS	1
**315	600-7269-0500UK	CA LAN CAT5 500CM	2
**316	MSR-6001UK	ASSY LED WHITE 400MM	2
***1	390-2112-040WUK	LED RIGID WHITE 400MM	1
***2	BE-60028UK	WH RIGID LED	1

③ ASSY AC UNIT (MSR-1080UK)

(D-1/1)



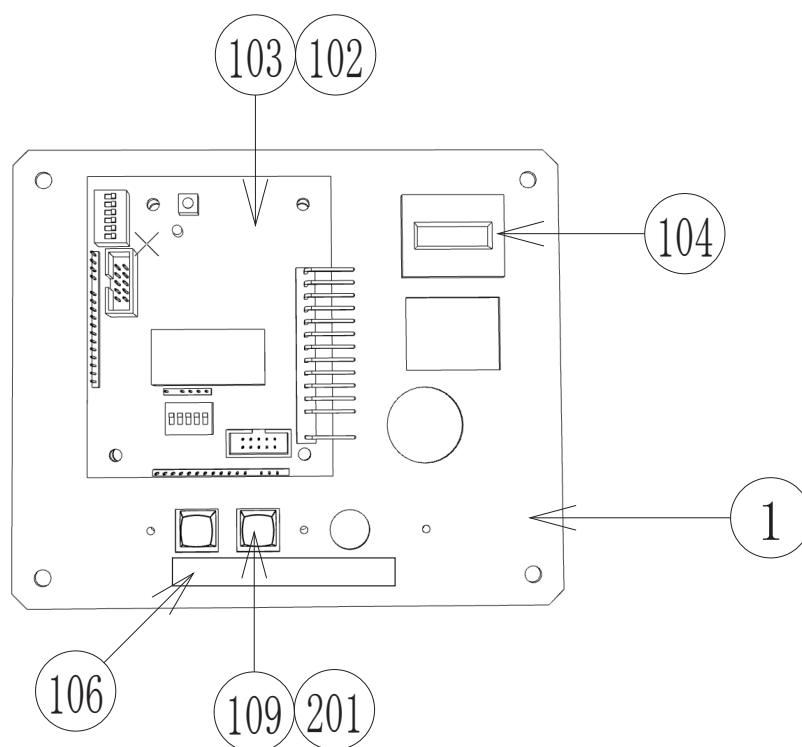
ITEM NO	PART NO	DESCRIPTION	QTY
**1	DV-1081UK	PLATE AC	1
**3	LB1096	STICKER PROTECTIVE EARTH	1
**101	EP1302	EUROSOCKET FUSED 10A 250VAC	1
**102	514-5078-5000	FUSE 5X20 CERAMIC SB 5000mA	2
**103	SW1109	SWITCH ROCKER 250V AC	1
**104	EP1419	FILTER SCHAFFNER 2030-16-06	1
**106	310-5029-D508	HEAT SHRINK SLEEVING 50.8DIA	4
**107	LB1126-5-250	FUSE LABEL 5A 250V	1
**108	TFF-0402UK	CONN COVER	1
**109	EP1391	COUPLER INLINE LAN RJ45	1
**201	029-B00412	M4X12 SKT BH PAS	2
**202	050-F00400	M4 NUT FLG SER PAS	4
**203	060-F00400	M4 WSHR FORM A FLT PAS	2
**204	060-S00400	M4 WSHR SPR PAS	2
**301	MSR-60001UK	WH AC IN	1
**302	600-9040-44K	WH EARTH 400MM M4M4	1

④ ASSY SW UNIT

(D-1/1)

18

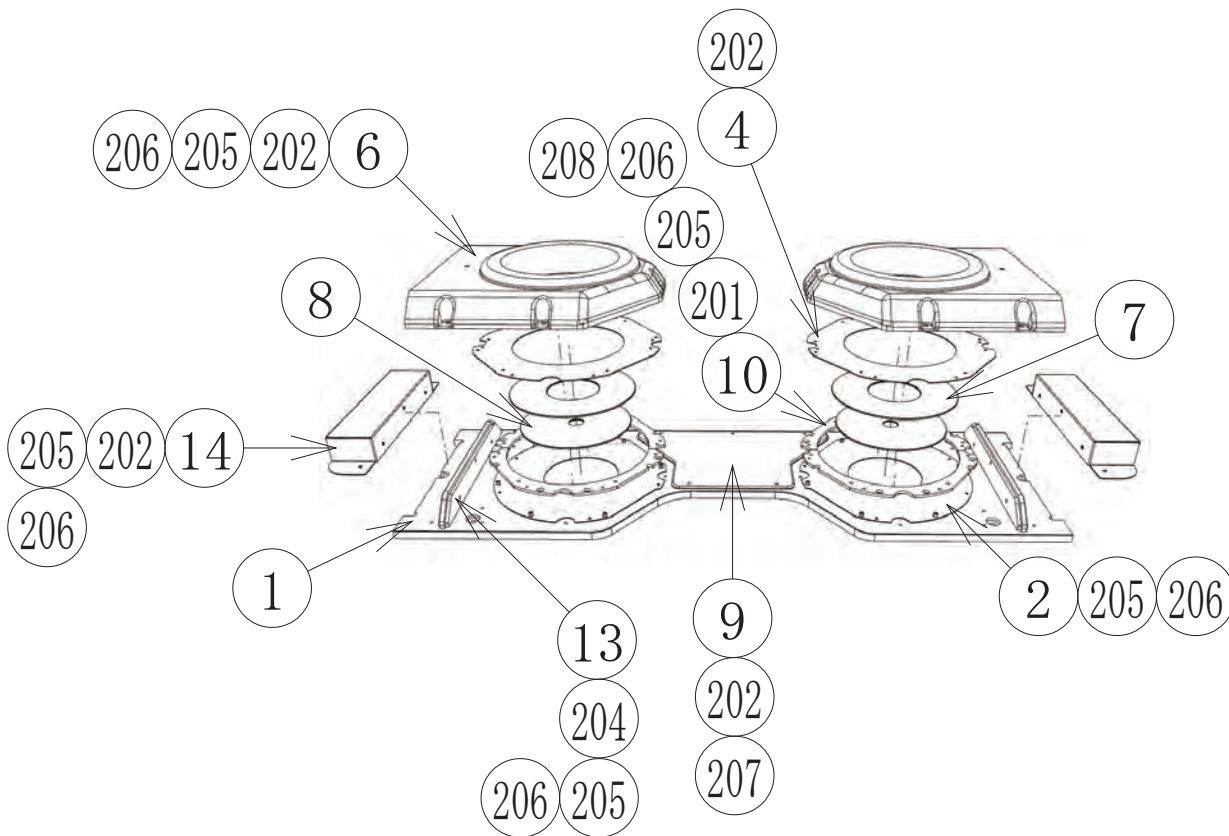
PARTS LIST



ITEM NO	PART NO	DESCRIPTION	QTY
**1	SSR-0321UK	SW BRKT DOUBLE METER	1
**102	280-L00706-PM	STANDOFF 6.4MM HOLE PM	4
**103	EP1380-01	CREDIT BOARD EXCEL	1
**104	220-5643UK	COIN METER SMALL 12V	1
**105	OS1247	ALUMINIUM STICKY CLIP ASK-3	1
**106	421-12043-01	STICKER SW PANEL CE	1
**107	OS1098	CRIMP BELL END SMALL	4
**108	601-0460	CABLE TIE NYLON 100MM	2
**109	838-14548-01AUK	SW & VOL CTL BD	1
**110	838-8001UK	AMP 2.2 VISATON	1
**201	000-P00308-W	M3X8 MSCR PAN W/FS PAS	3
**202	012-P03512	N6X1/2" S/TAP FLG PAS	2
**301	MSR-60023UK	WH COIN HANDLING	1
**302	MSR-60025UK	WH SPEAKERS A	1

⑤ ASSY CTRL PANEL (MSR-2100UK)

(D-1/1)



18

PARTS LIST

ITEM NO PART NO

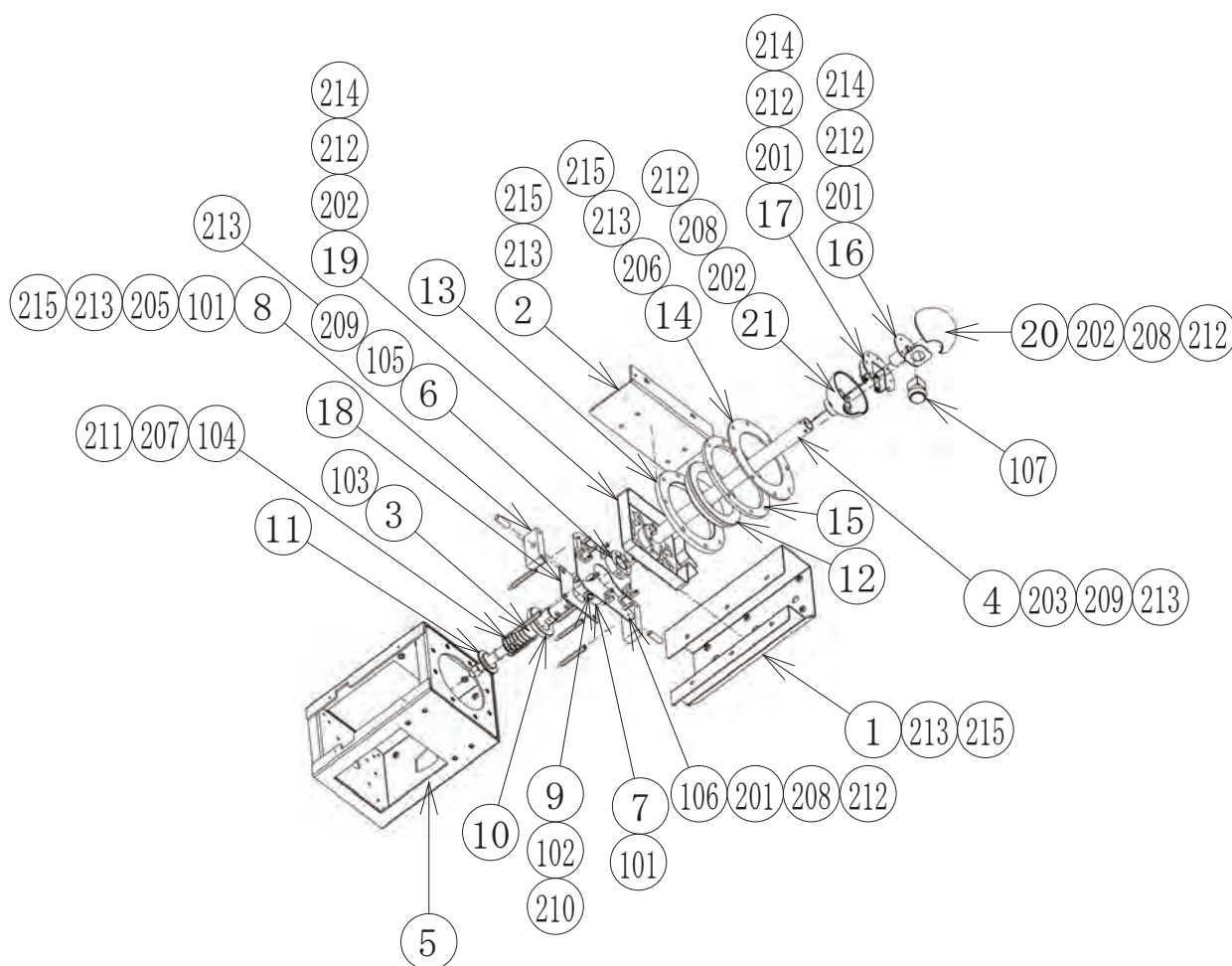
**1	MSR-2101UK	BOARD CTRL PANEL	1
**2	MSR-2102UK	BASE LEVER PLATE	2
**4	MSR-2104UK	PLATE UPPER LEVER	2
**6	MSR-2002	COVER LEVER	2
**7	MSR-2107UK	DISC LEVER UPPER	2
**8	MSR-2108UK	DISC LEVER LOWER	2
**9	MSR-2109UK	COVER CTRL PANEL	1
**10	MSR-2111UK	SPACER UPPER LEVER PLATE	4
**11	MSR-2112UK	STICKER LEVER COVER LH	1
**12	MSR-2113UK	STICKER LEVER COVER RH	1
**13	MSR-2114UK	PANEL LEVER COVER END	2
**14	MSR-2115UK	CAP LEVER COVER END	2
**201	000-F00410	M4X10 MSCR CSK PAS	16
**202	029-B00412	M4X12 SKT BH PAS	31
**203	029-B00416	M4X16 SKT BH PAS	10
**204	029-B00425	M4X25 SKT BH PAS	6
**205	060-S00400	M4 WSHR SPR PAS	46
**206	068-441616	M4 WSHR 16OD FLT PAS	46
**207	280-6686-01UK	4.5X16X4 SP WSHR	5
**208	050-U00400	M4 NYLOC NUT	4

⑥ ASSY LEVER R

(D-1/2)

18

PARTS LIST



ITEM NO	PART NO	DESCRIPTION	QTY
**1	MSR-2201UK	BRKT LEVER RH	1
**2	MSR-2202UK	BRKT LEVER RH SIDE	1
**3	MSR-2219UK	SHAFT LEVER MAIN	1
**4	MSR-2220UK	PIPE LEVER	1
**5	MSR-2205UK	CRADLE LEVER ASSY	1
**6	MSR-2206UK	COLLAR DOG	1
**7	MSR-2207UK	BLOCK SHAFT PIVOT	1
**8	MSR-2208UK	BLOCK SHAFT SIDE	2
**9	MSR-2209UK	PIN SHAFT PIVOT	1
**10	MSR-2210UK	RETAINER UPPER SPRING	1
**11	MSR-2211UK	RETAINER LOWER SPRING	1
**12	MSR-2212UK	BUSH LEVER	1
**13	MSR-2213UK	RING LEVER LOWER	1
**14	MSR-2214UK	RING LEVER UPPER	1
**15	MSR-2215UK	RING LEVER MID	1
**16	MSR-2216UK	BRKT LEVER TOP	1
**17	MSR-2217UK	BRKT LEVER GRIP MOUNT	1
**18	MSR-2218UK	PLATE LEVER CRADLE BASE	1
**19	MSR-2110	SENSOR DOG	1

⑥ ASSY LEVER R

(D-2/2)

**20	MSR-2203	LEVER GRIP UPPER	1
**21	MSR-2204	LEVER GRIP LOWER	1
**101	100-0001UK	FLANGED BEARING IGUS JFM-1012-09	6
**102	065-C01000	EXTERNAL CIRCLIP 10MM	2
**103	065-C02500	EXTERNAL CIRCLIP 25MM	1
**104	125-0005UK	SPRING COMP MSR LEVER	1
**105	073-251178-CR	O RING 25 ID 1.78 WIDE NEO ref: ISO-3601-022	1
**106	838-15378	LEVER SENSOR BD 8WAY MSR SA	1
**107	509-6446	SW SS-25M-B-LEDT5-W-12V	1
**108	280-0010UK	M4 x 50 SPACER HEX 7 AF 50L PAS - 304450041152	5
**201	029-B00412	M4X12 SKT BH PAS	13
**202	029-B00416	M4X16 SKT BH PAS	12
**203	029-B00612	M6X12 SKT BH PAS	4
**204	029-B00616	M6X16 SKT BH PAS	11
**205	029-B00625	M6X25 SKT BH PAS	4
**206	029-B00640	M6X40 SKT BH PAS	8
**207	050-U01200	M12 NYLOC NUT	1
**208	060-F00400	M4 WSHR FORM A FLT PAS	13
**209	060-F00600	M6 WSHR FORM A FLT PAS	5
**210	060-F01000-0B	M10 WSHR FORM A FLT BLK	2
**211	060-F01200	M12 WSHR FORM A FLT PAS	1
**212	060-S00400	M4 WSHR SPR PAS	25
**213	060-S00600	M6 WSHR SPR PAS	27
**214	068-441616	M4 WSHR 16OD FLT PAS	12
**215	068-652016	M6 WSHR 20OD FLT PAS	22
***301	MSR-60035UK	WH CONTROLLER BTN	1

18

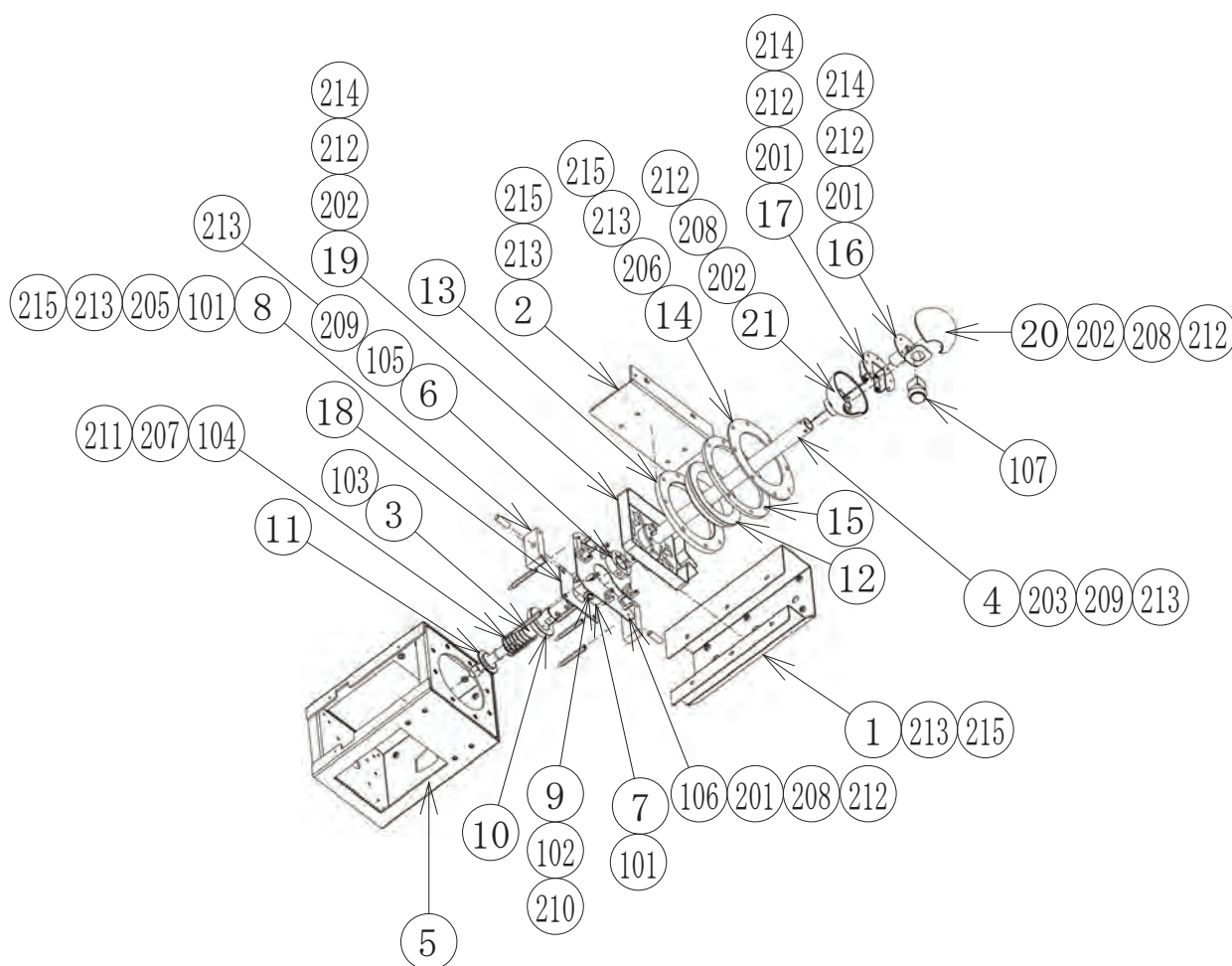
PARTS LIST

7 ASSY LEVER L

(D-1/2)

18

PARTS LIST



ITEM NO	PART NO	DESCRIPTION	QTY
**1	MSR-2251UK	BRKT LEVER LH	1
**2	MSR-2252UK	BRKT LEVER LH SIDE	1
**3	MSR-2219UK	SHAFT LEVER MAIN	1
**4	MSR-2220UK	PIPE LEVER	1
**5	MSR-2205UK	CRADLE LEVER ASSY	1
**6	MSR-2206UK	COLLAR DOG	1
**7	MSR-2207UK	BLOCK SHAFT PIVOT	1
**8	MSR-2208UK	BLOCK SHAFT SIDE	2
**9	MSR-2209UK	PIN SHAFT PIVOT	1
**10	MSR-2210UK	RETAINER UPPER SPRING	1
**11	MSR-2211UK	RETAINER LOWER SPRING	1
**12	MSR-2212UK	BUSH LEVER	1
**13	MSR-2213UK	RING LEVER LOWER	1
**14	MSR-2214UK	RING LEVER UPPER	1
**15	MSR-2215UK	RING LEVER MID	1
**16	MSR-2216UK	BRKT LEVER TOP	1
**17	MSR-2217UK	BRKT LEVER GRIP MOUNT	1
**18	MSR-2218UK	PLATE LEVER CRADLE BASE	1
**19	MSR-2110	SENSOR DOG	1

7 ASSY LEVER L**(D-2/2)**

**20	MSR-2203	LEVER GRIP UPPER	1
**21	MSR-2204	LEVER GRIP LOWER	1
**101	100-0001UK	FLANGED BEARING IGUS JFM-1012-09	6
**102	065-C01000	EXTERNAL CIRCLIP 10MM	2
**103	065-C02500	EXTERNAL CIRCLIP 25MM	1
**104	125-0005UK	SPRING COMP MSR LEVER	1
**105	073-251178-CR	O RING 25 ID 1.78 WIDE NEO ref: ISO-3601-022	1
**106	838-15378	LEVER SENSOR BD 8WAY MSR SA	1
**107	509-6446	SW SS-25M-B-LEDT5-W-12V	1
**108	280-0010UK	M4 x 50 SPACER HEX 7 AF 50L PAS - 304450041152	5
**201	029-B00412	M4X12 SKT BH PAS	13
**202	029-B00416	M4X16 SKT BH PAS	12
**203	029-B00612	M6X12 SKT BH PAS	4
**204	029-B00616	M6X16 SKT BH PAS	11
**205	029-B00625	M6X25 SKT BH PAS	4
**206	029-B00640	M6X40 SKT BH PAS	8
**207	050-U01200	M12 NYLOC NUT	1
**208	060-F00400	M4 WSHR FORM A FLT PAS	13
**209	060-F00600	M6 WSHR FORM A FLT PAS	5
**210	060-F01000-0B	M10 WSHR FORM A FLT BLK	2
**211	060-F01200	M12 WSHR FORM A FLT PAS	1
**212	060-S00400	M4 WSHR SPR PAS	25
**213	060-S00600	M6 WSHR SPR PAS	27
**214	068-441616	M4 WSHR 16OD FLT PAS	12
**215	068-652016	M6 WSHR 20OD FLT PAS	22
***301	MSR-60035UK	WH CONTROLLER BTN	1

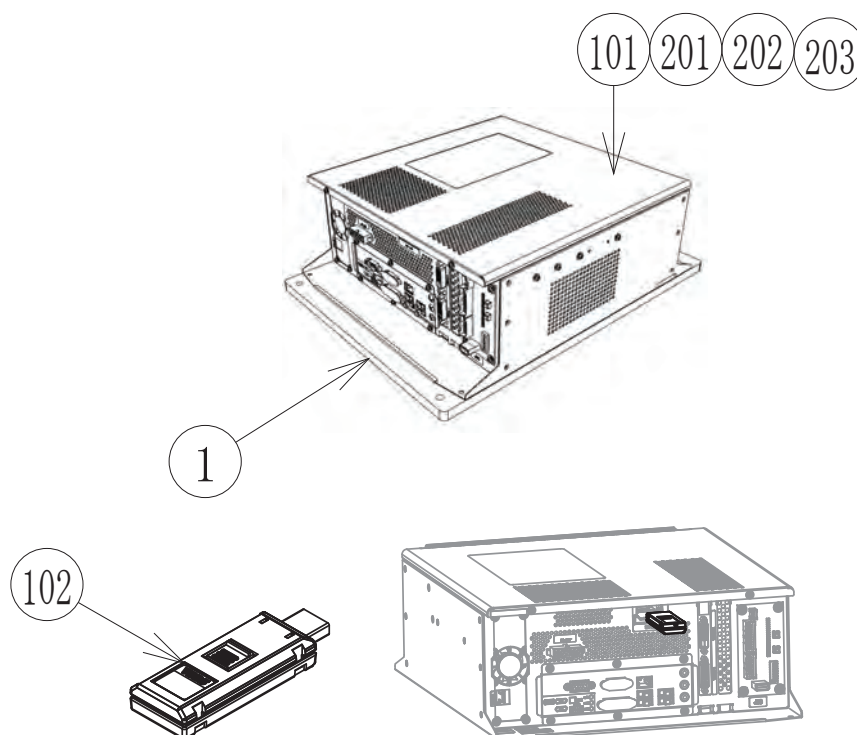
18**PARTS LIST**

⑧ ASSY GAME BD (MSR-4000UK)

(D-1/1)

18

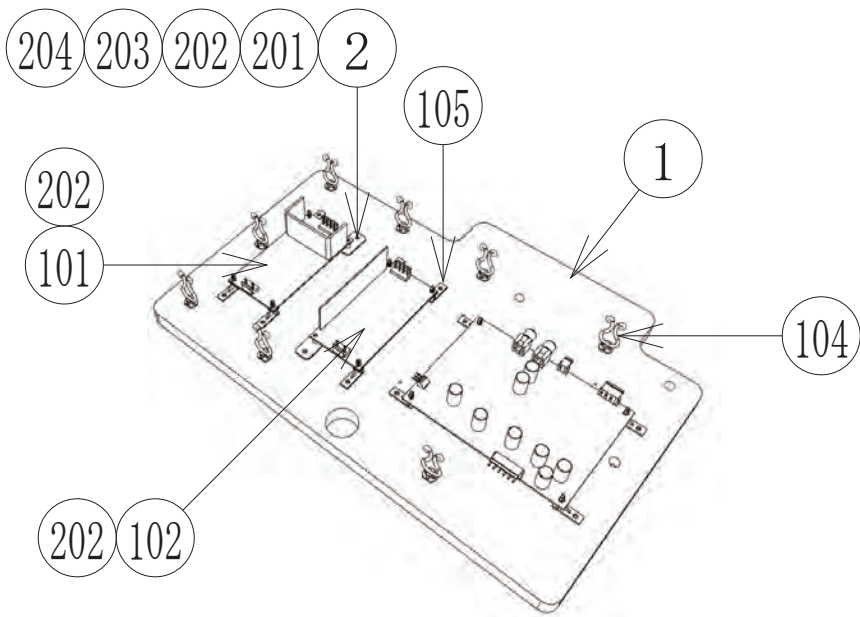
PARTS LIST



ITEM NO	PART NO	DESCRIPTION	QTY
**1	MSR-4001UK	BOARD GAMEBOARD MOUNT	1
**101	848-0002D-02	ASSY CASE NU W HDD 750 TI EXP	1
**102	610-0892-007BJ	KEY CHIP NU1.1 MSR	1
**201	029-B00416	M4X16 SKT BH PAS	4
**202	060-S00400	M4 WSHR SPR PAS	4
**203	068-441616	M4 WSHR 16OD FLT PAS	4
**301	MSR-60003UK	WH AC GAMEBOARD	1
**302	MSR-60007UK	WH GAMEBOARD DC OUT	1
**303	MSR-60012UK	WH LED SIGNAL OUT	1
**304	600-7011-0300UK	CABLE DVI TO DVI 300CM	1
**305	600-7141-100UK	CABLE JVS TYPE A-B 100CM	1
**307	600-7155-0180UK	WH JACK 3.5 TO JACK	1
***215	068-551616-0B	M5 WSHR 16OD FLT BLK	18
***216	060-S00300	M3 WSHR SPR PAS	8
***217	060-F00300	M3 WSHR FORM A FLT PAS	8

⑨ ASSY ELEC POWER (MSR-4100UK)

(D-1/1)



18

PARTS LIST

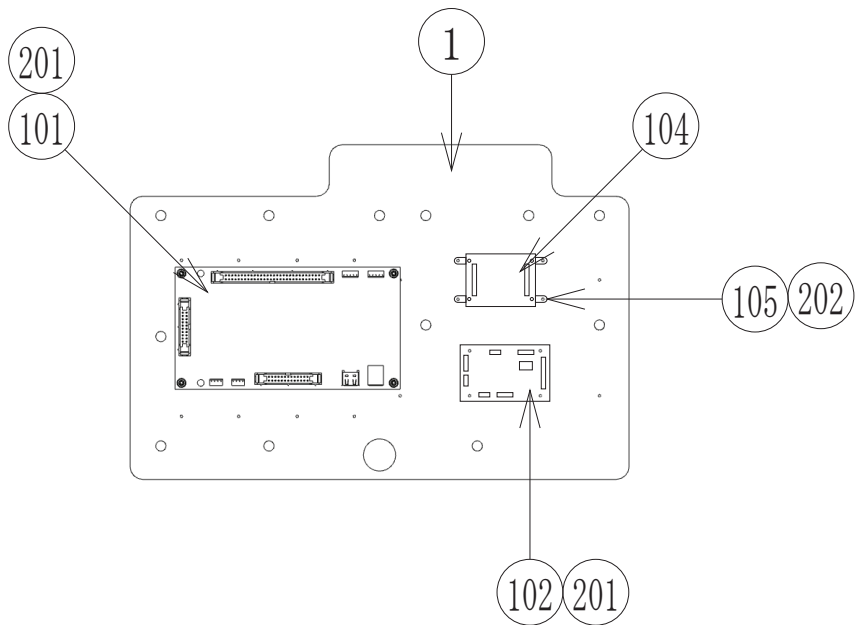
ITEM NO	PART NO	DESCRIPTION	QTY
**1	MSR-4101UK	BOARD ELEC	1
**2	DSD-4002UK	PLATE PSU POST	2
**101	400-065-005	PSU 5VDC 65W MW EPS-65-5	1
**102	400-150-012-03	PSU 12VDC 150W MW EPP-150-12	1
**104	280-A012640-WX	ROUTER TWIST D12 SO6.4 WOOD X	8
**105	OS1011	PCB FEET RICHCO LCBS L-5-01	6
**201	008-B00416	M4X16 TMP BH PAS	4
**202	012-P00308	N4X5/16" S/TAP PAN PAS	8
**203	060-S00400	M4 WSHR SPR PAS	4
**204	068-441616	M4 WSHR 16OD FLT PAS	4
**301	MSR-60004UK	WH AC ELEC POWER	1
**302	MSR-60005UK	WH DC OUT	1

10 ASSY ELEC CONTROL

(D-1/1)

18

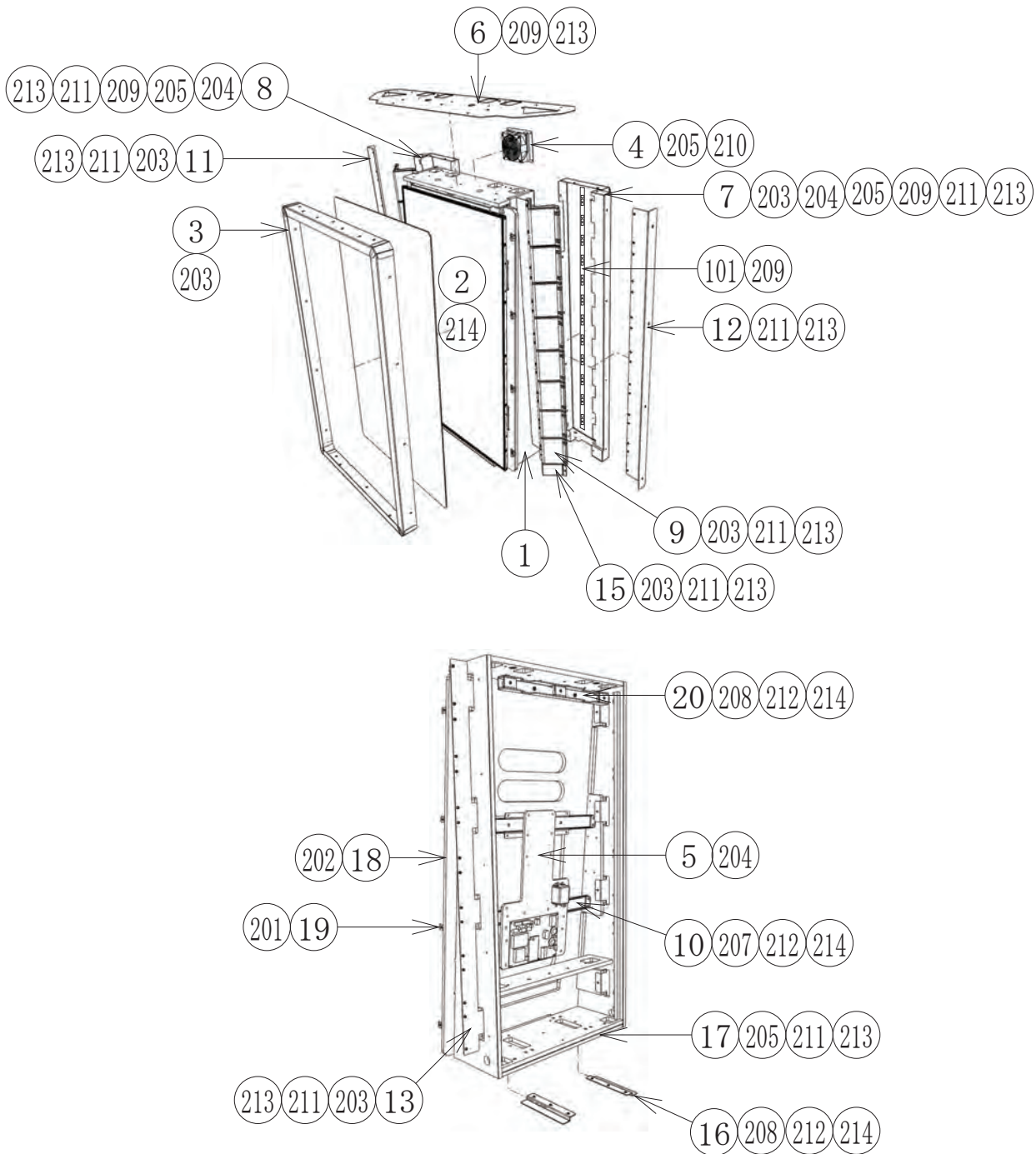
PARTS LIST



ITEM NO	PART NO	DESCRIPTION	QTY
**1	MSR-4101UK	BOARD ELEC	1
**101	837-14572-P2	I/O CONTROL BD 3 FOR JVS COM	1
**102	837-15093-04	IC I/O 7CH CONT RS232 5V	1
**103	280-A012640-WX	ROUTER TWIST D12 SO6.4 WOOD X	8
**104	838-15372	SHOCK SENSOR EXT BD	1
**105	OS1011	PCB FEET RICHCO LCBS L-5-01	4
**201	012-P00325	N4X1" S/TAP PAN PAS	8
**202	012-P00308	N4X5/16" S/TAP PAN PAS	4
**301	MSR-60008UK	WH GAMEBOARD DC DIST	1
**302	MSR-60009UK	WH I/O	1
**304	MSR-60013UK	WHLED SIGNAL IN	1
			8

11 ASSY MONITOR CABI (MSR-1500UK)

(D-1/2)



18

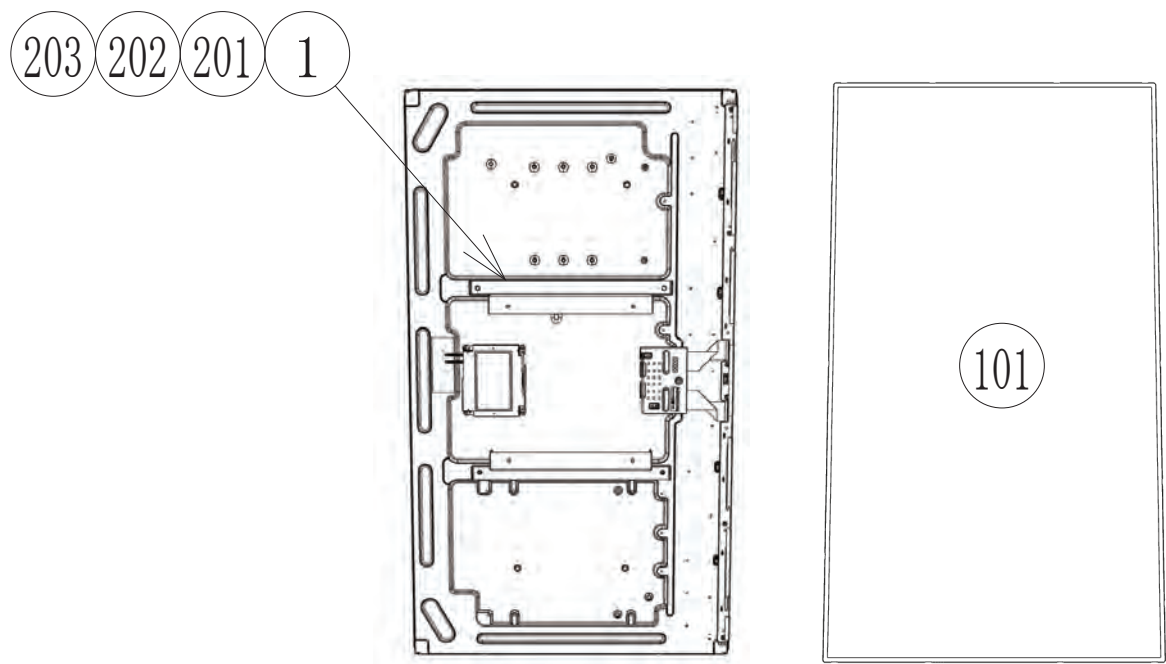
PARTS LIST

⑪ ASSY MONITOR CABI (MSR-1500UK)**(D-2/2)****18****PARTS LIST**

ITEM NO	PART NO	DESCRIPTION	QTY
**1	MSR-1501UK	ASSY UPPER CABINET	1
**2	MSR-1600UK	ASSY 55" LED	1
**3	MSR-1650UK	ASY MONITOR MASK	1
**4	SND-1340UK	ASSY FAN	1
**5	MSR-4500UK	ASSY LED MONITOR ELEC	1
**6	MSR-1503UK	PLATE BILLBOARD	1
**7	MSR-1504UK	PANEL SIDE LED LOWER RH	1
**8	MSR-1505UK	PANEL SIDE LED LOWER LH	1
**9	MSR-0506	COVER LED	16
**10	MSR-1514UK	BRKT MON SUPP CROSS BEAM	2
**11	MSR-1515UK	BRKT LOWER LED COVER OUTER LH	1
**12	MSR-1516UK	BRKT LOWER LED COVER OUTER RH	1
**13	MSR-1517UK	BRKT LOWER LED COVER INNER	2
**14			
**15	MSR-1521UK	BRKT LED BASE	2
**16	MSR-1522UK	BRKT MONITOR CAB GUIDE	2
**17	MSR-1523UK	BRKT MONITOR CAB REAR	1
**18	MSR-1524UK	PANEL 55 MONITOR BACK	1
**19	SND-1204UK	BRKT MON MASK SUPP	8
**20	MSR-1525UK	BRACE RETAINING	1
**21	MSR-1526UK	BRKT TOP PANEL SUPPORT	1
**101	390-7185	LED BAR RGB 27PCS 40P W12MM 5V	2
**201	012-P03512-F	N6X1/2" S/TAP FLG PAS	8
**202	012-P03532	N6X1 1/4" S/TAP CSK PAS	4
**203	029-B00412	M4X12 SKT BH PAS	96
**204	029-B00416	M4X16 SKT BH PAS	18
**205	029-B00425	M4X25 SKT BH PAS	13
**206	029-B00612	M6X12 SKT BH PAS	4
**207	029-B00616	M6X16 SKT BH PAS	8
**208	029-B00625	M6X25 SKT BH PAS	9
**209	050-F00400	M4 NUT FLG SER PAS	17
**210	050-U00600	M6 NYLOC NUT	4
**211	060-S00400	M4 WSHR SPR PAS	103
**212	060-S00600	M6 WSHR SPR PAS	21
**213	068-441616	M4 WSHR 16OD FLT PAS	108
**214	068-652016	M6 WSHR 20OD FLT PAS	25
**302	MSR-60015UK	WH CAB LED TO BILLBOARD	1

⑫ ASSY 55" LED (MSR-1600UK)

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PARTS LIST

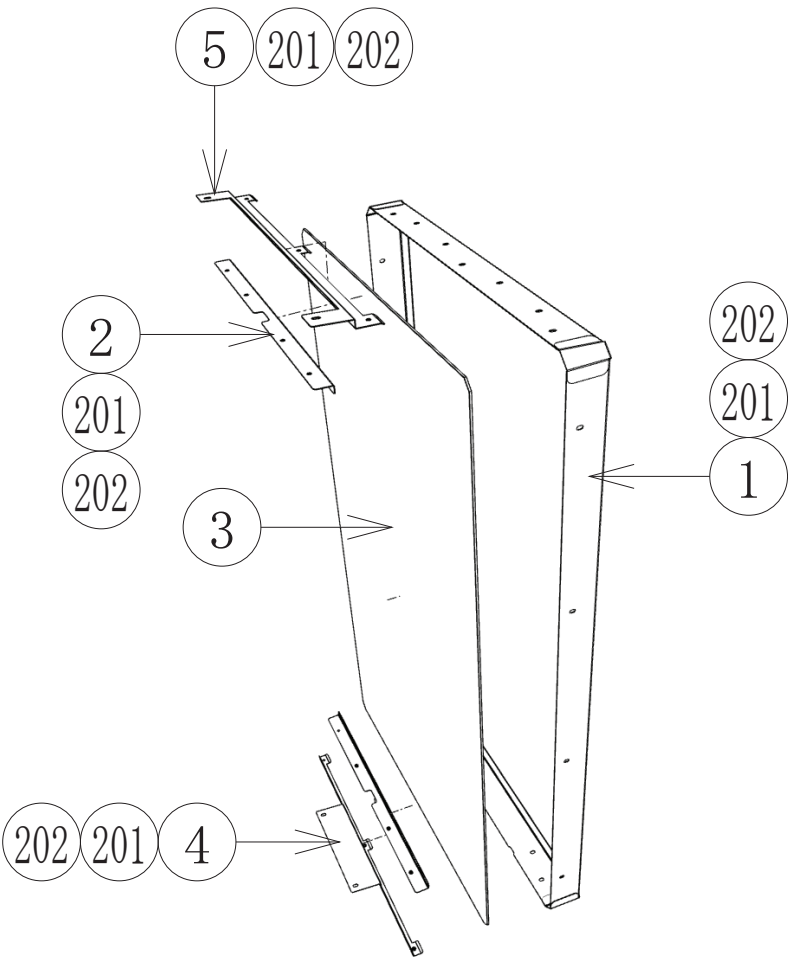
ITEM NO	PART NO	DESCRIPTION	QTY
**1	SND-1202UK	BRKT MONITOR MTG	2
**101	200-6055-02-AUO	55" LED AUO P550HVN02.2	1
**201	029-B00812	M8X12 SKT BH PAS	4
**202	060-S00800	M8 WSHR SPR PAS	4
**203	068-852216	M8 WSHR 22OD FLT PAS	4
**301	MSR-60011UK	WH AC MONITOR	1

13 ASSY MONITOR MASK (MSR-1650UK)

(D-1/1)

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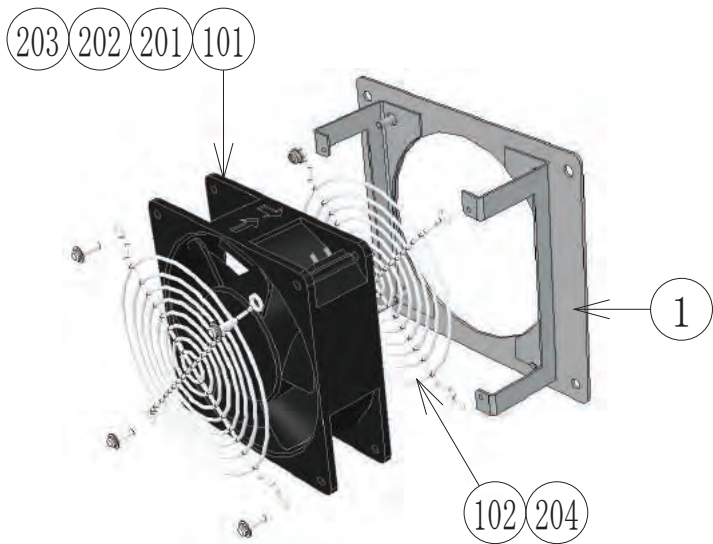
PARTS LIST



ITEM NO	PART NO	DESCRIPTION	QTY
**1	RND-0198	SND MASK MON 55 METAL	1
**2	SND-1253UK	BRKT GLASS RETAIN HORIZ 55	2
**3	SND-1255UK	GLASS MONITOR 55	1
**4	MSR-1652UK	BRKT MONITOR MASK LOWER	1
**5	MSR-1653UK	BRKT MONITOR MASK UPPER	1
**201	029-B00412	M4X12 SKT BH PAS	22
**202	068-441616	M4 WSHR 16OD FLT PAS	22

14 ASSY FAN (SND-1340UK)

(D-1/1)



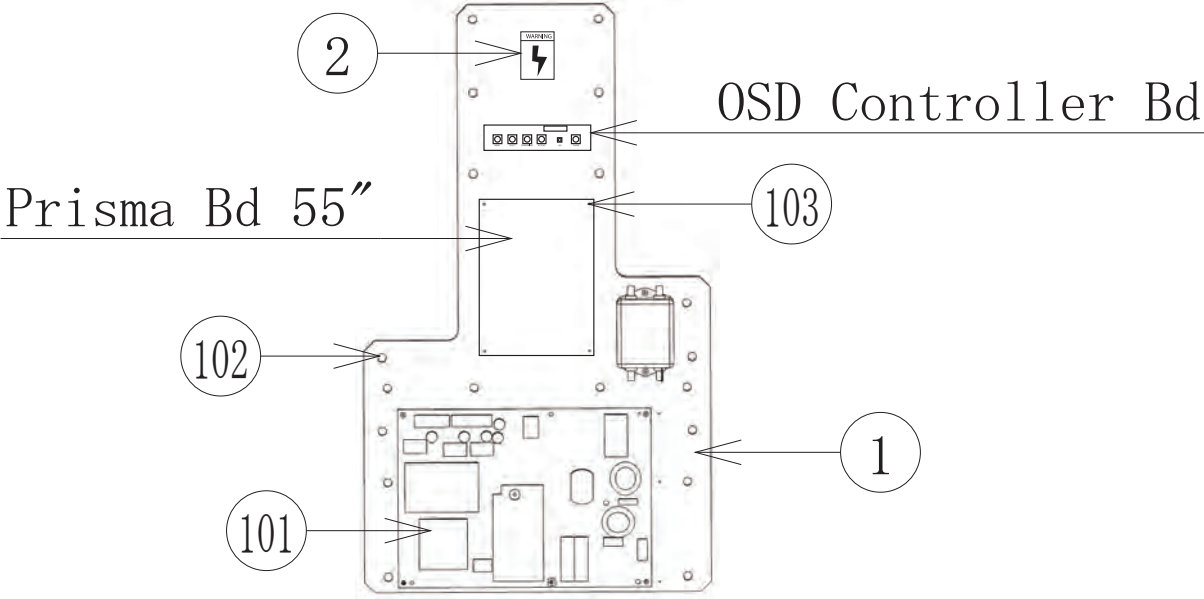
ITEM NO	PART NUMBER	DESCRIPTION	QTY
***1	SND-1341UK	BRKT FAN MTG	1
***101	260-0012-01UK	FAN DC 12V AXIAL	1
***102	FN1012	FAN GUARD METAL 120MM (FG-12)	2
***201	020-B00316-0B	M3X16 SKT BH BLK	4
***202	060-S00300-0B	M3 WSHR SPR BLK	4
***203	060-F00300-0B	M3 WSHR FORM A FLT BLK	4
***204	050-U00400	M4 NUT NYLOK PAS	4
***301	DB-60030UK	WH LED WHT	1

15 ASSY LED MONITOR BD (MSR-4500UK)

(D-1/1)

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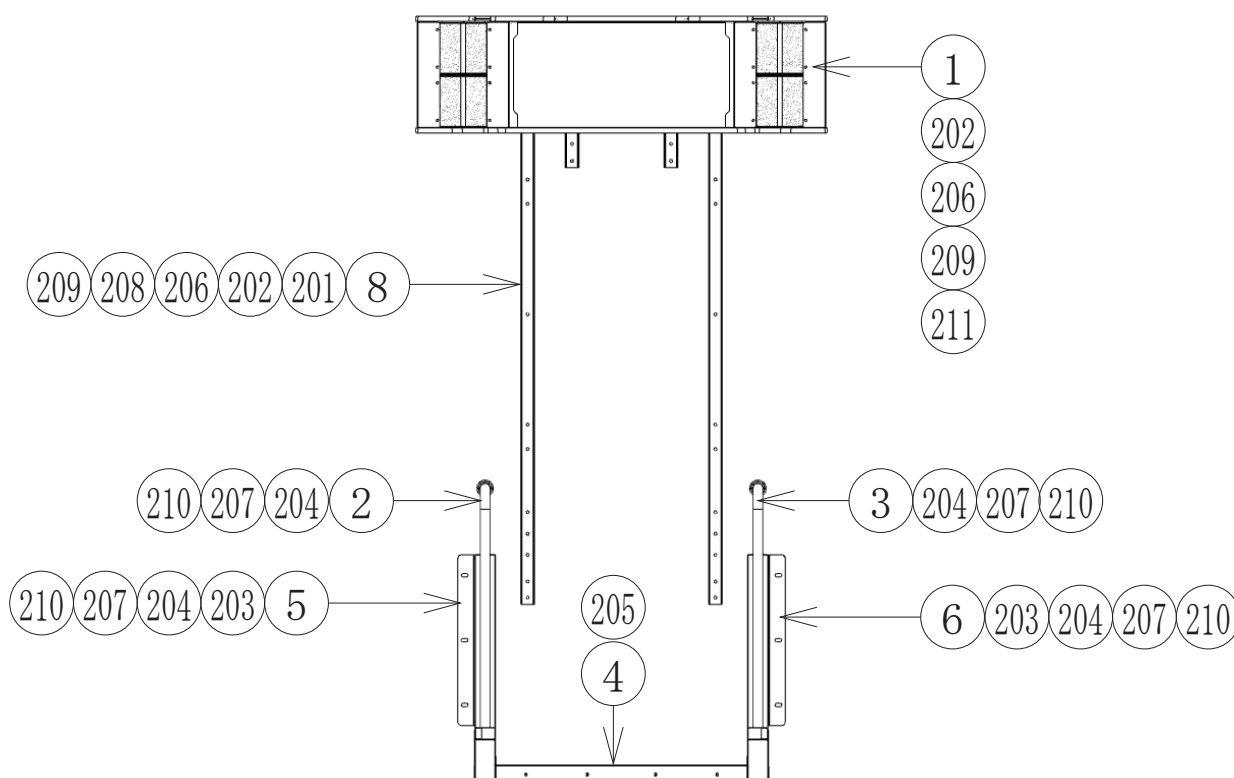
PARTS LIST



ITEM NO	PART NO	DESCRIPTION	QTY
***1	SND-4101UK	PANEL PRISMA BD DMODUL MOUNT	1
***2	440-DS0010UK	LABEL DANGER HI VOLT GEN	1
***101	400-160-51224	PSU 42" LED DPS-160AP-2A-PD02	1
***102	280-A01264-WX	ROUTER TWIST D12 SO6.4 WOOD X	12
***103	280-L00709-OS	STANDOFF 70D 4ID 9L	10
***201	012-P00325	N4X1" S/TAP PAN PAS	10

16 ASSY INSTALLATION KIT (MSR-INST-STD)

(D-1/1)



ITEM NO	PART NO	DESCRIPTION	QTY
**1	MSR-2000UK	ASSY BILLBOARD	1
**2	MSR-3000UK	ASSY LH PIPE FRAME	1
**3	MSR-3010UK	ASSY RH PIPE FRAME	1
**4	MSR-3050UK	ASSY FLOOR	1
**5	MSR-0001UK	BRKT PIPE FRAME RH JOINT	1
**6	MSR-0002UK	BRKT PIPE FRAME LH JOINT	1
**7			
**8	MSR-0003UK	BRACE VERTICAL CABI	2
**101	LM1227	UK MAINS LEAD 10A WITH PLUG	1
**102	LM1246	EUROLEAD 10A EUROPEAN SOCKET	1
**201	029-B00412	M4X12 SKT BH PAS	8
**202	029-B00640	M6X40 SKT BH PAS	19
**203	029-B00816	M8X16 SKT BH PAS	6
**204	029-B00830	M8X30 SKT BH PAS	16
**205	060-S00400	M4 WSHR SPR PAS	8
**206	060-S00600	M6 WSHR SPR PAS	19
**207	060-S00800	M8 WSHR SPR PAS	22
**208	068-441616	M4 WSHR 16OD FLT PAS	8
**209	068-652016	M6 WSHR 20OD FLT PAS	19
**210	068-852216	M8 WSHR 22OD FLT PAS	22
**211	029-B00616	M6X16 SKT BH PAS	2
**401	OS1019	SELF SEAL BAG 9X12.3/4	1

19 PARTS & SERVICE CONTACT INFORMATION

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PARTS & SERVICE CONTACT INFORMATION

- SEGA TOTAL SOLUTIONS -

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

Parts/Customer Service : +44 (0) 208 391 8060

Technical Support : +44 (0) 208 391 8072



- PLAY IT AMUSEMENTS -

252 Beinoris Drive,
Wood Dale,
IL,
60191,
United States of America

Parts/Customer Service : +01 (874) 364 9787

Technical Support : +01 (874) 364 7775



20 WIRE COLOUR CODE TABLE

WARNING

The DC power wire color for this product is different from previous SEGA titles. Working from the previous wire colors will create a high risk of fire.

The color codes for the wires used in the diagrams in the following chapter are as follows.

A	PINK
B	SKY BLUE
C	BROWN
D	PURPLE
E	LIGHT GREEN

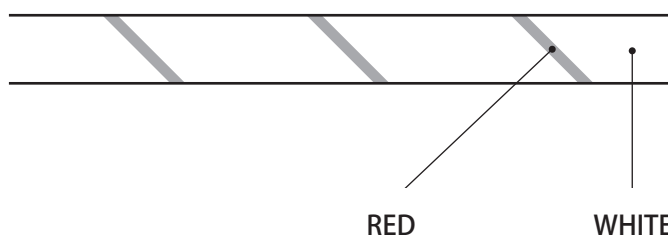
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

1	RED
2	BLUE
3	YELLOW
4	GREEN
5	WHITE
7	ORANGE
8	BLACK
9	GRAY

If the right-hand side numeral of the code is 0, then the wire will be of a single color shown by the left-hand side numeral (see the above).

Note 1: If the right-hand side numeral is not 0, that particular wire has a spiral color code. The left-hand side character shows the base color and the right-hand side one, the spiral color.

<Example> 51.....WHITE/RED

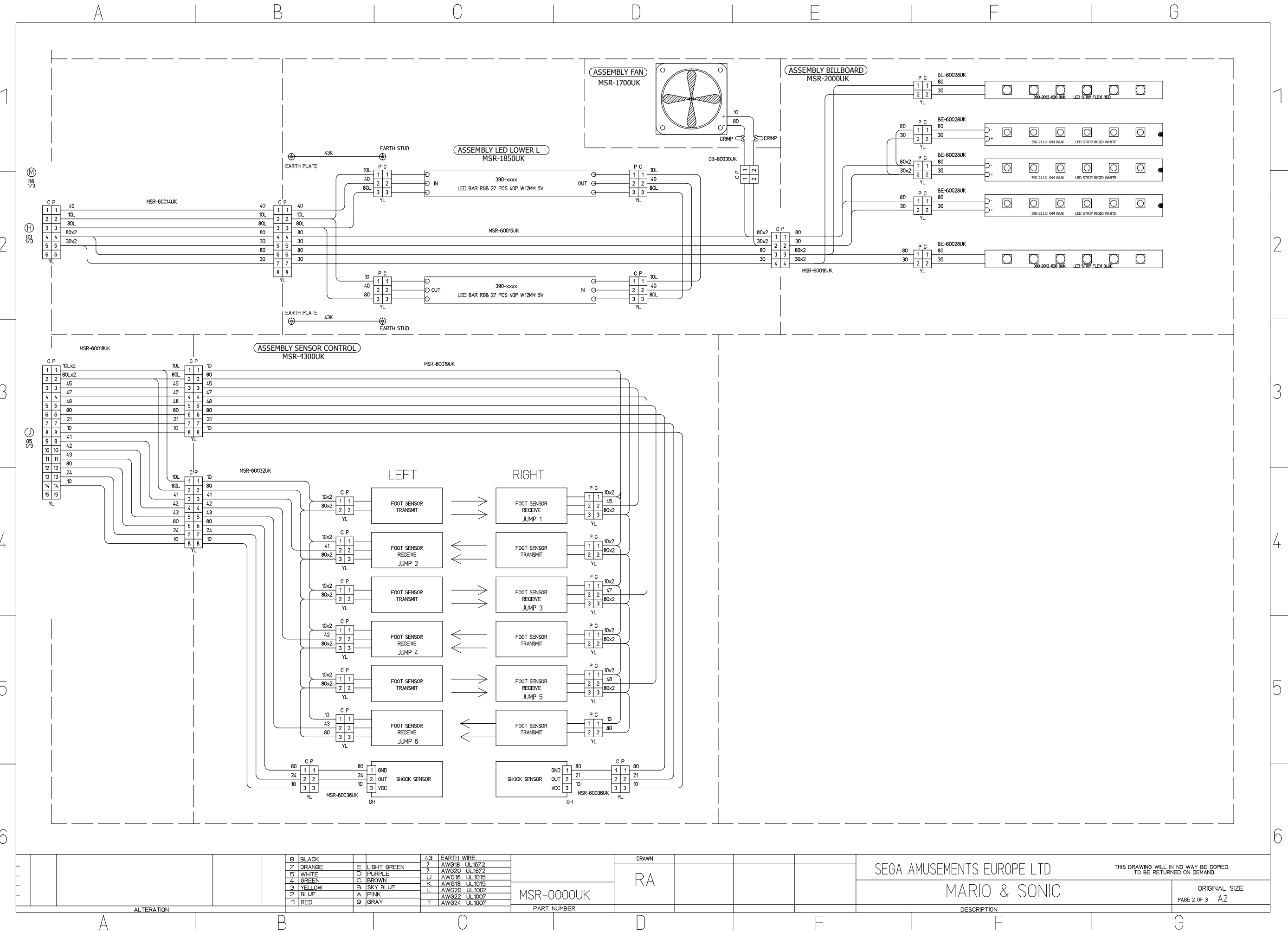


Note 2: The character following the wire color code indicates the size of the wire.

U :	AWG16
K :	AWG18
L :	AWG20
None :	AWG22



(D-2/3)



(D-3/3)

