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SEGA



U/R Type

Owner's Manual



SEGA ENTERPRISES, INC. USA

MANUAL NO. 420-6602-01

Warranty

Your new Sega Product is covered for a period of 90 days from the date of shipment. This certifies that the Printed Circuit Boards, Power Supplies and Monitor are to be free of defects in workmanship or materials under normal operating conditions. This also certifies that all Interactive Control Assemblies are to be free from defects in workmanship and materials under normal operating conditions. No other product in this machine is hereby covered.

Sellers sole liability in the event a warranted part described above fails shall be, at its option, to replace or repair the defective part during the warranty period. For Warranty claims, contact your Sega Distributor.

Should the Seller determine, by inspection that the product was caused by Accident, Misuse, Neglect, Alteration, Improper Repair, Installation or Testing, the warranty offered will be null and void.

Under no circumstances is the Seller responsible for any loss of profits, loss of use, or other damages.

This shall be the exclusive written Warranty of the original purchaser expressed in lieu of all other warranties expressed or implied. Under no circumstance shall it extend beyond the period of time listed above.

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

To maintain the safety:

To ensure the safe usage of the product, be sure to read the following before using the product. 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 nearby the product or elsewhere convenient for referring to it when necessary.

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



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 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 serviceman should perform such work.

○ Be sure to turn off power before working on the machine.

To prevent electric shock, be sure to turn off power before starting the work in which the worker touches 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, however, 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 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 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 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 situation 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 the product w/monitor.)**
Some of the monitor (TV) parts are subject to high tension voltage. Even after running off 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 (projector) properly. (Applies only to the product w/monitor.)**
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 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 direction, connector connections can not be made accurately. Do not insert connectors forcibly.
- ☐ Do power cords have cuts and dents?
- ☐ Do the fuses used meet specified rating? Is the Circuit Protector in an energized status?
- ☐ Are all accessories available?
- ☐ Can all Doors and Lids be opened with the Accessory keys? Can Doors and Lids be firmly closed?

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

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SPECIFICATIONS

Installation space	: 800 mm (W) X 997 mm (D) (31.5 in. X 39.3 in.)
Height	: 2,044 mm (80.5 in.)
Weight	: Approx. 180 kg. (396.8 lbs.)
Power, maximum current	: 285 W 3.32 A (AC 110V 50 Hz AREA) 280 W 3.20 A (AC 110V 60 Hz AREA) 280 W 2.95 A (AC 120V 60 Hz AREA) 290 W 1.63 A (AC 220V 50 Hz AREA) 290 W 1.60 A (AC 220V 60 Hz AREA) 285 W 1.57 A (AC 230V 50 Hz AREA) 285 W 1.55 A (AC 230V 60 Hz AREA) 290 W 1.51 A (AC 240V 50 Hz AREA) 295 W 1.50 A (AC 240V 60 Hz AREA)
For TAIWAN	
Power, current	: 278 W 3.20A (MAX.) 170 W 1.96A (MIN.)
MONITOR	: 29 TYPE COLOR MONITOR

INTRODUCTION OF THE OWNER'S MANUAL

This Owner's Manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards the product, **CONFIDENTIAL MISSION U/R TYPE.**

This manual is intended for the owners, personnel and managers in charge of operation of the product. Operate the product after carefully reading and sufficiently understanding the instructions. If the product fails to function satisfactorily, non-technical personnel should under no circumstances touch the internal system. Please contact where the product was purchased from.

Use of this product is unlikely to cause physical injuries or damages to property. However, where special attention is required this is indicated by a thick line, the word "IMPORTANT" and its sign in this manual.



IMPORTANT

Indicates that mishandling the product by disregarding this display can cause the product's intrinsic performance not to be obtained, resulting in malfunctioning.

SEGA ENTERPRISES, INC. (U.S.A.)/CUSTOMER SERVICE
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DEFINITION OF LOCATION MAINTENANCE MAN AND SERVICEMAN



Non-technical personnel who do not have technical knowledge and expertise should refrain from performing such work that this manual requires the location's maintenance man or a serviceman to carry out, or work which is not explained in this manual. Failing to comply with this instruction can cause a severe accident such as electric shock.

Ensure that parts replacement, servicing & inspections, and troubleshooting are performed by the location's maintenance man or the serviceman. It is instructed herein that particularly hazardous work should be performed by the serviceman who has technical expertise and knowledge.

The location's maintenance man and serviceman are herein defined as follows:

"Location's Maintenance Man" :

Those who have experience in the maintenance of amusement equipment and vending machines, etc., and also participate in the servicing and control of the equipment through such routine work as equipment assembly and installation, servicing and inspections, replacement of units and consumables, etc. within the Amusement Facilities and or locations under the management of the Owner and Owner's Operators of the product.

Activities of Location's Maintenance Man :

Assembly & installation, servicing & inspections, and replacement of units & consumables as regards amusement equipment, vending machines, etc.

Serviceman :

Those who participate in the designing, manufacturing, inspections and maintenance service of the equipment at an amusement equipment manufacturer.

Those who have technical expertise equivalent to that of technical high school graduates as regards electricity, electronics and or mechanical engineering, and daily take part in the servicing & control and repair of amusement equipment.

Serviceman's Activities :

Assembly & installation and repair & adjustments of electrical, electronic and mechanical parts of amusement equipment and vending machines.

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.



- Before performing work, be sure to turn power off. Performing the work without turning power off can cause an electric shock or short circuit. In the case work should be performed in the status of power on, this manual always states to that effect.
- To avoid electric shock or short circuit, do not plug in or unplug quickly.
- To avoid electric shock, do not plug in or unplug with a wet hand.
- Do not expose Power Cords and 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 electric shock or short circuit.
- To avoid causing a fire or electric shock, do not put things on or damage 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 electric shock.
- In case the power cord is damaged, ask for replacement through where the product was purchased from or the office herein stated. Using the cord as is damaged can cause fire, electric shock or leakage.
- Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock.
- Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause a fire or electric shock.
- Completely make connector connections for IC BD and others. 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 lookers-on, 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.
- Be sure to perform periodic maintenance inspections herein stated.



- For the IC board circuit inspections, only the logic tester is allowed. The use of a multiple-purpose tester is not permitted, so be careful in this regard.
- When cleaning the CRT surfaces, use a soft, dry cloth. Do not apply chemicals such as thinner, benzine, etc.
- The electronic parts on the IC Board could be damaged due to human body's static electricity. Before performing IC Board related work, be sure to discharge physically accumulated statics by touching grounded metallic surfaces, etc.

2. PRECAUTIONS CONCERNING INSTALLATION

LOCATION



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 malfunctioning.

- 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.
- The operating (ambient) temperature range is from 5 Celsius to 40 Celsius. Only in the case a projector is employed, the temperature range is from 5 Celsius to 30 Celsius.

LIMITATIONS OF USAGE REQUIREMENTS



- Be sure to check the Electrical Specifications.
Ensure that this product is compatible with the location's power supply, voltage and frequency requirements.
A plate describing Electrical Specifications is attached to the product.
Non-compliance with the Electrical Specifications can cause a fire and electric shock.
- This product requires the Breaker and Earth Mechanisms as part of the location facilities. Using them in a manner not independent can cause a fire and electric shock.
- Ensure that the indoor wiring for the power supply is rated at 7A or higher (AC single phase 100 ~ 120V area), and 7A or higher (AC 220 ~ 240V area). Non-compliance with the Electrical Specifications can cause a fire and electric shock.
- Be sure to independently use the power supply equipped with the Earth Leakage Breaker. Using a power supply without the Earth Leakage Breaker can cause an outbreak of fire when earth leakage 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 7A or higher (AC 100 ~ 120V area) and 7A or higher (AC 220 ~ 240V area). Using a cord rated lower than the specified rating can cause a fire and electric shock.

OPERATION AREA



WARNING!

- For the operation of this machine, secure a minimum area of 1.4m (W) X 1.8m (D). In order to prevent injury resulting from the falling down accident during game play, be sure to secure the minimum area for operation.
- Be sure to provide sufficient space so as to allow this product's ventilation fan to function efficiently. To avoid machine malfunctioning and a fire, do not place any obstacles near the ventilation opening.
- SEGA shall not be held responsible for damage, compensation for damage to a third party, resulting from the failure to observe this instruction.



IMPORTANT

For transporting the machine into the location's building, the minimum necessary dimensions of the opening (of doors, etc.) are 0.9m(W) and 2m(H).

Electric current consumption

MAX. 3.32 A (AC 110V 50 Hz)
 MAX. 3.20 A (AC 110V 60 Hz)
 MAX. 2.95 A (AC 120V 60 Hz)
 MAX. 1.63 A (AC 220V 50 Hz)
 MAX. 1.60 A (AC 220V 60 Hz)
 MAX. 1.57 A (AC 230V 50 Hz)
 MAX. 1.55 A (AC 230V 60 Hz)
 MAX. 1.51 A (AC 240V 50 Hz)
 MAX. 1.50 A (AC 240V 60 Hz)
 MAX. 3.20 A (For TAIWAN)

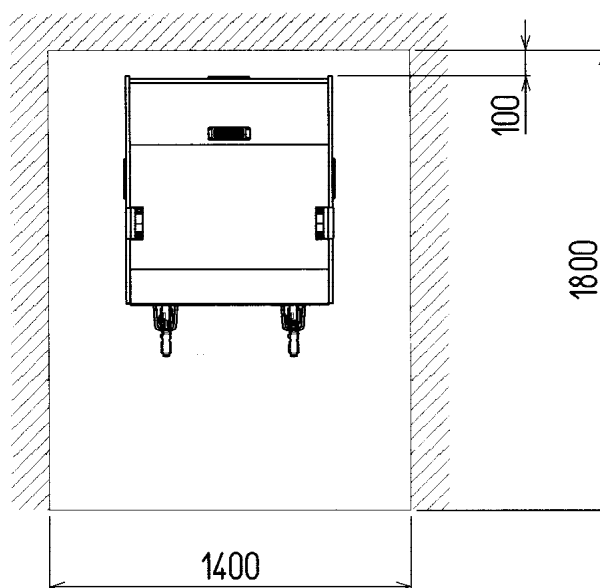


FIG. 2

3. OPERATION

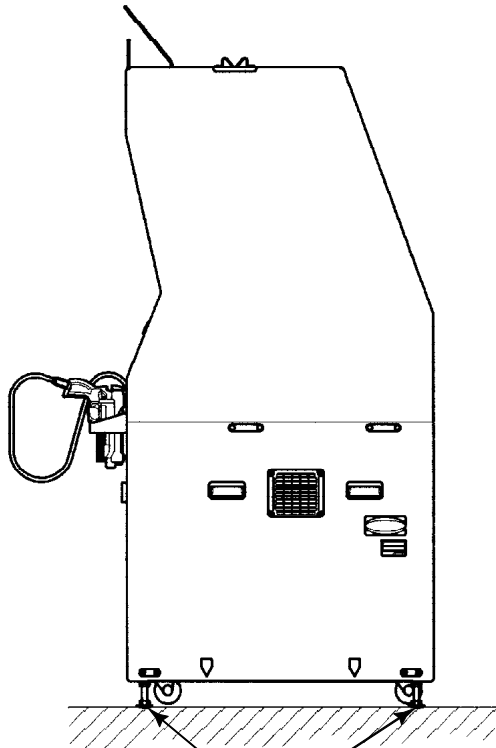
PRECAUTIONS TO BE HEEDED BEFORE STARTING THE OPERATION

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.



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 monitor (projector). 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 feel sick while playing the game to take a rest.
- Check if all of the adjusters are in contact with the surface. If they are not, the Cabinet can move and cause an accident.



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



WARNING!

- Do not put any heavy item on this product. Placing any heavy item on the product can cause a falling down accident or parts damage.
- Do not climb on the product. Climbing on the product can cause falling down accidents. To check the top portion of the product, use a step.
- To avoid electric shock, check to see if door & cover parts are damaged or omitted.
- To avoid electric shock, short circuit and or parts damage, do not put the following items on or in the periphery of the product.
Flower vases, flowerpots, cups, water tanks, cosmetics, and receptacles/
containers/vessels containing chemicals and water.



CAUTION!

To avoid injury, be sure to provide sufficient space by considering the potentially crowded situation at the installation location. Insufficient installation space can cause making bodily contact with each other, hitting accidents, and or trouble between customers.



IMPORTANT

Players with bare hands directly hold the maracas. For operation, it is recommended that the wet towels (paper towels) be provided.

PRECAUTIONS TO BE HEEDED DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.



- To avoid injury and accidents, those who fall under the following categories are not allowed to play the game.
 - Those who need assistance such as the use of an apparatus when walking.
 - Those who have high blood pressure or a heart problem.
 - Those who have experienced muscle convulsion or loss of consciousness when playing video game, etc.
 - Those who have a trouble in the neck and or spinal cord.
 - Intoxicated persons.
 - Pregnant women or those who are in the likelihood of pregnancy.
 - Persons susceptible to motion sickness.
 - Persons whose act runs counter to the product's warning displays.
- A player who has never been adversely affected by light stimulus might experience dizziness or headache depending on his physical condition when playing the game. Especially, small children can be subject to those conditions. Caution guardians of small children to keep watch on their children during play.
- Instruct those who feel sick during play to have a medical examination.
- To avoid injury resulting from falling down and electric shock due to spilled drinks, instruct the player not to place heavy items or drinks on the product.
- To avoid electric shock and short circuit, 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 falling down and injury resulting from falling down, immediately stop the customer's leaning against or climbing on the product, etc.
- To avoid electric shock and short circuit, do not allow the customers to unplug the power plug without a justifiable reason.



Immediately stop such violent acts as hitting and kicking the product. Such violent acts can cause parts damage or falling down, resulting in injury due to fragments and falling down.

4. NAME OF PARTS

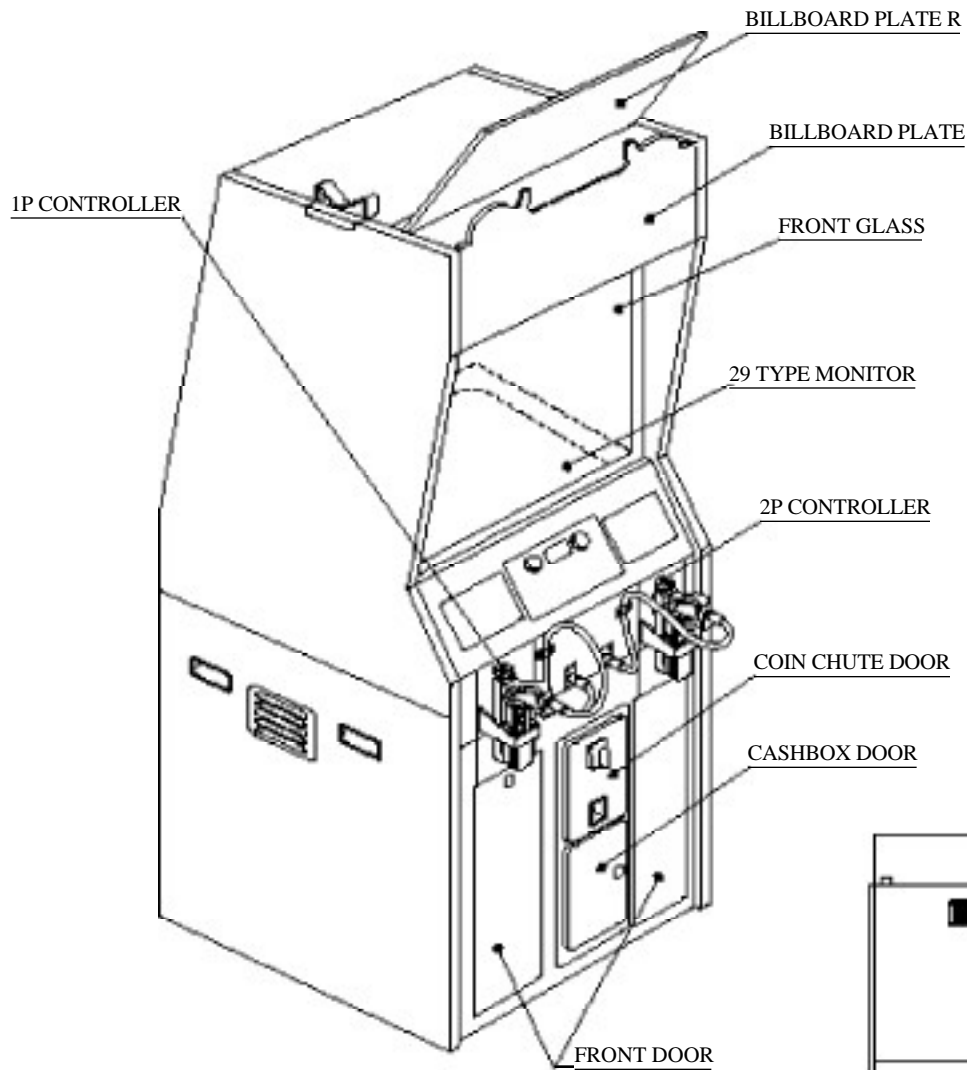


FIG. 4 a OVERVIEW

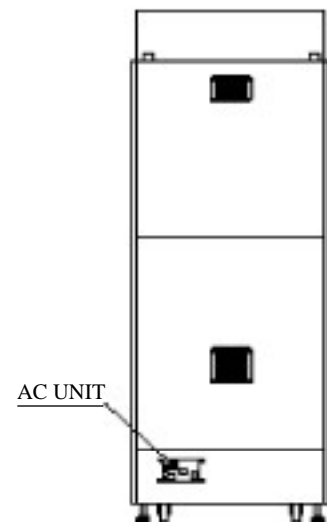


FIG. 4 b REAR VIEW

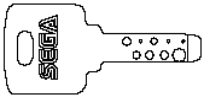
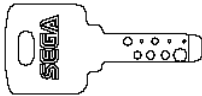



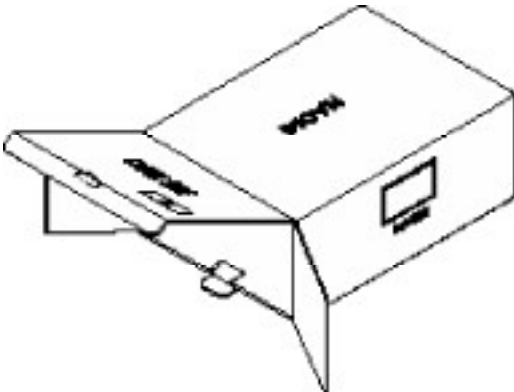
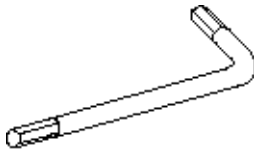
TABLE 4

	Width	X	Length	X	Height	Weight
CABINET	800 mm	X	997 mm	X	1,900mm	180 kg
When assembled	800 mm	X	997 mm	X	2,044 mm	180 kg

5. ACCESSORIES

When transporting the machine, make sure that the following parts are supplied.

TABLE 5 ACCESSORIES

DESCRIPTION	OWNERS MANUAL	KEY MASTER	KEY (2)
Part No. (Qty.)	420-6602-01 (1)	220-5576 (2)	For the CASHBOX DOOR
Note			
Figures			
If Part No. has no description, the Number has not been registered or can not be registered. Such a part may not be obtainable even if the customer desires to purchase it. Therefore, ensure that the part is in safekeeping with you.			
GD-ROM SERVICE MANUAL ENG 420-6620-01 (1)		For opening/closing the doors	
INSTRUCTION MANUAL FOR THE GAME BOARD AND GD-ROM		 	
		The Keys are inside the Coin Chute Door at the time of shipment from the factory.	
SW MICRO TYPE 509-5080 (1)		GLASS CLEANER 090-0174 (1)	
Spare, see Section 10.		Used for cleaning the Front Glass of the Projector. See Section 14.	
			
LAMP WEDGE 6V 3W 390-5160 (1)		CARTON BOX 601-10532 (1)	
Spare, see Section 13.		Used for transporting the Game Board. See FIG. 5 a.	
			
TAMPERPROOF WRENCH M4 540-0006-01 (1)			
TOOL			
			

HOW TO USE THE CARTON BOX



When requesting for the replacement/repair of this product's Game Board (NAOMI BOARD), follow the instructions below. Transporting the Game Board in an undesignated status is unacceptable. An erroneous handling can cause parts damage.

- Put the Game Board in the Carton Box together with the Shield Case. Do not unnecessarily disassemble nor remove parts.
- By paying careful attention to the following Figure and the direction shown by on-Carton-Box printing, put the Shield Case in the Carton Box.
- When putting the Shield Case in the Carton Box, do not remove Leg Brackets.
- The projected portions of the packing material is intended for cushioning. Therefore, do not bend the projected portions.
- Do not remove the DIMM board without fail.

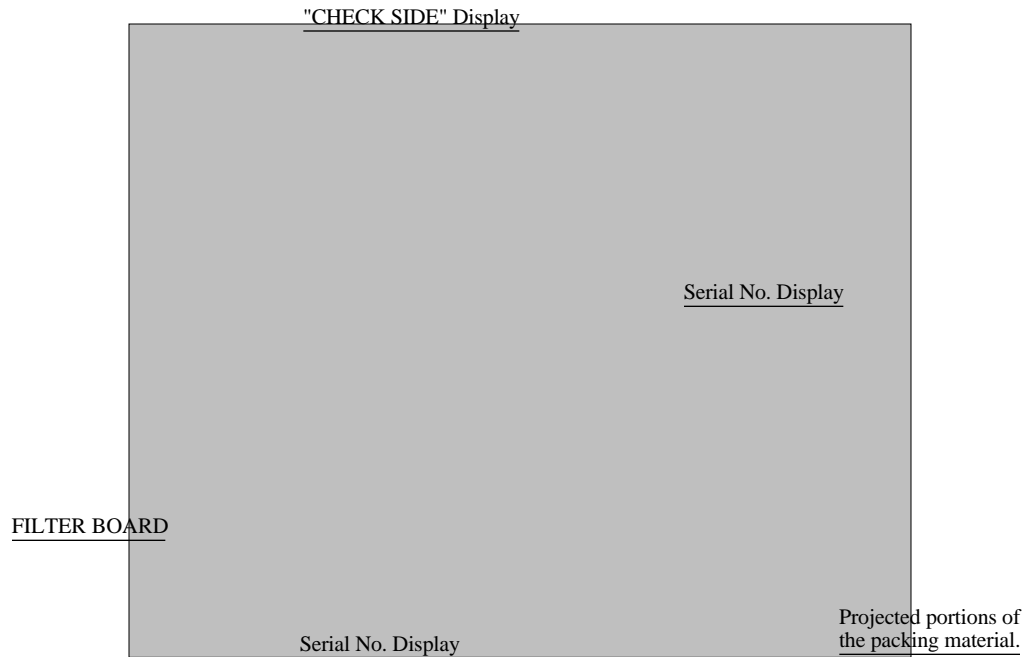


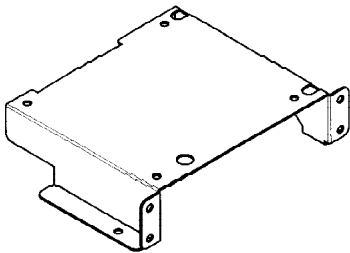

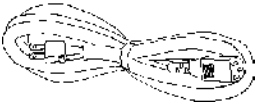
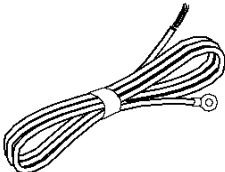
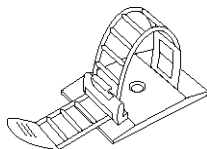


FIG. 5 a

Fold the packing material in the sequential order of the numbers shown in the Figure, enfold the Shield Case and put it in the Carton Box. Positioning the Shield Case upside down or packing in the manner different from what is shown in this Figure can cause the Game Board and other parts to be damaged.

The following Table 5b lists the parts that had been separately packed when the product was shipped from the factory but are necessary when you use the product. These parts will be mounted on the product when installing and assembling it.

TABLE 5 b

<p>BILLBOARD PLATE SPY-0003 (1) See 1 of Section 6.</p>	<p>BILLBOARD PLATE R SPY-0004 (1) See 1 of Section 6.</p>
	
<p>PLATE HOLDER SPY-0005 (1) See 1 of Section 6.</p>	<p>TAPPING SCREW 011-T03512 (2) See 1 of Section 6.</p>
<p>GD DRIVE BRACKET 105-5435 (1) To be mounted on the GD-ROM drive. see 3 of Section 6.</p>	<p>GD-ROM 610-0625-0001 (1) Game software media contained in a plastic case. see 3 of Section 6. NOTE: A packing/shipping method of this product is specific with this CONFIDENTIAL MISSION DX TYPE product. It may be different from, therefore, the descriptions in the GD-ROM Service Manual.</p>
	
<p>FLANGE NUT 050-F00500 (4) Used for securing the GD-ROM DRIVE. see 3 of Section 6.</p>	<p>TAPPING SCREW 012-P00408 (4) Used for securing the GD-ROM DRIVE. see 3 of Section 6.</p>
<p>AC Cable (Power Cord) 600-6729 (1) TAIWAN 600-6618 (1) OTHERS 600-6619 (1) HONG KONG Used for installation, see 4 of Section 6.</p>	<p>WIRE HARN EARTH W/LUG M6 600-6664-02 (1) For TAIWAN. Used for installation, see 4 of Section 6.</p>
	
	<p>CORD CLAMP 280-5009-01 (1) Used for securing the power cord. see 4 of Section 6.</p>
	

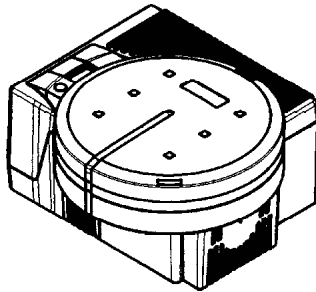
The following Table 5c lists the parts that are separately marketed but are necessary when booting this product's software. When having unpacked the shipping crate, make sure that all the parts in this Table 5C are in the crate. If not so, contact where you have obtained the product.

TABLE 5 c (XKT-0833 : GD-ROM DRIVE KIT)

GD-ROM DRIVE

610-0617 (1)

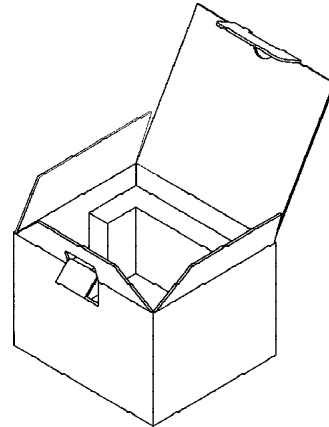
Device that loads the software in a GD-ROM disk.
see 3 of Section 6.



GD-ROM DRIVE CARTON BOX

(1)

Used for transporting the GD-ROM DRIVE.
See FIG. 5 b.



This carton box is a standard accessory of the GD-ROM drive. If you want to obtain the carton box itself separately, specify the part number 601-11031.

HOW TO USE THE CARTON BOX (GD-ROM DRIVE)



When you want to order for replacing or repairing service of the GD-ROM drive that is used by the product, pack it in a carton box as instructed below, and then deliver the carton box to a service agent. If you do not observe the instruction, your order may not be accepted or may be charged additionally. If you handle the GD-ROM drive differently from the following instructions, its components may be damaged.

- Contain the GD-ROM drive in a dedicated carton box. Do not disassemble it or remove any part from it unless otherwise instructed.
- Before containing the GD-ROM drive in a dedicated carton box, attach the GD-ROM drive lid (DISC LID) onto the drive and fix the lid with a screw.
- Before containing the GD-ROM drive in a dedicated carton box, remove the GD-ROM disk from the drive. Do not attempt to move the GD-ROM drive with a GD-ROM disk inside.
- Before containing the GD-ROM drive in a dedicated carton box, remove the GD-ROM drive bracket. Carefully keep the GD-ROM drive bracket and the 4 set screws, because they will be reused.
- When inserting the GD-ROM drive into a dedicated carton box, be careful about an inserting direction as illustrated below.
- The packing materials in a carton box are used as a cushion. Use them always when inserting the GD-ROM drive into a dedicated carton box. Do not bend them.

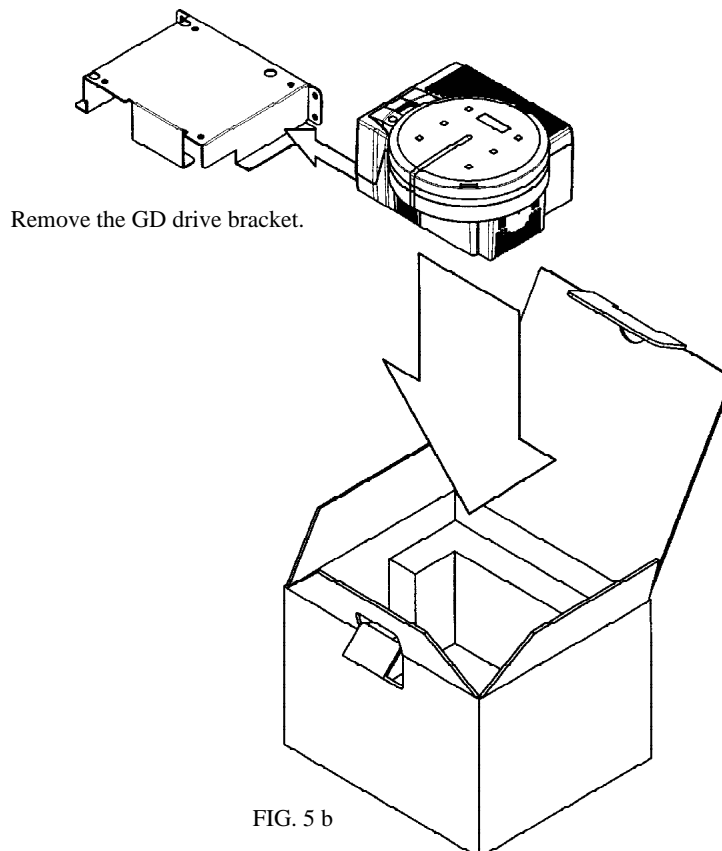


FIG. 5 b

6. ASSEMBLING AND INSTALLATION



- Perform assembly work by following the procedure herein stated. Failing to comply with the instructions can cause electric shock hazard.
- Perform assembling as per this manual. Since this is a complex machine, erroneous assembling can cause an electric shock, machine damage and or not functioning as per specified performance.
- When assembling, be sure to use plural persons. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Ensure that connectors are accurately connected. Incomplete connections can cause electric shock hazard.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock and short circuit hazards.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work 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.
- Provide sufficient space so that assembling can be performed. Performing work in places with narrow space or low ceiling may cause an accident and assembly work to be difficult.
- To perform work safely and avoid serious accident such as the cabinet's falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.

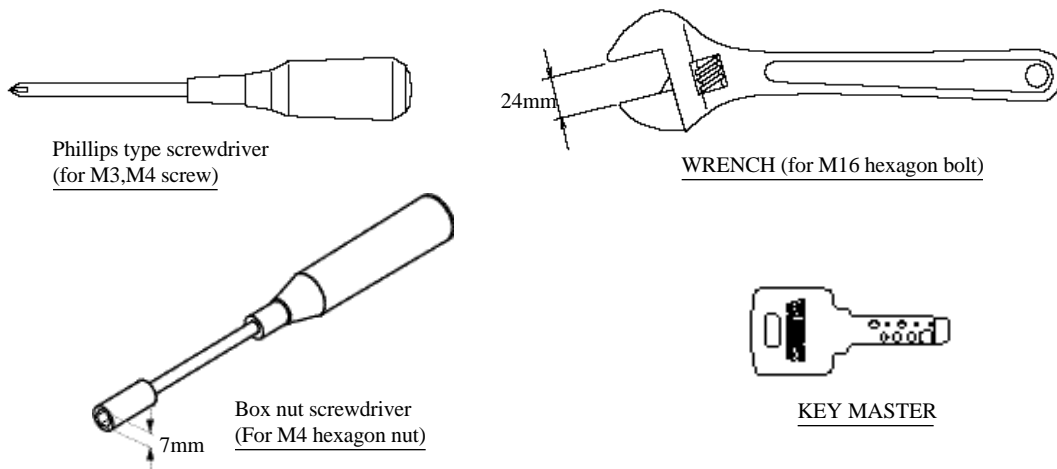


- When handling plastic parts, use care. Do not give a shock or apply excessive load to the fluorescent lamps and plastic parts. Failure to observe this can cause parts damage, resulting in injury due to fragments, cracks and broken pieces.
- To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.

When carrying out the assembly work, follow the procedure in the following 6-item sequence:

- 1** INSTALLATION OF BILLBOARD PLATE AND BILLBOARD PLATE R
- 2** SECURING IN PLACE (ADJUSTER ADJUSTMENT)
- 3** INSTALLING THE GD-ROM DRIVE (SETTING A GD-ROM DISK)
- 4** POWER SUPPLY, AND EARTH CONNECTION
- 5** TURNING POWER ON
- 6** ASSEMBLING CHECK

The master key (accessories) in addition to the tools such as a Phillips type screwdriver, Box nut screwdriver and wrench are required for the assembly work.



1

INSTALLATION OF BILLBOARD PLATE AND BILLBOARD PLATE R

- ① Remove the 4 truss head screws, and thereby remove the lamp cover B.
- ② Insert the billboard plate, and tighten the 4 truss head screws to fix the lamp cover B.

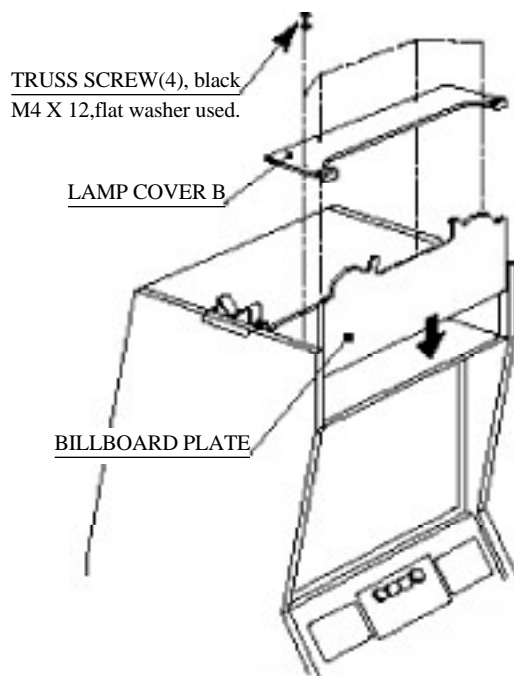
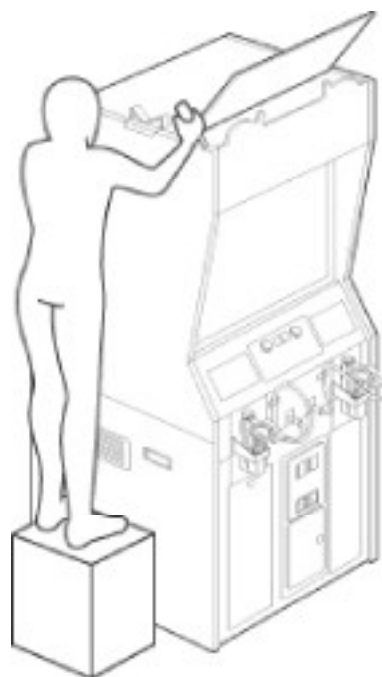


FIG. 6. 1 a



When performing work,
prepare a step.

- ③ Insert the billboard plate R into a slot on the rear of the billboard case.
- ④ Using a both-side adhesive tape, stick the plate holder onto the rear of the billboard plate R.
- ⑤ Tighten the 2 tapping screws, and thereby fix the plate holder.

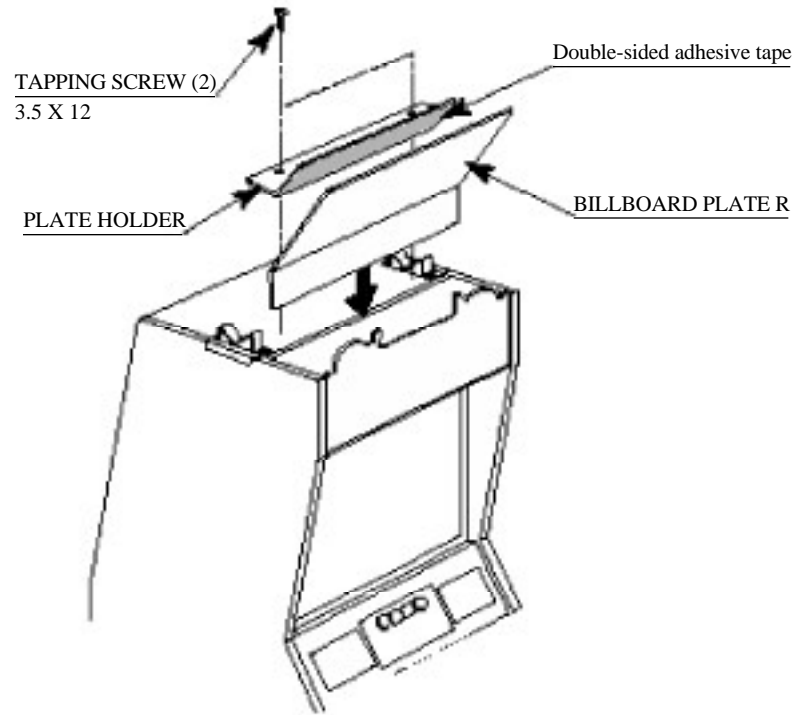


FIG 6. 1 b

2

SECURING IN PLACE (ADJUSTER ADJUSTMENT)



Make sure that all of the adjusters are in contact with the floor. If they are not, the cabinet can move and cause an accident.

This machine has 4 casters and 4 adjusters. When the installation position is determined, cause the adjusters to come into contact with the floor directly, make adjustments in a manner so that the casters will be raised approximately 5mm. from the floor and make sure that the machine position is level.

- ① Move the machine to the installation position.
- ② Cause all of the adjusters to make contact with the floor. By using a wrench, make adjustments in the height of the adjusters to ensure that the machine's position is level.
- ③ After making adjustments, fasten the adjuster nut upward and secure the height of the adjuster.

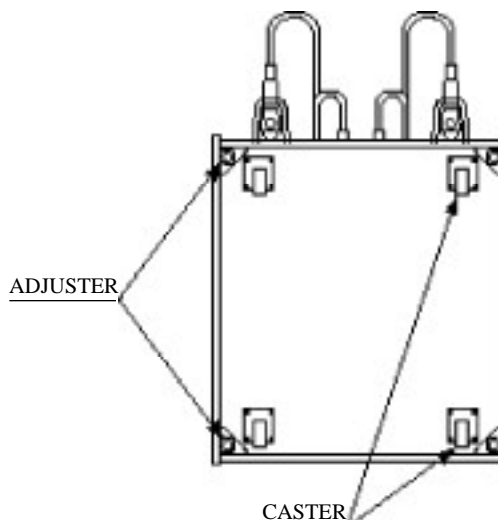


FIG. 6. 2 a BOTTOM VIEW

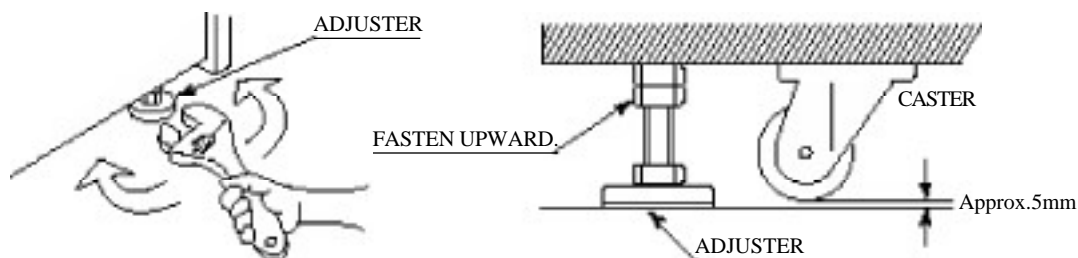


FIG. 6. 2 b ADJUSTER

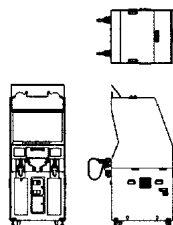


FIG. 6. 2 c
Refer to this Fig. (Scale:1/100) for the layout of the place of installation.

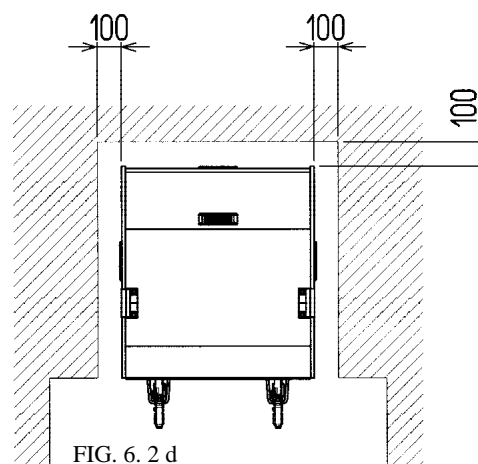


FIG. 6. 2 d
Provide sufficient space so as to allow for ventilation by the ventilation fan.

3

INSTALLING THE GD-ROM DRIVE (SETTING A GD-ROM DISK)



- Carefully handle the GD-ROM drive so as not to contaminate the disk and the readout lens with stains and dust particles.
- Do not continue to use the scratched GD-ROM disk. The scratched GD-ROM disk may cause the system to malfunction.
- Set the GD-ROM disk onto the GD-ROM drive with its labeled side facing upward.

- ① Unpack the shipping crate, and take out the GD-ROM drive, GD-ROM drive bracket, and GD-ROM disk.



GD DRIVE BRACKET



GD-ROM DRIVE

PHOTO 6. 3 a

- ② Use the 4 tapping screws to fix the GD-ROM drive bracket onto the GD-ROM drive. Be careful about a fixing direction.

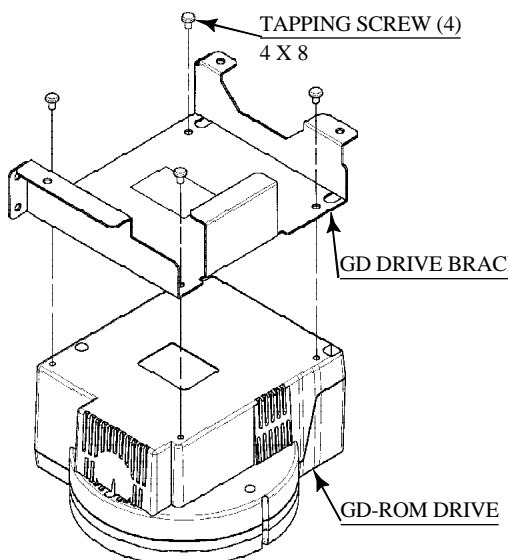


FIG. 6. 3 a



FIG. 6. 4 b

CAUTION for U. S. A., Europe, and Australia:
Attach the 2 caution stickers for a laser ray onto the GD-ROM drive.

- ③ Remove the 1 truss head screw that fixes the GD-ROM drive lid (DISC LID). And turn clockwise the lid to remove.

TRUSS SCREW (1)
M3 X 8

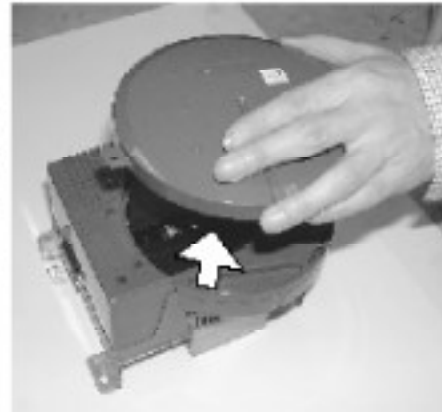
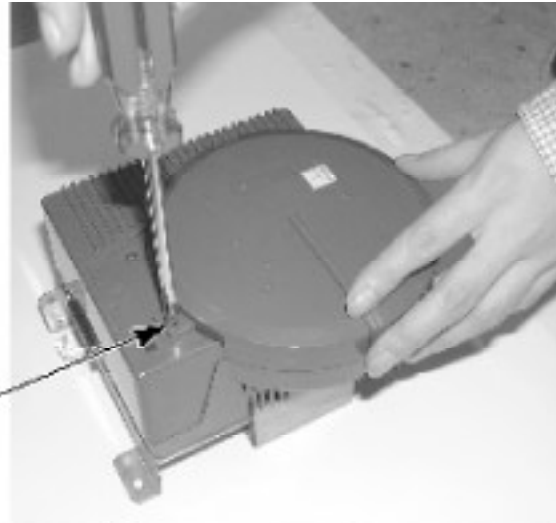
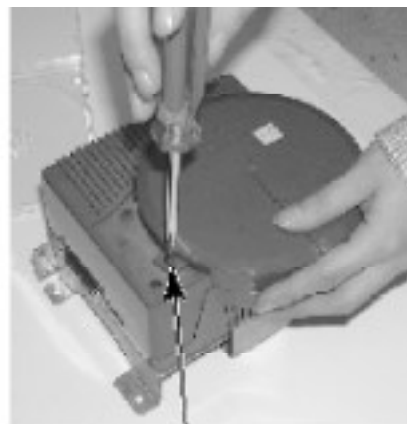


PHOTO 6. 3 b

- ④ Set the GD-ROM disk onto the GD-ROM drive with its labeled side facing upward.
- ⑤ Return the lid to its original place, and fix it with 1 truss head screw. Be careful not to fasten the screw too tightly.



TRUSS SCREW (1)
M3 X 8

PHOTO 6. 3 c

- ⑥ Unlock the front-left door, and thereby remove the door from the cabinet.

UNLOCK



PHOTO 6. 3 d

- ⑦ Now you will take out the ASSY MAIN BD from the cabinet and mount the GD-ROM drive onto it. First, remove the 7 connectors from the upper section of the rear of the door.

Disconnect the connector.



PHOTO 6. 3 e

- ⑧ Remove the D-SUB connector from the filter board (a part of the NAOMI board on the ASSY MAIN BD). Unclamp the cable with the D-SUB connector.

D-SUB connector



PHOTO 6. 3 f

- ⑨ Remove the 2 wing bolts that fix the ASSY MAIN BD's base (a wooden plate).
- ⑩ Take out the ASSY MAIN BD from the cabinet. In this instance, be careful not to catch the wires on or in the parts.

WING BOLT (2)
M4 X 30, flat washer used

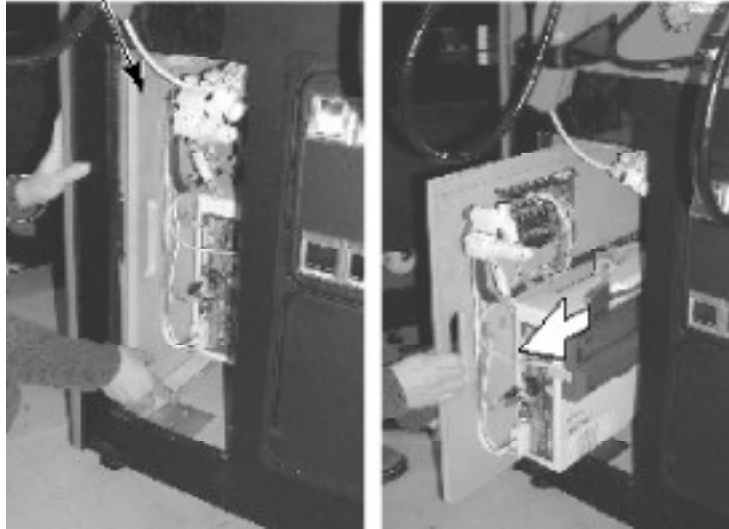
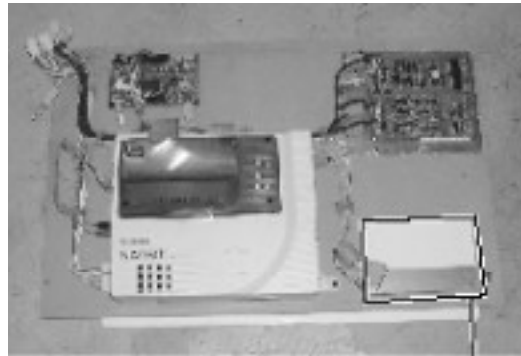


PHOTO 6. 3 g

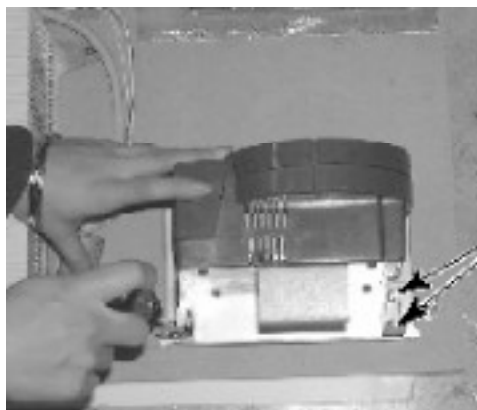
- ⑪ Place the ASSY MAIN BD on a flat horizontal surface.



GD-ROM drive is installed here.

PHOTO 6. 3 h

- ⑫ Set the GD-ROM drive onto the ASSY MAIN BD. Tighten the 4 flange nuts to fix the ASSY MAIN BD.



FLANGE NUT (4)
M4

PHOTO 6. 3 i

- ⑬ Insert both the GD cable connector (for data communication) and the power cord connector (JST NH6P) into the GD-ROM drive. Be careful about an inserting direction in this instance. Make sure that the connectors are inserted firmly and completely.

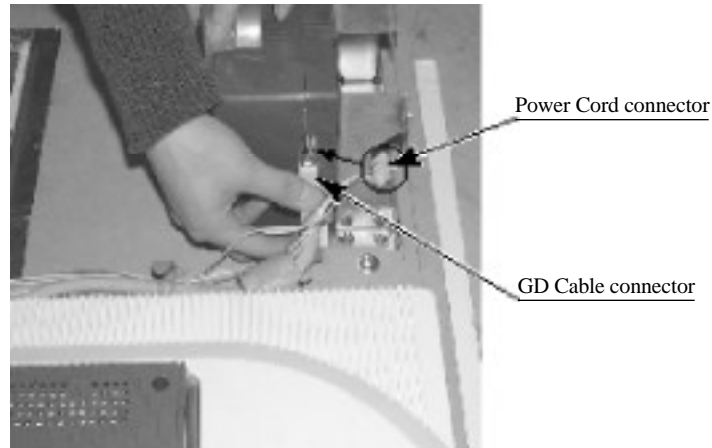


PHOTO 6. 3 j

- ⑭ Return the ASSY MAIN BD (now installed with the GD-ROM drive) into the cabinet. Tighten the 2 wing bolts, and thereby fix the base.



PHOTO 6. 3 k

- ⑮ Following the above-described actions in a reverse order, connect the connectors, clamp the wires/cables, and install the front-left door.

4

POWER SUPPLY, AND EARTH CONNECTION



- Be sure to independently use the power supply socket outlet equipped with an Earth Leakage Breaker. Using a power supply without an Earth Leakage Breaker can cause a fire when electric leakage occurs.
- Ensure that the "accurately grounded indoor earth terminal" and the earth wire cable are available (except in the case where a power cord plug with earth is used). This product is equipped with the earth terminal. Connect the earth terminal and the indoor earth terminal with the prepared cable. If the grounding work is not performed appropriately, customers can be subjected to an electric shock, and the product's functioning may not be stable.
- Ensure that the power cord and earth wire are not exposed on the surface (passage, etc.). If exposed, they can be caught and are susceptible to damage. If damaged, the cord and wire can cause electric shock and short circuit accidents. Ensure that the wiring position is not in the customer's passage way or the wiring has protective covering.
- After wiring power cord on the floor, be sure to protect the power cord. Exposed power cord is susceptible to damage and causes an electric shock accident.

The AC Unit is mounted on the rear of the machine. The AC Unit has Circuit Protector, Main SW, Earth Terminal and the Inlet which connects the Power Cord.

- ① Ensure that the Main SW is OFF.

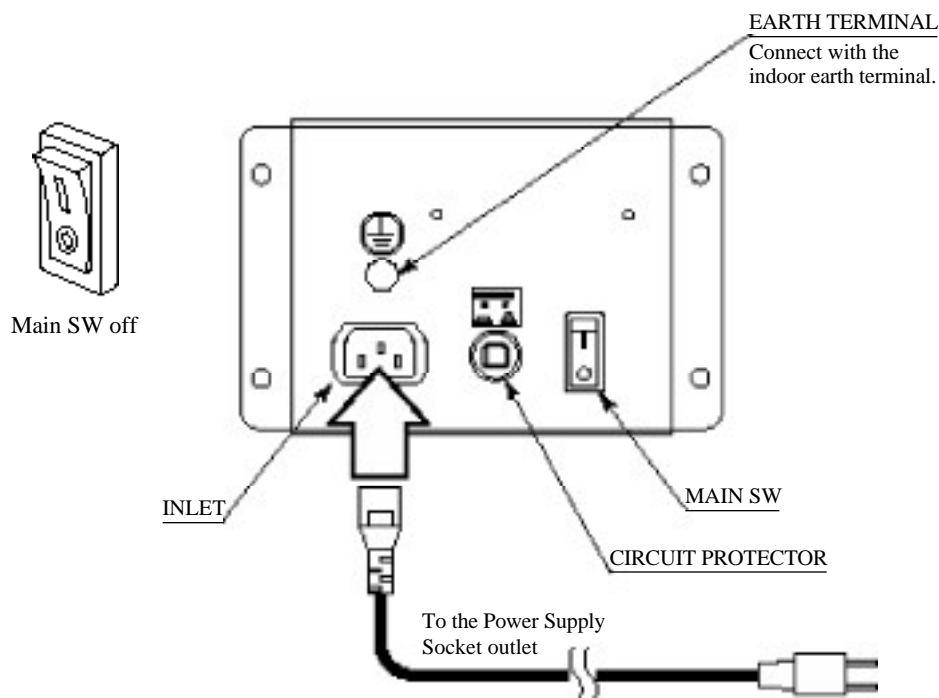


FIG. 6. 4 a AC unit

- ② Connect one end of the earth wire to the AC Unit earth terminal, and the other end to the indoor earth terminal. The AC Unit earth terminal has a Bolt and Nut combination. Take off the Nut, pass the earth wire through the Bolt, and fasten the Nut. Note that the Earth Wire is incorporated in the Power Cord for the Areas of AC 120V (USA) and AC 220 ~ 240V, and therefore, this procedure is not necessary.

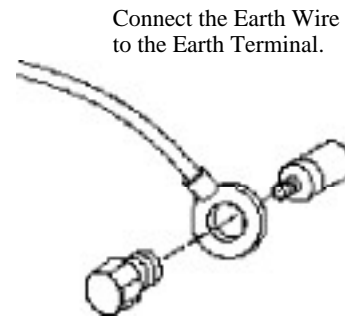


FIG. 6. 4 b Earth Wire Connection

- ③ Firmly insert the power plug into the socket outlet. Insert the opposite side of Power Cord plug to the AC Unit's connector ("INLET").
- ④ Perform wiring for the Power Cord and Earth Wire. Install protective covering for the Power Cord and Earth Wire.

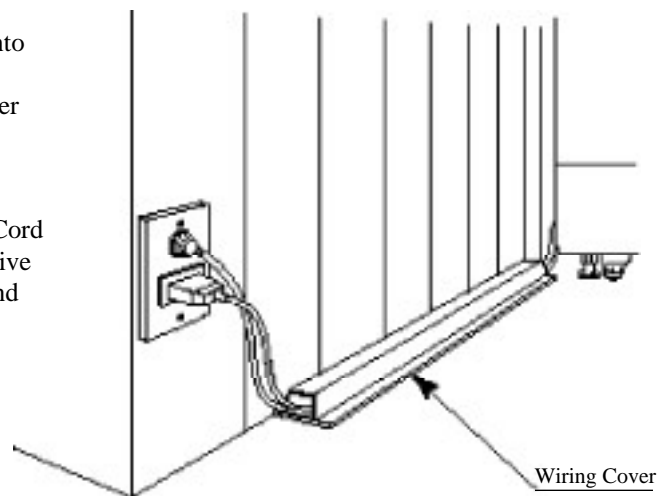
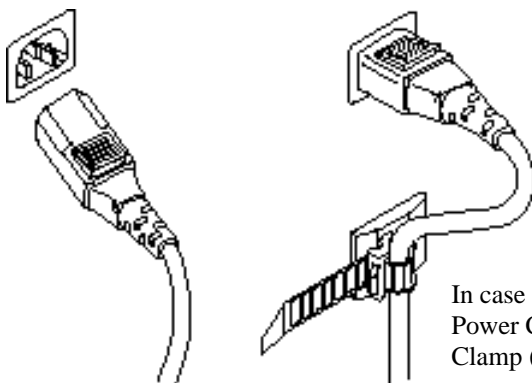


FIG. 6. 4 c Connecting Power Cord and Earth Wire



HOW TO USE THE CORD CLAMP

5

TURNING POWER ON

Turn on the AC unit's main switch to connect the power. When the power is connected, the fluorescent light in the billboard becomes on. A few seconds later a system startup screen appears and then an advertising screen (plying for a player screen) appears.

Time until displaying an advertising screen is not constant; it varies from some tens of second up to several minutes. This is due to the functional characteristics of the GD-ROM system's rechargeable battery and therefore normal.

When an advertising screen appears, sound is output from the speakers on the right and left of the PTV cabinet. Sound is not output if you have set the function to off.

After the power is disconnected, the system can maintain the data of credit number and ranking. The system cannot maintain, however, the fractional number of coins (not enough for one credit) and the bonus adder count data.

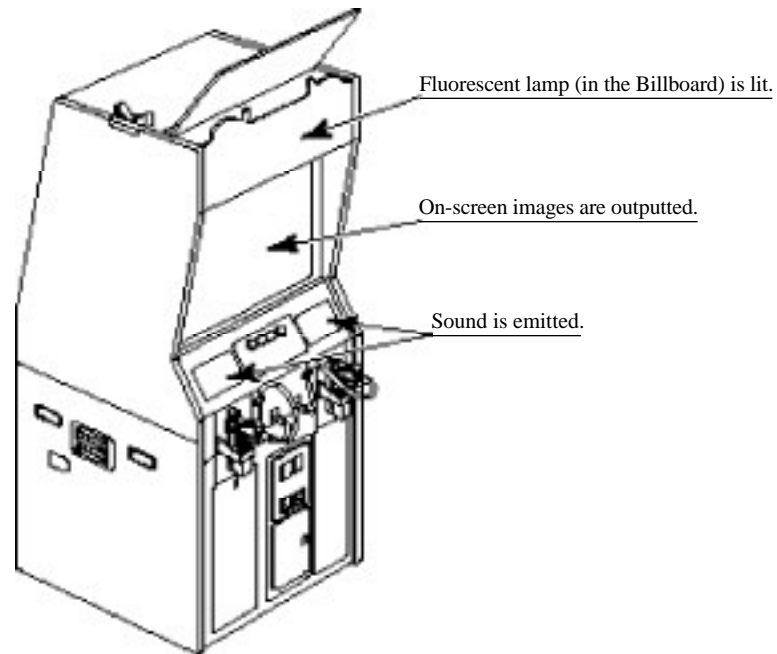


FIG. 6. 5

6

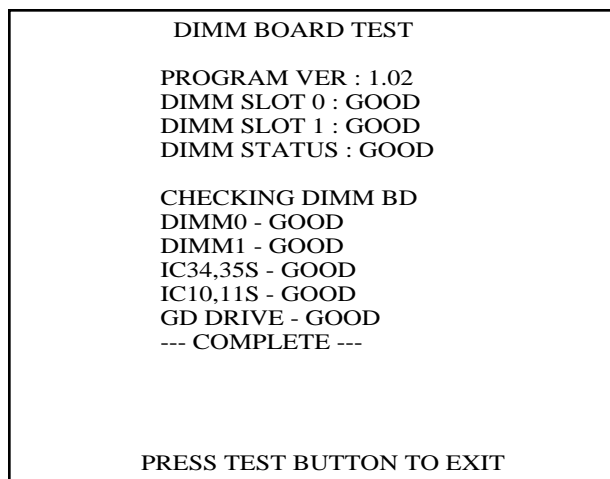
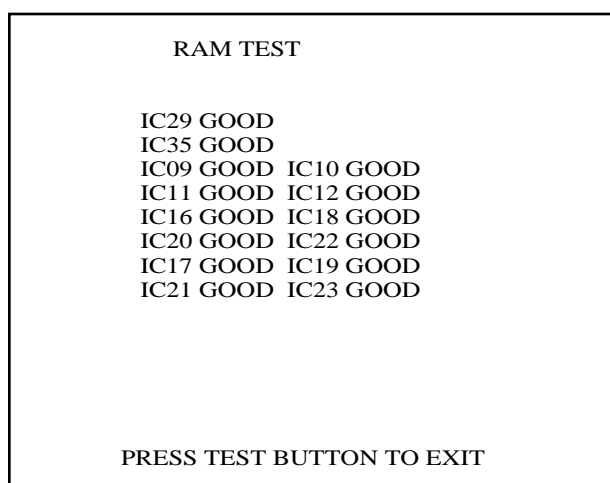
ASSEMBLING CHECK

In the TEST MODE, ensure that the assembly has been made correctly and IC BD. is satisfactory (refer to Section 9).

In the test mode, perform the following test:

(1) MEMORY TEST

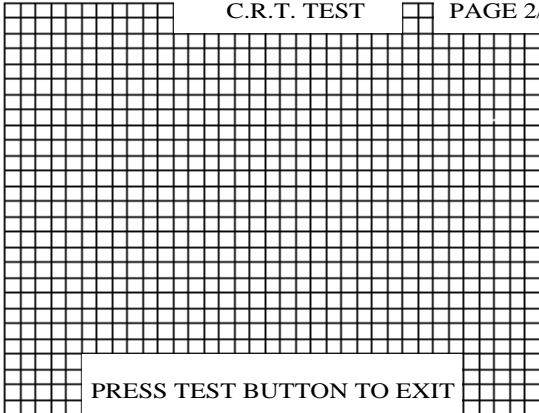
Selecting the RAM TEST and DIMM BOARD TEST on the test mode menu screen causes the on-board memory to be tested automatically. The game board is satisfactory if the display beside each IC No. shows GOOD.



(2) C.R.T. TEST

C.R.T. TEST	PAGE 1/2				
<table><tr><td>RED</td></tr><tr><td>GREEN</td></tr><tr><td>BLUE</td></tr><tr><td>WHITE</td></tr></table>		RED	GREEN	BLUE	WHITE
RED					
GREEN					
BLUE					
WHITE					
PRESS TEST BUTTON TO CONTINUE					

In the TEST mode menu, selecting C.R.T. TEST allows the screen (on which the monitor is tested) to be displayed. Although the monitor adjustments have been made at the time of shipment from the factory, make judgment as to whether an adjustment is needed by watching the test mode screen. If it is necessary, adjust the monitor by referring to Section 11.

	C.R.T. TEST	PAGE 2/2
		
PRESS TEST BUTTON TO EXIT		

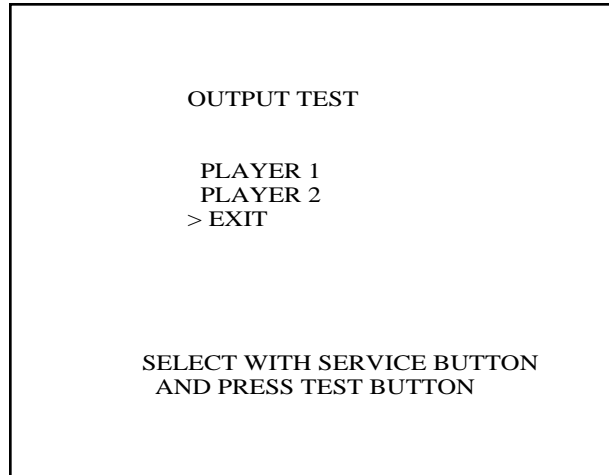
(3) INPUT TEST

INPUT TEST		
	PLAYER 1	PLAYER 2
TRIGGER	OFF	OFF
SCREEN-IN	OUT	OUT
GUN-X	0	0
GUN-Y	0	0
START	OFF	OFF
PRESS TEST AND SERVICE BUTTON TO EXIT		

Selecting the INPUT TEST on the game test mode menu screen causes the screen (on which each switch is tested) to be displayed. Press each switch. If the display beside each switch indicates "ON," the switch and wiring connections are satisfactory.

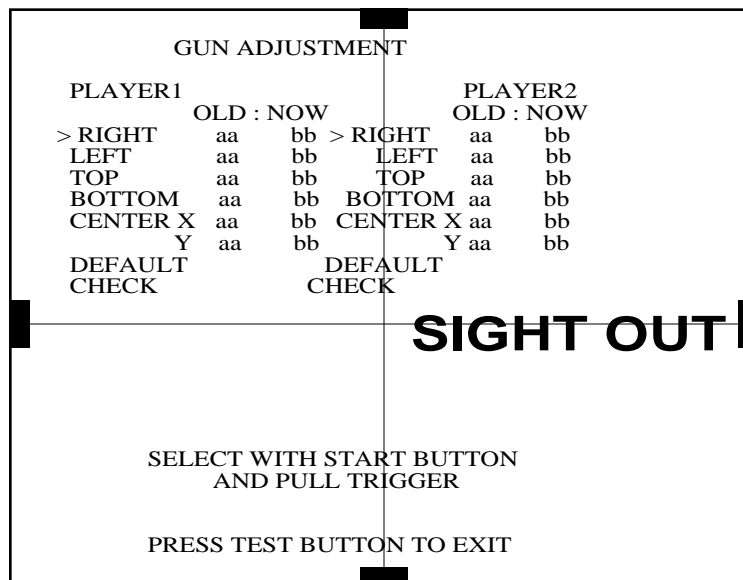
(4) OUTPUT TEST

Select OUTPUT TEST from the menu in the test mode to cause the screen (on which each lamp and wiring connections are tested) to appear. Ensure that lamp light up satisfactorily.



(5) GUN ADJUSTMENT

Before starting the operation, play the game by yourself and make sure that the gun readjustment is not needed and that you can play the game without a problem. Although completed at the factory, the gun adjustment may be necessary because after the adjustment the product has been disassembled for packing and shipping. For more information about the gun adjustment, see Section 9-3E.



Perform the above inspections also at the time of monthly inspection. As for the gun adjustment described in Section (5) above, weekly confirm that the gun is properly adjusted.

THE INTERFERENCE PREVENTION WIRING



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause fire, electric shock and short circuit hazards.
- Do not expose the IC BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.
- Work should be performed by the Location's Maintenance Man or technical personnel. Performing work by those who do not have technical knowledge and expertise can cause electric shock accident or malfunctioning.

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

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

- VIRTUA COP 2, U/R type and DX type
- THE HOUSE OF THE DEAD, U/R type and DX type
- THE HOUSE OF THE DEAD 2, U/R type and DX type
- THE LOST WORLD, U/R type and DX type
- BRAVE FIRE FIGHTERS
- SAMBA DE AMIGO
- CONFIDENTIAL MISSION, DX type

- ① Disconnect the power.
- ② Unlock the front-left door, and thereby remove the door from the cabinet.
- ③ Locate an interference rejection wire inside the cabinet.
If the game machines of a same or similar type are installed side by side, place them alternately (place the machine with an interference rejection wire next to the machine without).

INTERFERENCE PREVENTION WIRING
SPY-60019

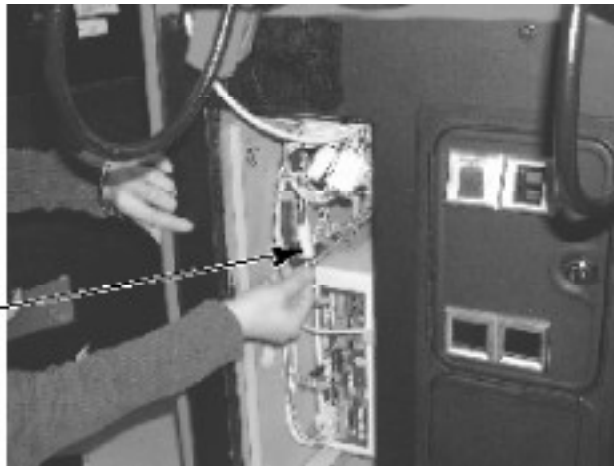


PHOTO 6. 6

7. PRECAUTIONS TO BE HEDEED WHEN MOVING THE MACHINE



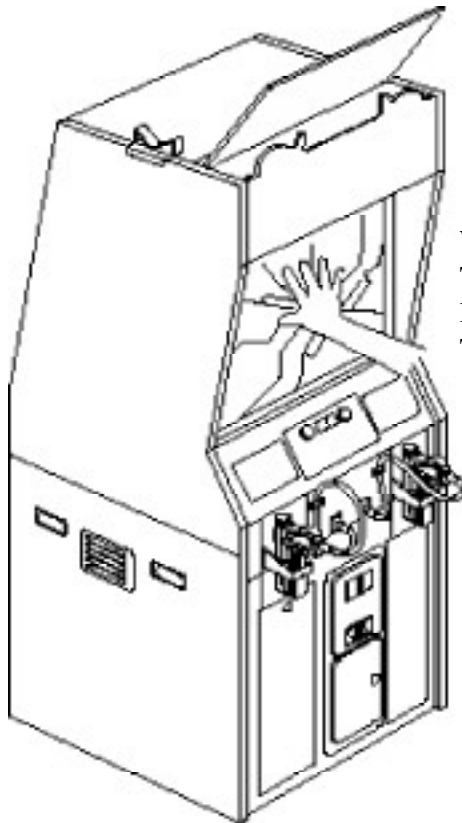
WARNING!

- When moving the machine, be sure to unplug the power plug. Moving the machine with the plug as is inserted can damage the power cord, and cause fire and electric shock hazards.
- When moving the machine on the floor, retract the Adjusters and ensure that Casters make contact with the floor. During transportation, pay careful attention so that Casters do not tread power cords and earth wires. Damaging the power cords can cause electric shock and short circuit hazards.



CAUTION!

- When moving the product, do not push the Front Glass. The Glass part could be damaged and glass fractions may cause injury.
- When lifting the cabinet, be sure to hold the grip portions or bottom part. Failure to observe this may damage parts and cause injury.
- Do not move the product with a GD-ROM disk inside. Remove the GD-ROM disk before moving the product. Failure to observe this instruction may cause the GD-ROM disk and/or GD-ROM drive to be damaged.



WHEN MOVING
THE PRODUCT,
DO NOT PUSH
THE FRONT GLASS.

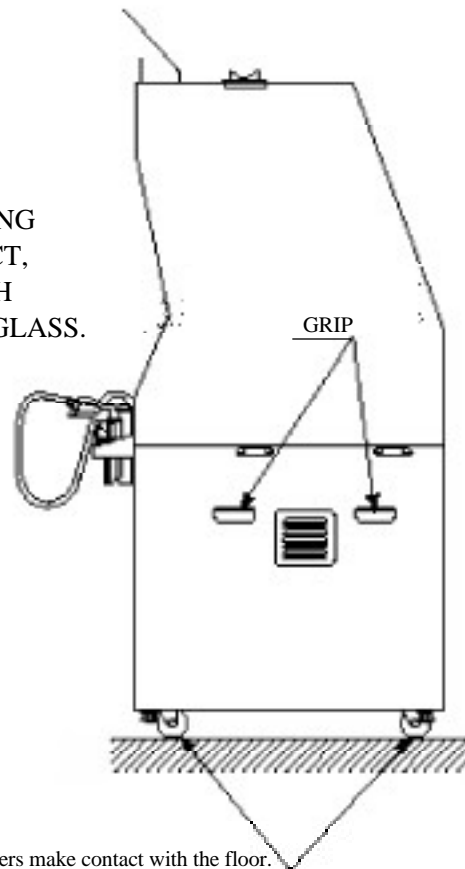


FIG. 7

Have casters make contact with the floor.

8. CONTENTS OF GAME

The following explanations apply to the case the product is functioning satisfactorily. Should there be any moves different from the following contents, some sort of faults may have occurred. Immediately look into the cause of the fault and eliminate the cause thereof to ensure satisfactory operation.

While the power is connected, the fluorescent light in the billboard is on and demonstration images and ranking data are displayed. During this advertising period, sound is also output from the speakers on the right and left of the cabinet. Sound is not output if you have set the function to off.

Each of the right and left start buttons is integrated with a light. The light flashes when coins are inserted sufficiently for a play.

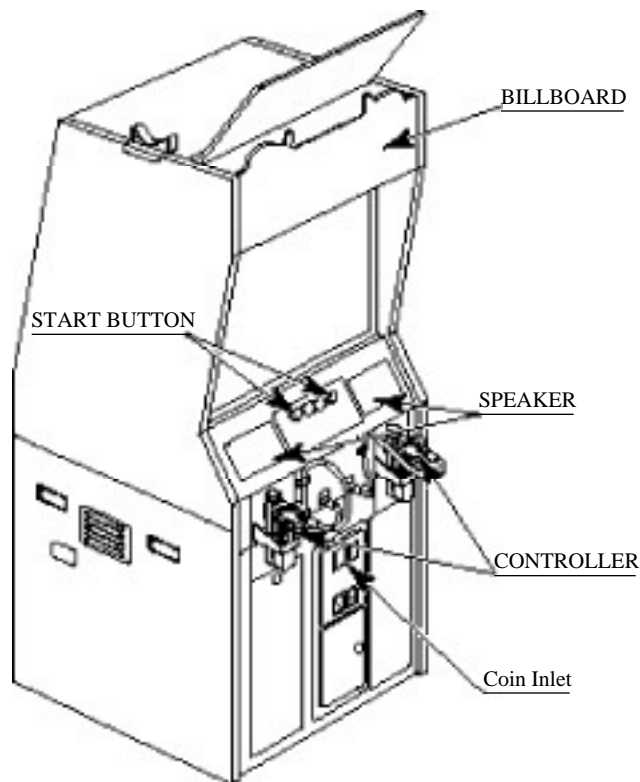


FIG. 8

Introduction to the Game

Based on a spy story this is a gun shooting game that enables two players to play simultaneously.

Player, as an agent, must shoot the enemies in your way and thus try to perform a mission of each stage. The game provides total 3 stages.

Characters of Agents

- HOWARD GIBSON [agent code : 6] (1P side)
nationality ; unknown
height ; 183cm
hair ; brown
eyes ; brown



- JEAN CLIFFORD [agent code : 15] (2P side)
nationality ; unknown
height ; 172cm
hair ; blonde
eyes ; blue



Your Missions to Perform

Stage 1:

A military satellite was hijacked by an unknown group. A suspicious radio access to the satellite was detected and the radio source was traced to the History Museum. Your mission is to penetrate the Museum and to collect information.

Stage 2:

The collected information revealed a group that had hijacked the satellite. The group, named as Agares, seized Ms. Illina Mikahailova (one of the control system development staffs) and has forced her to falsely modify the system. Your mission is to recover her who is in the train for transference.

Stage 3:

Ms. Illina Mikahailova cooperated to successfully locate the base of the Agares. However, the Agares members are going to leave the base after having moved the military satellite control system into their submarines. Your mission is to penetrate the base and recover the control system.

How to Play

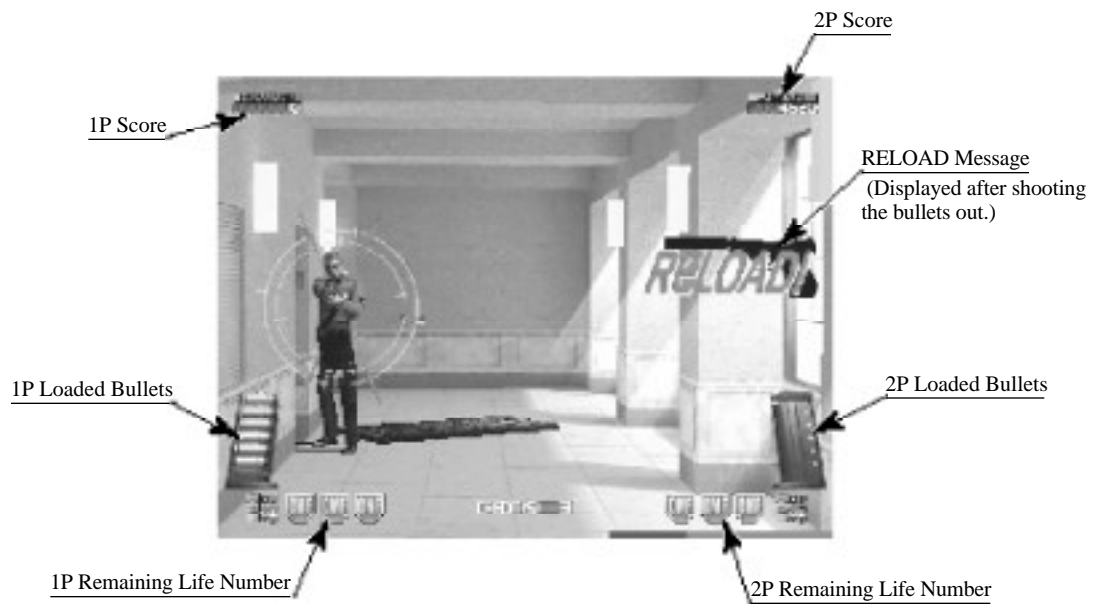
- ① Whenever you insert a coin, credit number counts up on the bottom of the screen. When you have inserted coins enough for a play, the INSERT COIN(S) message disappears and the PRESS START BUTTON message appears instead on the bottom of the screen. At the same time both the start buttons flash.
- ② Press either the two start buttons whichever you want to use for playing. Then a controller adjustment screen appears.



You can adjust the gun controller by shooting a mark at the center of the screen. (This function works only if the GUN ADJUSTMENT item has been set to ON in the GAME ASSIGNMENT screen.)

- ③ After you complete a gun controller adjustment, the system displays a screen that explains your mission of the stage.

Game Screen



The loaded bullets and the remaining life number for a left-side player (1P) is displayed on the bottom left of the screen while for a right-side player (2P) the bottom right.

Reloading the Bullets

The RELOAD message is displayed after shooting the 6 bullets out. Aim the muzzle outside the screen and shoot to reload the bullets.



Game-over

Game is over when:

- ① Your life number becomes zero (0), or
- ② You have cleared the stage 3.

Reduction of Life Number

- A regular enemy soldier (grenade-man, bomb-man, knife-man, etc.) appears over a sight on the screen. Shoot the soldier before the sight becomes red; otherwise you will lose life by one.
- Shoot down the bullet from a grenade-man or bomb-man before it reaches you; otherwise you will lose life by one.
- Shoot the knife-man before it swings down a knife on you; otherwise you will lose life by one.
- If you shoot a civilian other than the enemy, you will lose life by one.



Operation of a Specific Event

Some specific events may take place stage by stage. If you succeed to play in the event, you can expect a desirable development of the game afterward. If you fail to play in the event, you can expect an undesirable development of the game afterward; for example the enemy will attack you more violently.

Example of Event:
Shooting with a running rope

If you succeed:
Holding a strap that is suspended from a running rope, you glide down in the air and thus run after an enemy boss.



If you fail:
Attacked by the enemies, you jump downstairs.



Clearing the Stage

- A boss character appears at the end of each stage. You can clear the stage by destroying the boss.
- The boss is not destroyed until its life meter counts down to zero (0).



- If you clear the stage, a MISSION COMPLETE screen appears.



- normal hits ; Indicates the number of hits.
- special hits ; Indicates the total of combo and justice.
- combo ; Indicates the number of second and third hits out of your three continuous hits onto an enemy. The maximum 3 hits are justified to a single enemy.
- justice ; Indicates the number of justice shots. (Justice shot means that you shoot an enemy at its hands to blast its weapons off, making it lose its fighting spirit.)
- accuracy ; Indicates a hitting ratio (%).
- total ; Indicates the latest total scores.

Available Items

By shooting the items that appear on the screen, you can obtain them. If you obtain an item, you can build up your armaments, recover your life, or increase your scores.

■ Life Items



C Mark



M Mark



F Mark

By obtaining a set of C, M, and F marks, one each, you can increase your life by one.

■ Armament Items

ASSAULT RIFLE

By pulling the trigger, you can shoot the bullets automatically and continuously. The maximum 45 bullets are available. When all the 45 bullets are used, this item returns to an ordinary gun.



LASER SIGHT

A spot directed by the muzzle appears, in real time, as a pointer on the screen. You can shoot the bullets as many as you want within a time limit. When a time limit is reached, the laser sight disappears and this item returns to an ordinary gun.



BODY ARMOUR

This item enables to make an enemy's attack useless. The body armour disappears when once used against an enemy's attack.



GRENADE

This item explodes when shot and can widely damage the target. The grenade disappears when once exploded.



■ Point Item

Attach_ Case

You can get 3,000 points. When this item is shot, three floppy disks appear.



Floppy Disk

This item appears when you shoot the attach_case item. You can get 5,000 points per piece.



- ③ If you want to join in the game when another player is already playing, just insert the coins and press the unused start button; then the integrated light starts to flash. (It may be already flashing in the event that you have the credits enough for a play.) Press the flashing start button again; now you can play.
NOTE: You cannot join in the game if the PLEASE WAIT A MINUTE message is on the screen.
- ④ When your life becomes zero (0) but you want to continuously play the game, insert the coins enough to continue, and press the start button. (In the event that you have the credits enough to continue, just press the start button without inserting the coins.)
- ⑤ You can enter your name in an Internet ranking mode if you have taken the 20th or higher place in the points when the game has been over.

Internet Ranking (available if you have set the INTERNET RANKING item to ON in a GAME ASSIGNMENTS screen)

- If you have set the INTERNET RANKING item to ON in a GAME ASSIGNMENTS screen, the following message appears on the upper section of an advertising screen.
INTERNET RANKING MODE: PULL TRIGGER AND INSERT COIN

- You can obtain your password to be registered in an Internet ranking, as follows:
 - Make sure that an Internet ranking item has been set to on.
 - Pull the trigger and insert coins to activate an Internet ranking mode.
 - Enter your name.

NOTE: A CONFIDENTIAL MISSION Internet score ranking is operated at a homepage of Hitmaker Ltd.

- For registering the password, see the homepage of Hitmaker Ltd.
(<http://www.hitmaker.co.jp>).
- In an Internet ranking mode, the difficulty settings are automatically reset to the values that are specific with an Internet ranking, in the event that this function has been set to on. If you insert the coins without pulling the trigger, however, the difficulty settings are not reset even in the event that this function has been set to on.



Keys for Getting High Points

- Destroy an enemy as soon as it appears.
Obtainable point is highest if you destroy an enemy immediately after it appears on the screen. Point becomes lower when a sight is completed in red. The earlier you destroy an enemy the higher the point is.
- Obtain a 'special hits' bonus point.
You obtain a bonus point if you can destroy an enemy with special hits (justice and combo). See Page 41, "Clearing the Stage."
- Obtain a bonus point from a successful playing in the event.
You obtain a bonus point if you can succeed to play in the events that may take place stage by stage.

9. EXPLANATION OF TEST AND DATA DISPLAY

By operating the switch unit, periodically perform the tests and data check. When installing the machine initially or collecting cash, or when the machine does not function correctly, perform checking in accordance with the explanations given in this section.

The following shows tests and modes that should be utilized as applicable.

This product's basic system consists of the NAOMI game board and the GD-ROM drive. The system enables you to play several games one after the other just by changing a GD-ROM disk that is to be set on the GD-ROM drive.

The product supports, therefore, the following 2 test modes:

- (1) System test mode for an automatic self-diagnostic test (generally used by every product that contains the basic system) and a coin assignment (specifically used by this product) and
- (2) Game test mode for testing the input/output control devices and setting the difficulty level (specifically used by this product).

This manual does not cover the automatic self-diagnostic test. For more information about the system test mode, see the attached GD-ROM Service Manual.

TABLE 9 EXPLANATION OF TEST MODE

ITEMS	DESCRIPTION	REFERENCE SECTIONS
INSTALLATION OF MACHINE	When the machine is installed, perform the following: 1. Check to ensure each is the standard setting at shipment. 2. Check each Input equipment in the INPUT TEST mode. 3. Check each Output equipment in the OUTPUT TEST mode. 4. Test on-IC-Board IC's in the SELF-TEST mode.	SERVICE MANUAL 9-3D,E 9-3B 9-3C SERVICE MANUAL
MEMORY	This test is automatically executed by selecting RAM TEST, or ROM BOARD TEST in the Menu mode.	SERVICE MANUAL
PERIODIC SERVICING	Periodically perform the following: 1. MEMORY TEST 2. Ascertain each setting. 3. To test each Input equipment in the INPUT TEST mode. 4. To test each Output equipment in the OUTPUT TEST mode.	SERVICE MANUAL 9-3D,E 9-3B 9-3C
CONTROL SYSTEM	1. To check each Input equipment in the INPUT TEST mode. 2. Adjust or replace each Input equipment. 3. If the problem still remains unsolved, check each equipment's mechanism movements.	SERVICE MANUAL 9-3B,E 10
MONITOR	In the Monitor Adjustment mode, check to see if Monitor (Projector) adjustments are appropriate.	SERVICE MANUAL 11
IC BOARD	1. MEMORY TEST 2. In the SOUND TEST mode, check the sound related ROMs.	SERVICE MANUAL SERVICE MANUAL
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc.	SERVICE MANUAL 9-3F

9 - 1 SWITCH UNIT AND COIN METER



Never touch places other than those specified. Touching places not specified can cause electric shock and short circuit accidents.



- Adjust to the optimum sound volume by considering the environmental requirements of the installation location.
- If the COIN METER and the game board are electrically disconnected, game play is not possible.

SWITCH UNIT

Open the coin chute door, and the switch unit shown will appear.
The functioning of each SW is as follows:

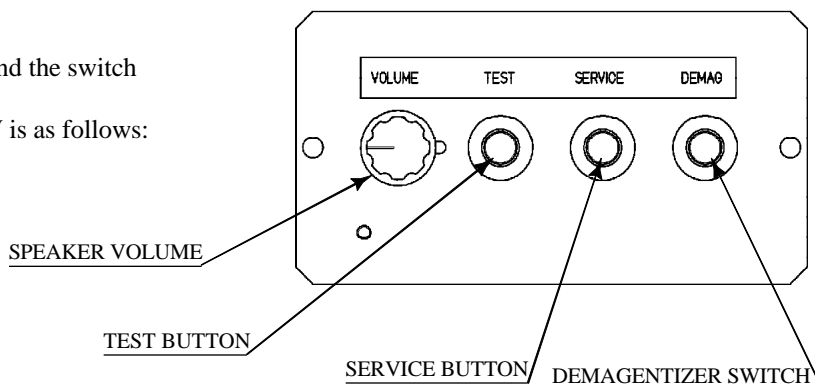


FIG. 9. 1 a SWITCH UNIT

TEST BUTTON:
TEST

For the handling of the test button, refer to the following pages.

SERVICE BUTTON:
SERVICE

Gives credits without registering on the coin meter.

SPEAKER VOLUME:
SPEAKER

Adjusts sound volume for all of the machines' Speakers. Adjust to an appropriate sound volume by considering the environmental requirements of the installation location.

DEMAGNETIZER SWITCH:
DEMAG.

Eliminates the on-screen color unevenness due to magnetization of CRT. First use this SW before performing the monitor's color adjustment.

COIN METER

Open the Cashbox Door by using the key to have the Coin Meter appear underneath the Cashbox.

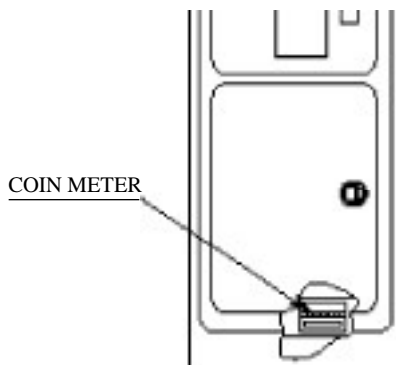


FIG. 9. 1 b

9 - 2 SYSTEM TEST MODE



- The contents of settings changed in the TEST mode are stored when the test mode is finished from EXIT in the menu mode. If the power is turned off before the TEST mode is finished, the contents of setting change become ineffective.
- Executing "BACKUP DATA CLEAR" in the SYSTEM TEST MODE does not clear the BOOKKEEPING data in the GAME TEST mode.
- Entering the TEST mode clears fractional number of coins less than one credit and BONUS ADDER data.
- Perform setting as per specified in this manual for operation. If setting not specified is performed for operation, proper function of this product may not be obtained.

In the SYSTEM TEST MODE, IC BD functioning can be checked, the monitor adjusted, and the coin setting performed.

Refer to GD-ROM SERVICE MANUAL for the details. Note that the setting of the following items need to be performed in accordance with the instruction given.

- CABINET TYPE : 2 PLAYER(S)
- MONITOR TYPE : HORIZONTAL
- SERVICE TYPE : COMMON
- COIN CHUTE TYPE : COMMON

9 - 3 GAME TEST MODE

A. MENU MODE

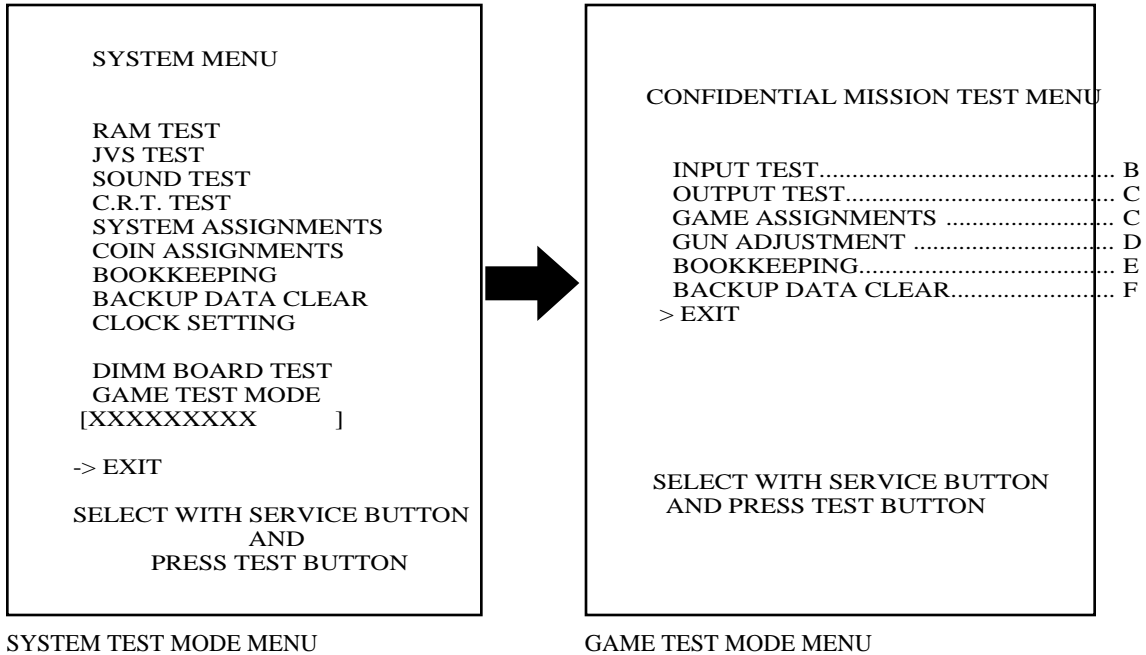


FIG. 9. 3 a MENU MODE

- Press TEST button to display the MENU screen in the SYSTEM MODE.
- Move the arrow with the SERVICE button and select GAME TEST MODE. Press the TEST button to display the MENU screen in the GAME TEST MODE.
- Move the arrow with the SERVICE button and select an item. Press the TEST button to enter the selected item.
- Select the EXIT and press the TEST button to finish the test mode and return to the MENU screen in the SYSTEM TEST MODE. Select the EXIT in the mode and press the TEST button to finish the SYSTEM TEST MODE. The screen returns to the game mode.

B. INPUT TEST

Select the INPUT TEST item on the CONFIDENTIAL MISSION TEST MENU screen, and press the TEST button. Then, the following INPUT TEST screen appears. Regularly test the input devices on this screen.

INPUT TEST		
	PLAYER 1	PLAYER 2
TRIGGER	OFF	OFF
SCREEN-IN	OUT	OUT
GUN-X	0	0
GUN-Y	0	0
START	OFF	OFF

PRESS TEST AND SERVICE BUTTON
TO EXIT

FIG. 9. 3 b INPUT TEST screen

- Pull the controller's trigger. Make sure that the TRIGGER item indicates ON instead of OFF, that is, the trigger is normal.
- Point the controller toward the screen. Make sure that the SCREEN-IN item indicates IN instead of OUT and the GUN-X and GUN-Y items change their indications within the scope between 0 and ff, that is, the controller is normal.
- Press the start button. Make sure that the START item indicates ON instead of OFF, that is, the button is normal.
- After testing, press the TEST and SERVICE buttons simultaneously to return to the CONFIDENTIAL MISSION TEST MENU screen.

C. OUTPUT TEST

Select the OUTPUT TEST item on the CONFIDENTIAL MISSION TEST MENU screen, and press the TEST button. Then, the following OUTPUT TEST screen appears. Regularly test the lights on this screen.

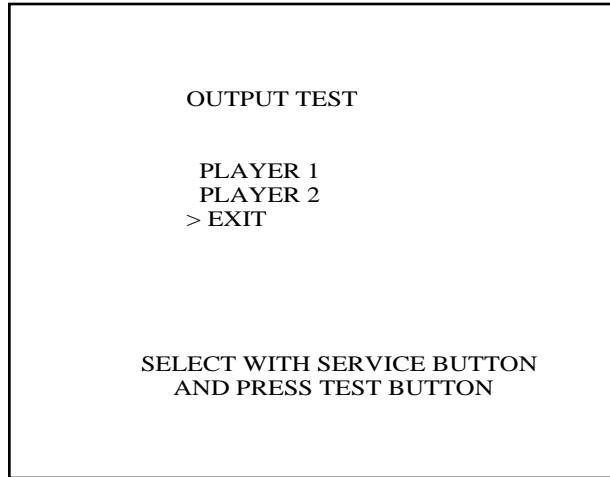


FIG. 9. 3 c OUTPUT TEST screen

- Select the PLAYER 1 (PLAYER 2) item. Make sure that the light integrated with the 1P-side (2P-side) start button flashes, that is, the light and wires are normal.
- After testing, select the EXIT item and press the TEST button to return to the CONFIDENTIAL MISSION TEST MENU screen.

D. GAME ASSIGNMENTS

Select the GAME ASSIGNMENTS item on the CONFIDENTIAL MISSION TEST MENU screen, and press the test button. Then, the following GAME ASSIGNMENTS screen appears. This screen enables to reset some game parameters. New settings become effective by exiting the CONFIDENTIAL MISSION TEST MENU screen. If you have reset any game parameters, therefore, be sure to exit the CONFIDENTIAL MISSION TEST MENU screen.

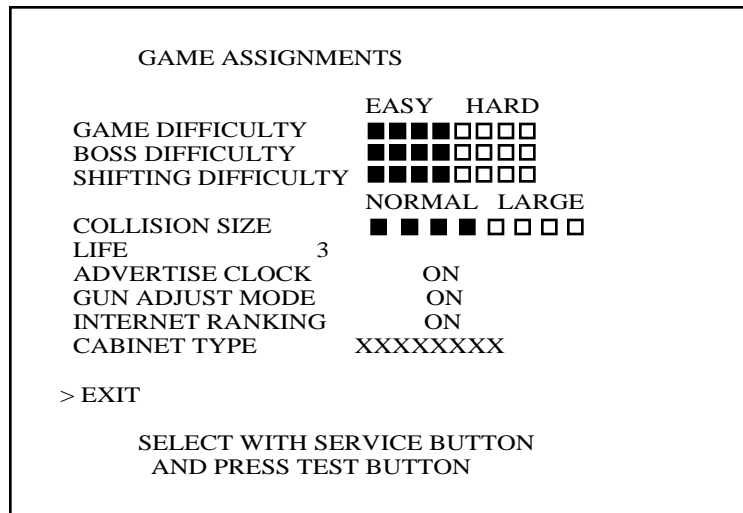


FIG. 9. 3 d GAME ASSIGNMENTS screen

- Press the SERVICE button to move the > mark to any desired item to reset. Press the TEST button to select a new setting.
- Select the EXIT item and press the TEST button, to return to the CONFIDENTIAL MISSION TEST MENU screen.

- GAME DIFFICULTY : Indicates a game difficulty level. Eight levels are selectable.
- BOSS DIFFICULTY : Indicates a difficulty level of the fight against an enemy's boss. (Such a fight takes place stage by stage.) Eight levels are selectable.
- SHIFTING DIFFICULTY : Indicates how a difficulty level increases as the game advances. Eight levels are selectable.
- COLLISION SIZE : Indicates violence of a collision with an enemy that may appear in the game. Eight levels are selectable.
- LIFE : Indicates an initial life (the number of life given to a player at the beginning of the game). Six levels (any number from 3 to 8) are selectable.
- ADVERTISE CLOCK : Indicates whether to display a clock on the screen during advertising or plying for hire (ON), or not (OFF).
- GUN ADJUST MODE : Indicates whether to display the GUN CONTROLLER ADJUSTMENT screen at the beginning of the game (ON), or not (OFF).

- **INTERNET RANKING:** Indicates whether to activate an Internet score ranking mode available on a homepage of Hitmaker Ltd. (ON), or not (OFF).
If this item is set to ON, the following message appears on the upper section of an advertising screen.
INTERNET RANKING MODE: PULL TRIGGER AND INSERT COIN
In this instance, pull the trigger and insert coins to activate an Internet score ranking mode. Then, at the end of the game, the system displays your password that is used to register you in an Internet score ranking.
When playing the game in an Internet score ranking mode, the system automatically reset all the items (other than ADVERTISING CLOCK, GUN ADJUST MODE, and CABINET TYPE) to the settings specific with an Internet score ranking mode. This automatic resetting does not occur if you have inserted coins without pulling the trigger.
- **CABINET TYPE** : Indicates a type of the cabinet you use: DELUXE (DX TYPE) or STANDARD (U/R TYPE).

E. GUN ADJUSTMENT

Select the GUN ADJUSTMENT item on the CONFIDENTIAL MISSION TEST MENU screen, and press the TEST button. Then, the following GUN ADJUSTMENT screen appears. This screen enables to reset the 5 correction parameters (the screen's center and right/left/top/bottom ends). A setting procedure is described below. As instructed by the setting procedure, be sure to actually point the controller at the screen's center and ends to decide each correction value.

Press the 1P or 2P start button to select any correction parameter.

New settings become effective by exiting the CONFIDENTIAL MISSION TEST MENU screen. If you have reset any correction parameters, therefore, be sure to exit the CONFIDENTIAL MISSION TEST MENU screen.

GUN ADJUSTMENT					
PLAYER1			PLAYER2		
OLD : NOW			OLD : NOW		
> RIGHT	aa	bb	> RIGHT	aa	bb
LEFT	aa	bb	LEFT	aa	bb
TOP	aa	bb	TOP	aa	bb
BOTTOM	aa	bb	BOTTOM	aa	bb
CENTER X	aa	bb	CENTER X	aa	bb
Y	aa	bb	Y	aa	bb
DEFAULT CHECK			DEFAULT CHECK		
<div style="font-size: 2em; font-weight: bold; margin: 0;">SIGHT OUT</div>					
SELECT WITH START BUTTON AND PULL TRIGGER					
PRESS TEST BUTTON TO EXIT					

FIG. 9. 3 e GUN ADJUSTMENT screen

- RIGHT aa bb : This decides a horizontal correction value at the right end. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's right end, aim at a square mark, and pull the trigger; thereby decide a correction value.
It is unnecessary to consider a vertical correction in this action.
- LEFT aa bb : This decides a horizontal correction value at the left end. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's left end, aim at a square mark, and pull the trigger; thereby decide a correction value.
It is unnecessary to consider a vertical correction in this action.
- TOP aa bb : This decides a vertical correction value at the top end. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's top end, aim at a square mark, and pull the trigger; thereby decide a correction value.
It is unnecessary to consider a horizontal correction in this action.
- BOTTOM aa bb : This decides a vertical correction value at the bottom end. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's bottom end, aim at a square mark, and pull the trigger; thereby decide a correction value.
It is unnecessary to consider a horizontal correction in this action.
- CENTER X(Y) aa bb : This decides a correction value at the center. X indicates a horizontal direction while Y a vertical direction. The aa column indicates the values before resetting while the bb after.
Point the controller to a screen's center, aim at a square mark, and pull the trigger; thereby decide a correction value.
- DEFAULT : This returns the correction values to those before resetting.
- CHECK : This enables to perform a gun adjustment.
Select the CHECK item and point the controller to a screen. A round cursor (red for 1P and blue for 2P) appears on the screen to indicate a position of your hitting. Referring to the cursor, you can perform a gun adjustment.
- SIGHT OUT : The SIGHT OUT message appears when you point the controller to outside the screen.

F. BOOKKEEPING

Select the BOOKKEEPING item on the CONFIDENTIAL MISSION TEST MENU screen, and press the TEST button. Then, the following BOOKKEEPING 1/2 screen appears. Press the TEST button again; the BOOKKEEPING 2/2 screen appears. These screens show the latest operation data.

Press the TEST button in the BOOKKEEPING 2/2 screen to return to the CONFIDENTIAL MISSION TEST MENU screen.

BOOKKEEPING 1/2	
NUMBER OF GAMES	0
TOTAL (POWER ON) TIME	00H 00M 00S
GAME TIME	00H 00M 00S
PLAY TIME	00H 00M 00S
AVERAGE PLAY TIME	00H 00M 00S
LONGEST PLAY TIME	00H 00M 00S
SHORTEST PLAY TIME	00H 00M 00S
PRESS TEST BUTTON TO CONTINUE	

FIG. 9. 3 fa BOOKKEEPING 1/2 screen

- NUMBER OF GAMES : This indicates the number of plays.
- TOTAL (POWER ON) TIME: This indicates the accumulated power-on hours.
- GAME TIME : This indicates the accumulated operation hours.
- PLAY TIME : This indicates the accumulated playing hours (1P+2P).

BOOKKEEPING 2/2	
TIME HISTOGRAM	
0M00S - 0M29S	0
0M30S - 0M59S	0
1M00S - 1M29S	0
1M30S - 1M59S	0
2M00S - 2M29S	0
2M30S - 2M59S	0
3M00S - 3M29S	0
3M30S - 3M59S	0
4M00S - 4M29S	0
4M30S - 4M59S	0
5M00S - 5M29S	0
5M30S - 5M59S	0
6M00S - 6M29S	0
6M30S - 6M59S	0
7M00S - 7M29S	0
7M30S - 7M59S	0
8M00S - 8M29S	0
8M30S - 8M59S	0
9M00S - 9M29S	0
9M30S - 9M59S	0
OVER 10M00S	0
PRESS TEST BUTTON TO EXIT	

The BOOKKEEPING 2/2 screen indicates the number of plays per each playing period. Use the data when setting a difficulty level.

FIG. 9. 3 fb BOOKKEEPING 2/2 screen

G. BACKUP DATA CLEAR

Select the BACKUP DATA CLEAR item on the CONFIDENTIAL MISSION TEST MENU screen, and press the TEST button. Then, the following BACKUP DATA CLEAR screen appears. This screen enables to clear the data of bookkeeping and high-ranking scorers.

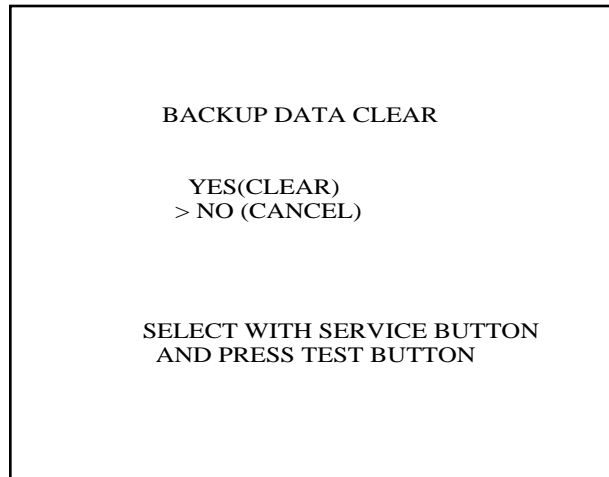


FIG. 9. 3 g BACKUP DATA CLEAR screen

- To clear the data:
Press the SERVICE button to move the > mark to YES, and press the TEST button. When clearing is finished, the COMPLETED message appears on the screen. Press the TEST button, in this instance, to return to the CONFIDENTIAL MISSION TEST MENU screen.
- Not to clear the data:
Press the SERVICE button to move the > mark to NO, and press the TEST button. This action enables you to immediately return to the CONFIDENTIAL MISSION TEST MENU screen.
- Even after you have cleared the backup data, the settings in the GAME ASSIGNMENTS and GUN ADJUSTMENT screens remain unchanged.
- Even after you have cleared the backup data, the coin- and credit-related data are not cleared. To clear the coin- and credit-related data, select the BACKUP DATA CLEAR item in the SYSTEM MENU screen and press the TEST button.

10. CONTROLLER



- In order to prevent an electric shock and short circuit, be sure to turn power off before performing work by touching the interior parts of the product.
- Be careful so as not to damage wirings. Damaged wiring can cause an electric shock or short circuit accident.
- Be very careful when soldering. Handling a soldering iron carelessly may result in a fire or a burn.



When securing the plastic-made parts, do not excessively fasten screws and nuts. Failure to observe this may damage the parts and cause injury due to fragments resulting from damage.

In the cases where the controller's operation is not satisfactory or the controller sight deviates from the direction in which the controller is pointed, the controller's interior parts may have been damaged. Replace the parts by disassembling the controller in the following procedure: Also, be sure to perform sighting check in the test mode when the controller parts are replaced.

REPLACING THE MICROSWITCH

- ① Disassemble the controller.
- ② Pull out the microswitch from COVER RIGHT.
- ③ Take out the microswitch by removing the soldering from it.
- ④ Bend the new Microswitch Actuator as shown.
- ⑤ Solder the new microswitch and assemble the controller.
- ⑥ By operating the Trigger, check if the Microswitch can be turned ON/OFF correctly.

REPLACING THE SENSOR UNIT

- ① Disassemble the controller.
- ② Remove the sensor unit from COVER.

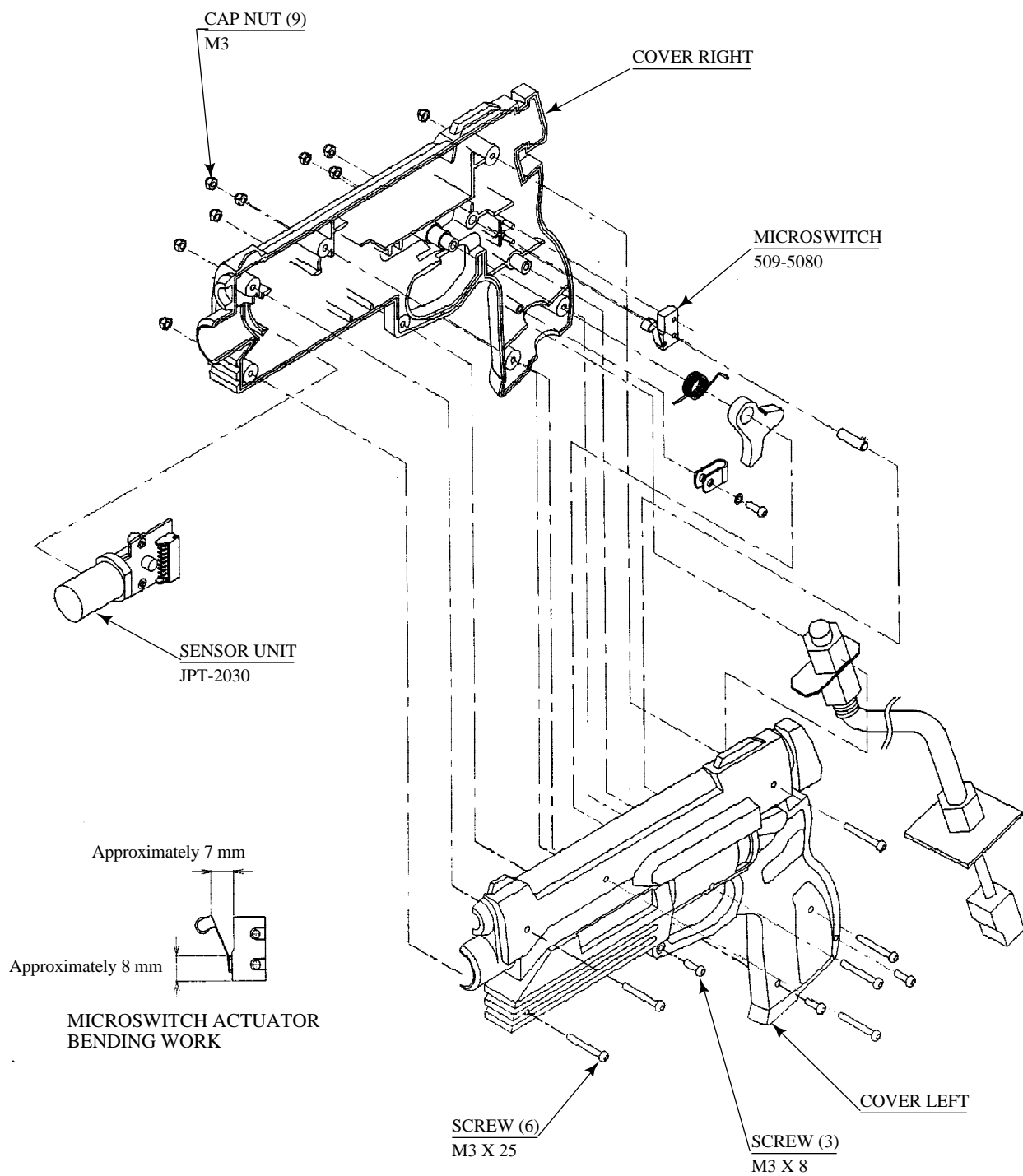


FIG. 10

11. MONITOR

11 - 1 CAUTIONS AND WARNINGS CONCERNING THE SAFETY FOR HANDLING THE MONITORS

Before handling the monitors, be sure to read the following explanations and comply with the caution/warning instructions given below. Note that the caution/warning symbol marks and letters are used in the instructions.



Indicates that handling the monitors erroneously by disregarding this warning may cause a potentially hazardous situation, which could result in death or serious injury.



Indicates that handling the monitors by disregarding this caution may cause a potentially hazardous situation, which could result in personal injury and or material damage.



Indicates that access to a specific part of the equipment is forbidden.



Indicates the instruction to disconnect a power connector or to unplug.

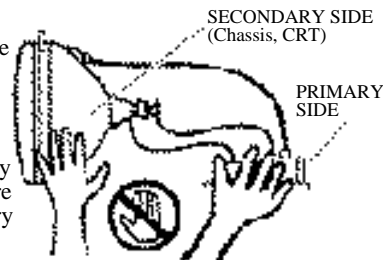


- When performing such work as installing and removing the monitor, inserting and disconnecting the external connectors to and from monitor interior and the monitor, be sure to disconnect the power connector (plug) before starting the work. Proceeding the work without following this instruction can cause electric shock or malfunctioning.
- Using the monitor by converting it without obtaining a prior permission is not allowed. SEGA shall not be liable for any malfunctioning and accident caused by said conversion.



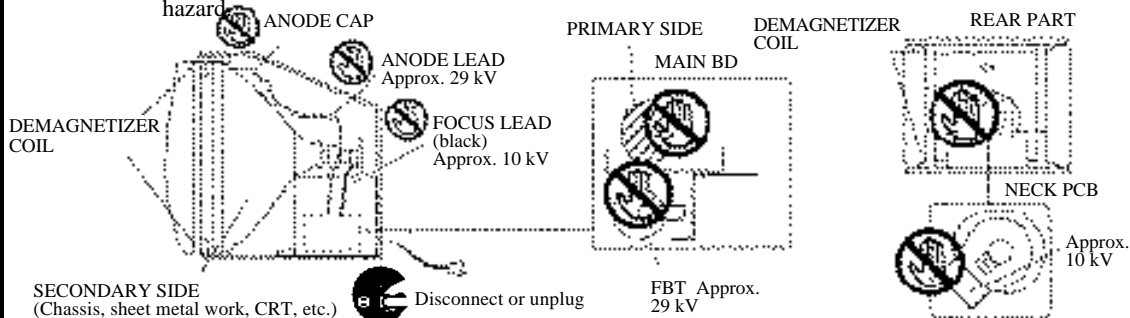
● Primary side and Secondary side

The monitor's circuit which is divided into the Primary side and Secondary side, is electrically isolated. Do not touch the primary side, or do not touch both the primary side and the secondary side simultaneously. Failing to observe the instruction can cause electric shock and this is very dangerous. When making monitor adjustments, use a non-conductive driver and make adjustment without touching any part other than the Adjustment V. R. and knob. Also, be sure not to cause a short-circuit to the Primary side and Secondary side. If short-circuited, it can cause electric shock or malfunctioning, which is very dangerous.



● High-tension Voltage

Some of the parts inside monitor are subject to high-tension voltage in excess of 20,000 volts and very dangerous. Therefore, do not touch the monitor interior. Should soldering & paper wastes, etc. be mixed in the monitor interior, turn the power off so as not to cause malfunctioning or fire hazard.



● Connecting the CRT and PCB

For combining the CRT and PCB, use the specified part No. to maintain the status of adjustments made at the factory. The anode of the CRT itself will be accumulatively charged as time elapses, generating high-tension voltage which is very dangerous. The monitor should be used with the Chassis, CRT and PCB assembled. When repair, etc. is required at the time of malfunctioning, be sure to send it in an "as is assembled" condition. If these are disassembled, what's charged to said high tension voltage can be discharged, causing a very hazardous situation. Therefore, under no circumstances should it be disassembled.



CAUTION!

- **Static Electricity**

Touching the CRT surface sometimes causes you to slightly feel electricity. This is because the CRT surfaces are subject to static and will not adversely affect the human body.

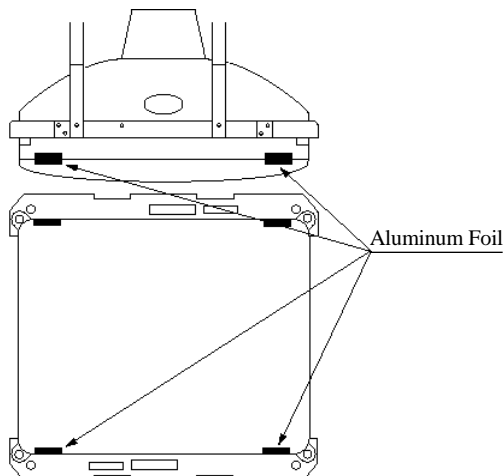
- **Installation and removal**

Ensure that the Magnetizer Coil, FBT (Fly-Back Transformer), Anode Lead and Focus Lead are not positioned close to the sheet metal work's sharp edges, etc. and avoid damaging the insulated portions so as not to cause electric shock and malfunctioning. (For the name of parts, refer to the above Figures).



For the purpose of static prevention, special coating is applied to the CRT face of this product. To protect the coating, pay attention to the following points. Damaging the coating film can cause electric shock to the customers.

- Do not apply or rub with a hard item (a rod with pointed edge, pen, etc.) to or on the CRT surfaces.
- Avoid applying stickers, seals, etc. on the CRT face.
- Do not remove aluminum foils from the CRT corners. Removing the aluminum foils can cause static prevention effects to be lowered.



11 - 2 CAUTIONS TO BE HEEDED WHEN CLEANING THE CRT SURFACES



Use care when handling the glass made parts. If glass made parts are damaged, the glass fractions can cause injury.



- When cleaning the CRT, be sure to use a soft, dry cloth. Do not use chemicals such as thinner, benzene, etc.
- Apply anti-static agent, which prevents dust attachment, only to the CRT face.

Be sure to turn power off before cleaning the CRT.

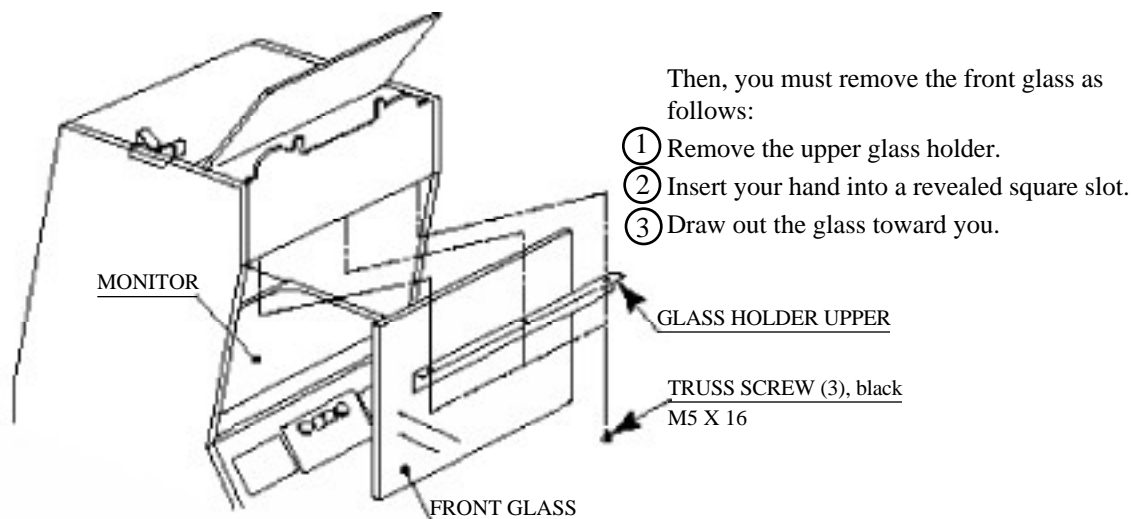


FIG. 11. 2

11 - 3 ADJUSTMENT METHOD



- Monitor adjustments have been made at the time of shipment. Therefore, do not make further adjustment without a justifiable reason. Adjusting the monitor which contains high tension parts is a dangerous work. Also, an erroneous adjustment can cause deviated synchronization and image fault, resulting in malfunctioning.
- When making adjustment, utilize a resinous Alignment Rod. Servicing with bare hand or using conductive tools can cause electric shock.
- Be sure to perform appropriate adjustment of the monitor (projector). 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.

Remove the back door at the rear of the cabinet, and the monitor adjustment knob appears.

TAMPERPROOF SCREW(3), black
M4 X 30, flat washer used

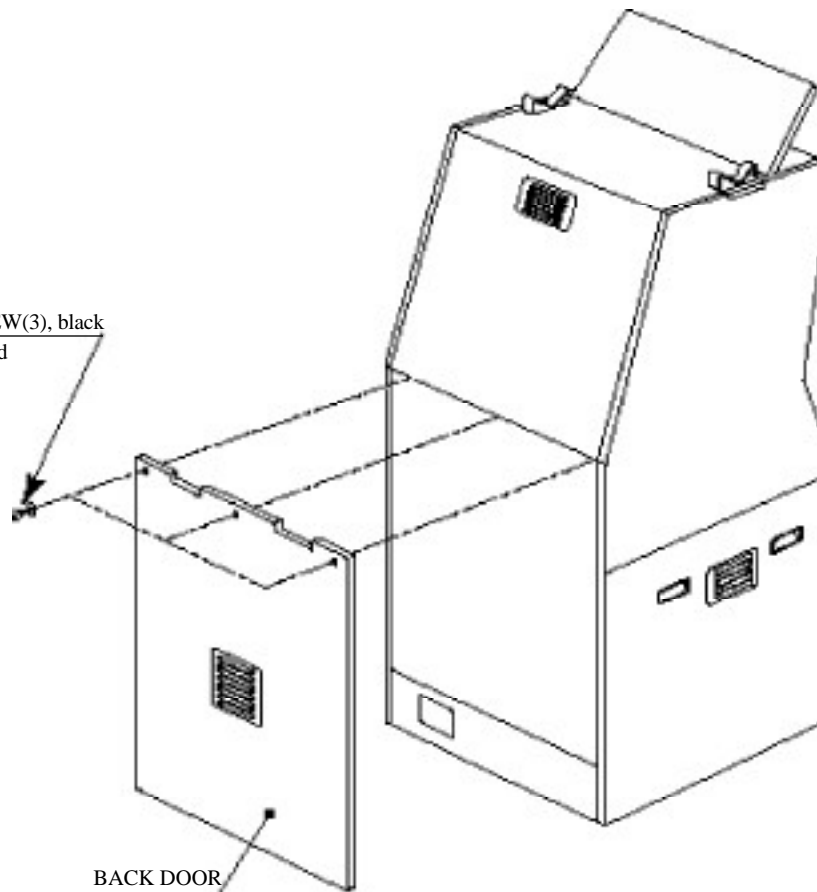


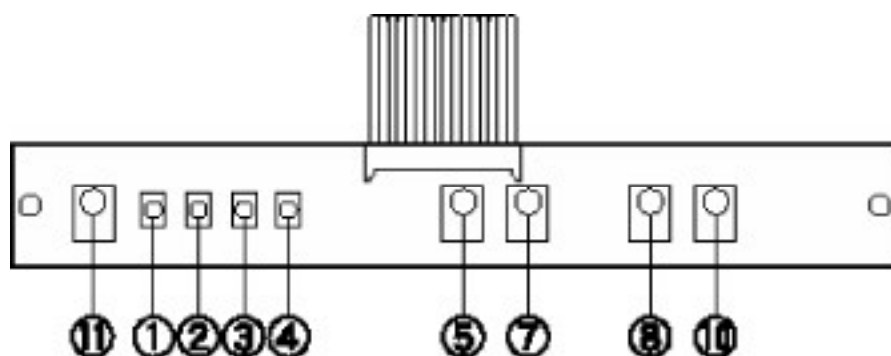
FIG. 11. 3 a



For adjustment, use the Resinous Adjustment Rod of 9mm.

FIG. 11. 3 b

NANAO monitor: 2 0 0 - 5 9 2 7 - 0 1 (31k mode)



- ⑪ R-GAIN.....
- ② G-GAIN Controls colors.
- ③ B-GAIN.....
- ④ BRIGHT..... Controls screen brightness.
- ⑤ H. SIZE Controls horizontal screen size.
- ⑦ H. POSI Controls horizontal display position on screen.
- ⑧ V. SIZE Controls vertical screen size.
- ⑩ V. POSI Controls vertical display position on screen.
- ⑪ CONTRAST.... Adjusts image contrast.

12. COIN SELECTOR

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.

CLEANING THE COIN SELECTOR



- 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 Open the gate and dust off by using a soft brush (made of wool, etc.).
- ③ Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- ④ Remove the CRADLE.
When removing the retaining ring (E ring), be very careful so as not to bend the rotary shaft.
- ⑤ Remove stain from the rotary shaft and shaft receiving portions by wiping off with a soft cloth, etc.
- ⑥ After wiping off as per ⑤ above, further apply a dry cloth, etc. to cause the coin selector to dry completely.

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?

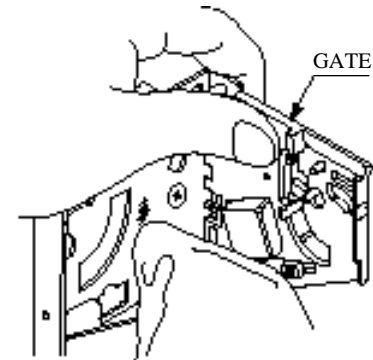


FIG. 12 a

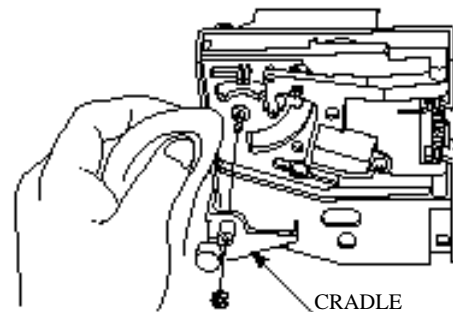


FIG. 12 b

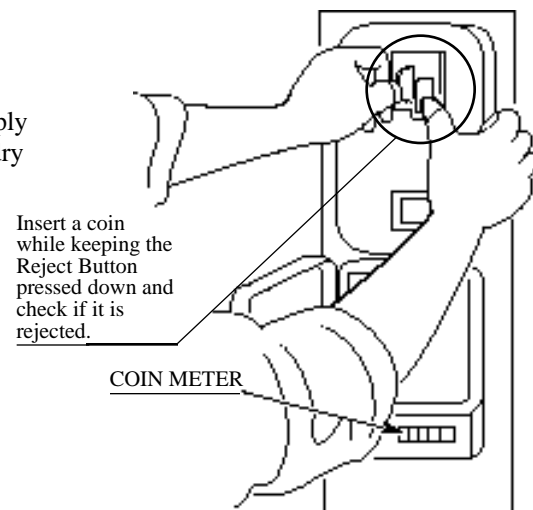


FIG. 12 c

13. REPLACING THE FLUORESCENT LAMP, AND LAMPS



WARNING!

- When performing work, be sure to turn power off. Working with power on can cause electric shock and short circuit hazards.
- The Fluorescent Lamp, when it gets hot, can cause burn. Be very careful when replacing the Fluorescent Lamp.
- Be sure to use lamps of the designated rating. Using lamps of undesignated rating can cause a fire or malfunctioning.

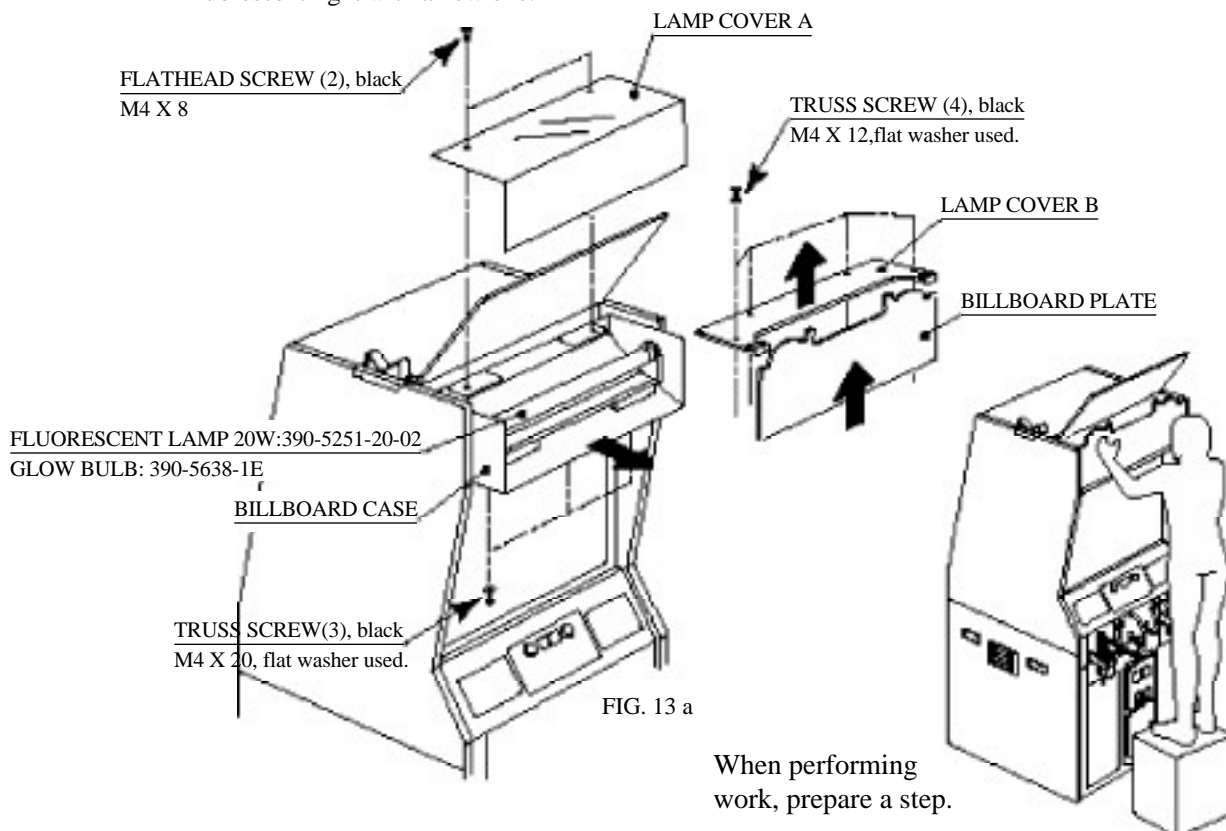


CAUTION!

- To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.
- Be careful when handling the plastic made parts. Failure to observe this may cause injury due to damage or fragments resulting from damage.

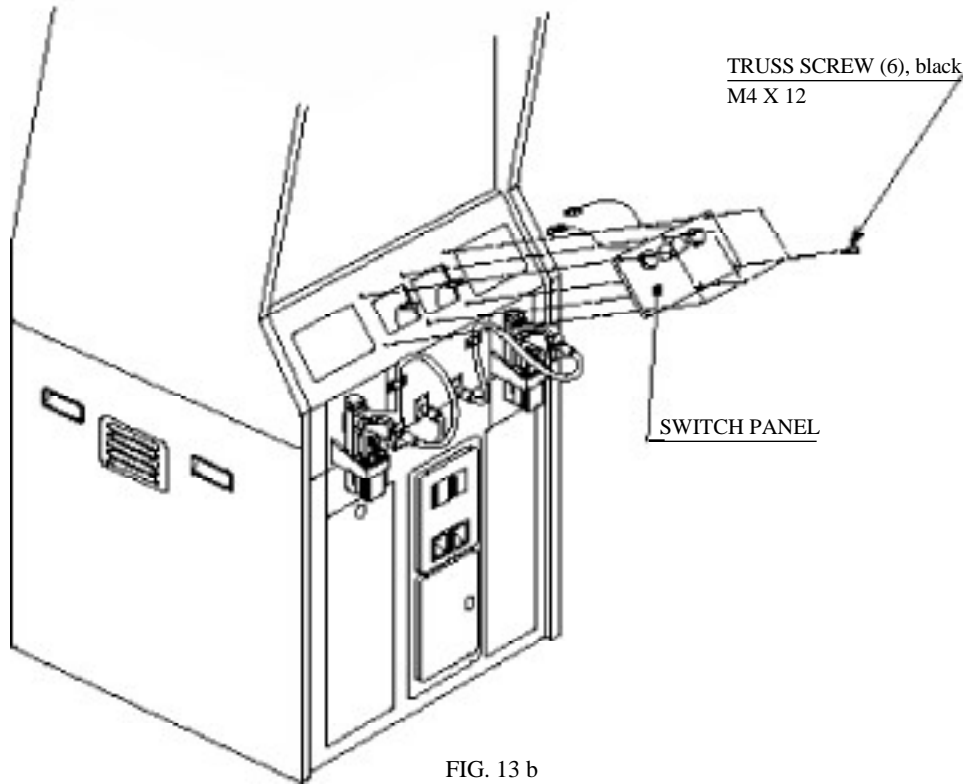
INSIDE THE BILLBOARD

- ① Disconnect the power.
- ② Remove the 3 truss head screws from the bottom of the billboard, and draw out the billboard case toward you. Be careful not to draw out too much; otherwise it may drop down and eventually cause an accident.
- ③ Remove the 4 truss head screws, and thereby remove the lamp cover B and billboard plate.
- ④ Remove the 2 countersunk screws, and thereby remove the lamp cover A. Now, replace the fluorescent light with a new one.

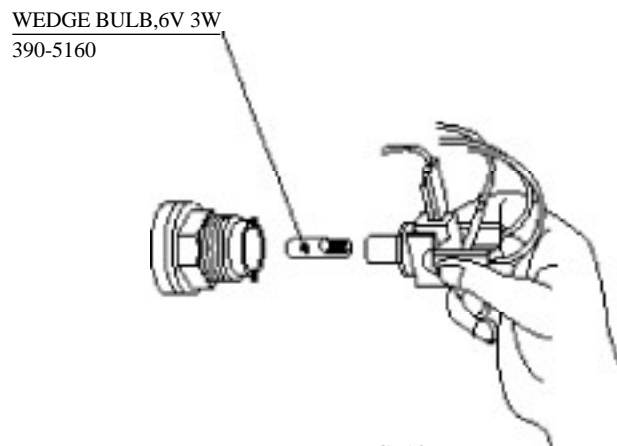


REPLACING THE LAMP

- ① Take out the 6 truss screws and remove the Switch Panel. At this time, be careful so as not to damage wiring.



- ② Hold both sides of the switch portion with fingers and pull out from the button's base portion. At this time, be careful so as not to damage the wiring connected to the switch.
- ③ The lamp is positioned at the end of the switch portion. Pull out the lamp straight without turning it.



14. PERIODIC INSPECTION TABLE

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!

- Be sure to check once a year to see if Power Cords are damaged, the plug is securely inserted, dust is accumulated between the Socket Outlet and the Power Plug, etc. Using the product with dust as is accumulated can cause fire and electric shock hazards.
- Periodically once a year, request the place of contact herein stated or the Distributor, etc. where the product was purchased from, as regards the internal cleaning. Using the product with dust as is accumulated in the interior without cleaning can cause a fire or accident. Note that cleaning the interior parts can be performed on a pay-basis.

TABLE 14

	Item	Interval	Reference
CABINET	Check Adjusters'contact with surface.	Daily	3
CONTROLLER	Cleaning	As necessary	
	Sight check	Weekly	9,10
	Check SWes.	Monthly	9,10
COIN CHUTE DOOR	Check COIN SW.	Monthly	9
	Coin insertion test.	Monthly	12
	Cleaning of COIN SELECTOR.	Trimonthly	12
MONITOR	Cleaning CRT face.	Weekly	11
	Check adjustments.	Monthly	6,9,11
FRONT GLASS,MIRROR	Cleaning	Weekly	See next page.
GAME BD	Check settings.	Monthly	9,*GD-ROM
	MEMORY TEST.	Monthly	9,*GD-ROM
INTERIOR	Cleaning	Annually	See above.
POWER SUPPLY PLUG	Inspection and cleaning		
Cabinet surfaces	Cleaning	As necessary.	See below.

*The 'GD-ROM' above indicates the GD-ROM SERVICE MANUAL

CLEANING THE CABINET SURFACES

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

CLEANING THE FRONT GLASS AND MIRROR

When cleaning, be sure to comply with the following CAUTION and instructions so as to ensure that the front glass and mirror are not damaged.



Use care when handling glass made parts. When the glass is damaged, fragments of glass can cause injury.



- Be sure to use the accessory glass cleaner or high-efficiency alkaline cleansing water. To avoid damaging the glass surfaces, do not use solutions such as thinner and alcohol, or abrasives, nor bleaching agents.
- Use a soft cloth.
- When removing an attached large particle of dust (or foreign matter), do not rub with a cloth.

Remove the front glass when cleaning the front glass and mirror. First, remove GLASS HOLDER UPPER only. Then, put your hand through the square hole in the back side of GLASS HOLDER UPPER, and pull the front glass toward you.

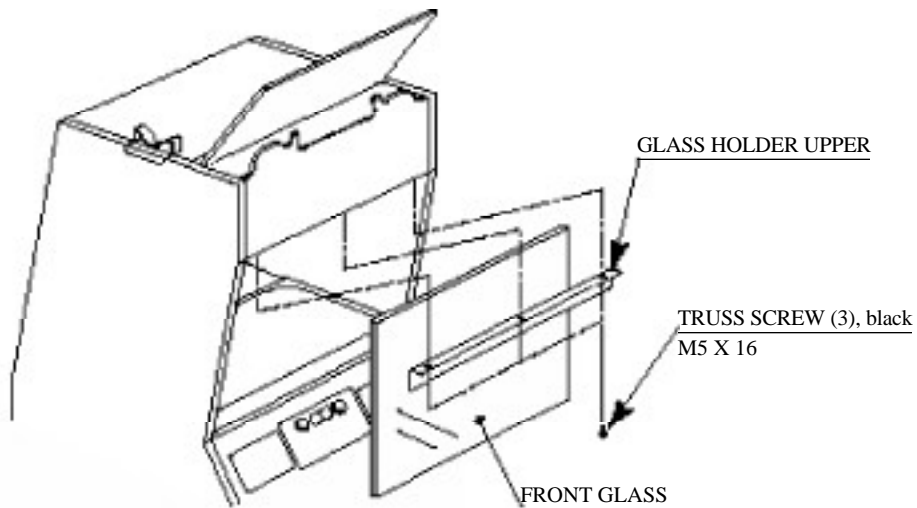


FIG. 14

15. TROUBLESHOOTING



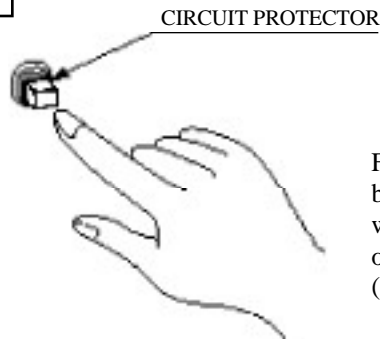
- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. 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 case a problem occurs, first check wiring connector connections.

TABLE 15 a

PROBLEMS	CAUSE	COUNTERMEASURES
When the main SW is turned ON, the machine is not activated.	The power is not ON. Incorrect power source/voltage. AC UNIT CIRCUIT PROTECTOR functioned due to instantaneous overcurrent.	Firmly insert the plug into the outlet. Make sure that the power supply/voltage are correct. First, remove the cause of overcurrent and reinstate the circuit protector to its original status (see 4 , Section 6, Refer to the following).
The color on MONITOR screen is incorrect.	Image adjustment is inappropriate.	Adjust appropriately (see Sec.11).
The on-screen image of the monitor sways and or shrinks.	The power source and voltage are not correct.	Make sure that the power supply and voltage are correct.

CIRCUIT PROTECTOR



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

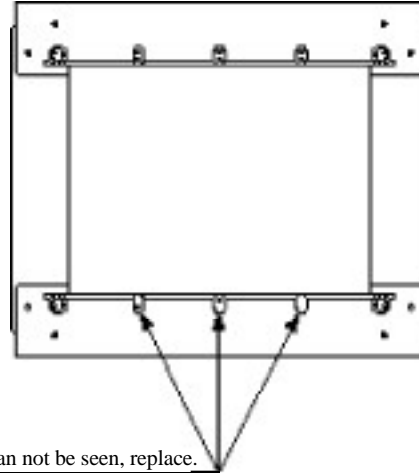
FIG. 15 a

TABLE 15 b

PROBLEMS	CAUSE	COUNTERMEASURES
No sound is emitted.	Sound volume adjustment is not appropriate. Board and Amplifier malfunctioning.	Adjust sound volume (see Sec. 9). Perform the sound test and confirm (see GD-ROM SERVICE MANUAL).
Controller sighting is not satisfactory.	Due to environmental changes, etc., sighting became inappropriate. LED BD malfunctioning. Sensor Unit malfunctioning. LED BD, Front Glass, and Mirror are soiled.	Perform sighting adjustment in the test mode (see Sec. 9). Check to ensure that the LED lights up. If it does not light up, replace (see next page). Replace the Sensor Unit (see Sec.10). Wipe off soiled surfaces (see Sec. 14 and next page).
During game play, the Controller is not operable for shooting.	Malfunctioning of microswitch. Malfunctioning of LED BD. Malfunctioning of Sensor Unit.	Check for ON and OFF in the INPUT test and if it is not functioning, replace the microswitch (see Sec.10). Check if the LED is lit, and if it is not lit, replace (see next page). Replace the Sensor Unit.
The Fluorescent lamp does not light up.	The Fluorescent tube is burnt out.	Replace the Fluorescent tube (see Sec. 13).
The Lamp does not light up.	Lamp malfunctioning.	Replace the Lamp (see Sec. 13).

REPLACEMENT OF LED BD

If the light emission of 2 LED's can not be seen, the fault or malfunctioning may be considered. Replace by using the following procedure. Also, when wiping off the soils, remove the ASSY SENSOR as per the same procedure.



If light emission from the 2 LED's can not be seen, replace.

FIG. 15 b

- ① Turn power off.
- ② Remove the Back Door.
- ③ Disconnect the ASSY SENSOR CONNECTOR.
- ④ Unclamp the grounding cable. Remove the hexagon head nut, and remove a round grounding terminal from a screw shank.
- ⑤ Pull out the ASSY SENSOR.

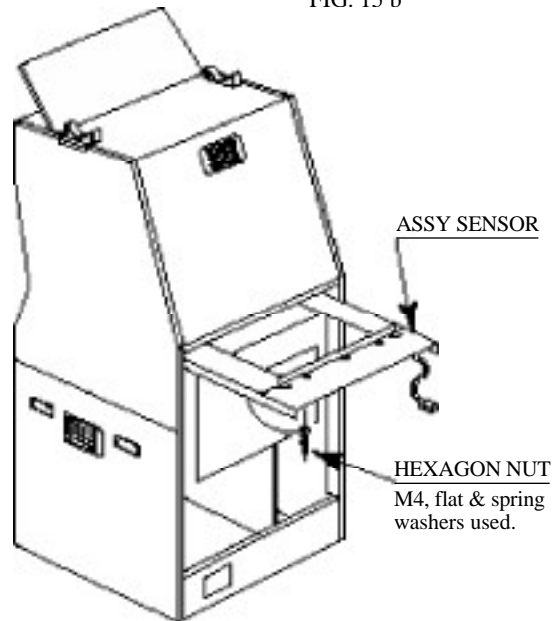


FIG. 15 c

- ⑥ Disconnect the connector from the both ends of the LED BD which shows defects.
- ⑦ Take out the 2 U Nuts to remove and replace the LED BD.

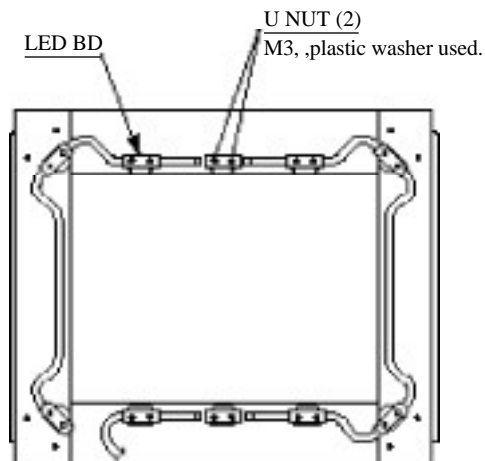


FIG. 15 d

16. GAME BOARD



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause fire, electric shock or short circuit.
- Do not expose the Game BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.



- In this product, setting changes are made during the test mode. The Game BD need not be operated. Use the Game BD, etc. as is with the same setting made at the time of shipment so as not to cause electric shock and malfunctioning.
- The electronic parts on the IC Board may be damaged due to human body's static electricity. Before performing IC Board related work, be sure to discharge physically accumulated statics by touching grounded metallic surfaces, etc.

16 - 1 REMOVING THE GAME BOARD

Turn off the main switch to disconnect the power.

Unlock the front-left door, and thereby remove the door from the cabinet.



PHOTO 16.1 a

- ③ Take out the ASSY MAIN BD (with the NAOMI board) from the cabinet. Remove the 7 connectors from the upper section of the rear of the door.

Disconnect the connector.



PHOTO 16. 1 b

- ④ Remove the D-SUB connector from the filter board (a part of the NAOMI board on the ASSY MAIN BD). Unclamp the cable with the D-SUB connector.



D-SUB connector

PHOTO 16. 1 c

- ⑤ Remove the 2 wing bolts that fix the ASSY MAIN BD's base (a wooden base).
- ⑥ Take out the ASSY MAIN BD from the cabinet. In this instance, be careful not to catch the wires on or in the parts.

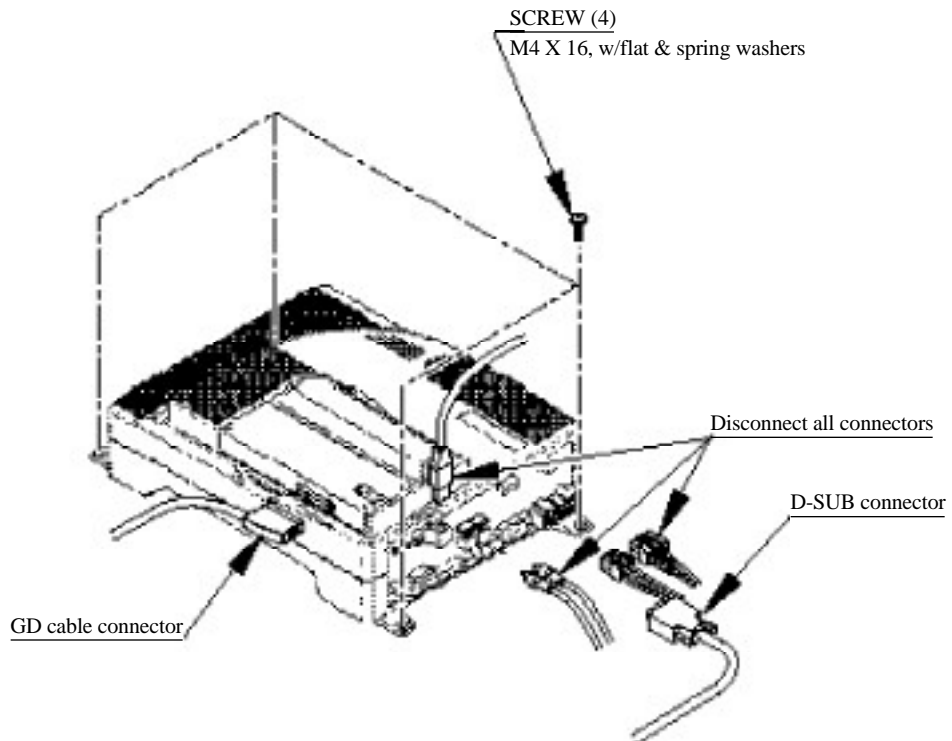
WING BOLT (2)

M4 X 30, flat washer used



PHOTO 16. 1 d

- ⑦ Place the ASSY MAIN BD on a flat horizontal surface.
- ⑧ Remove all the connectors from the filter board on the NAOMI board. Also remove the GD cable connector from the DIMM board.
- ⑨ Remove the 4 screws that fix the NAOMI game board.



How to Remove the GD-ROM Drive

Take out the ASSY MAIN BD from the cabinet; and then remove the GD-ROM drive from the ASSY MAIN BD as follows:

- ① Following the above described actions ① to ⑦ (to remove the NAOMI board), take out the ASSY MAIN BD from the cabinet.
- ② Remove the GD cable connector and the power cord connector from the GD-ROM drive.

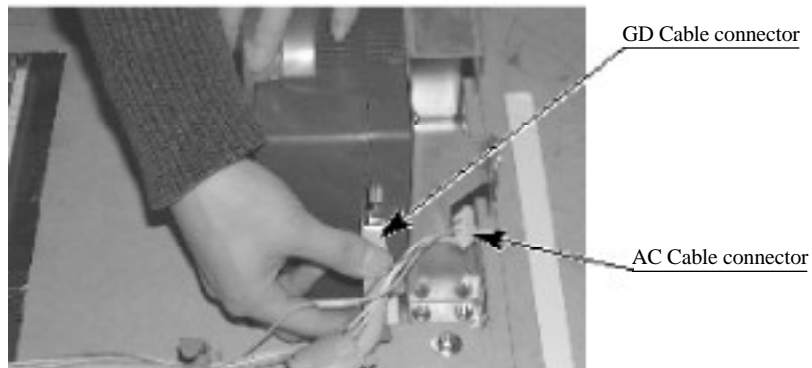


PHOTO 16. 1 e

Remove the 4 flange nuts, and thereby remove the GD-ROM drive from the ASSY MAIN BD.

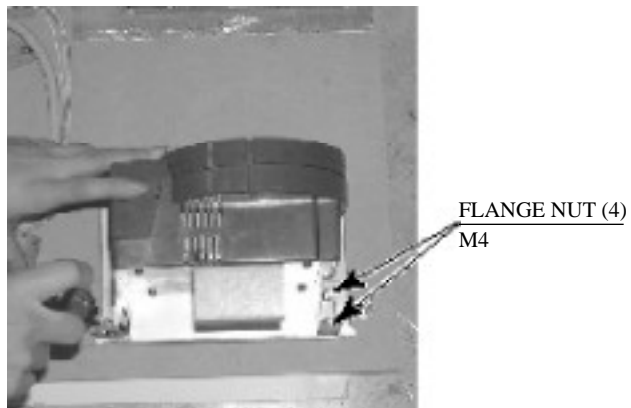


PHOTO 16. 1 f

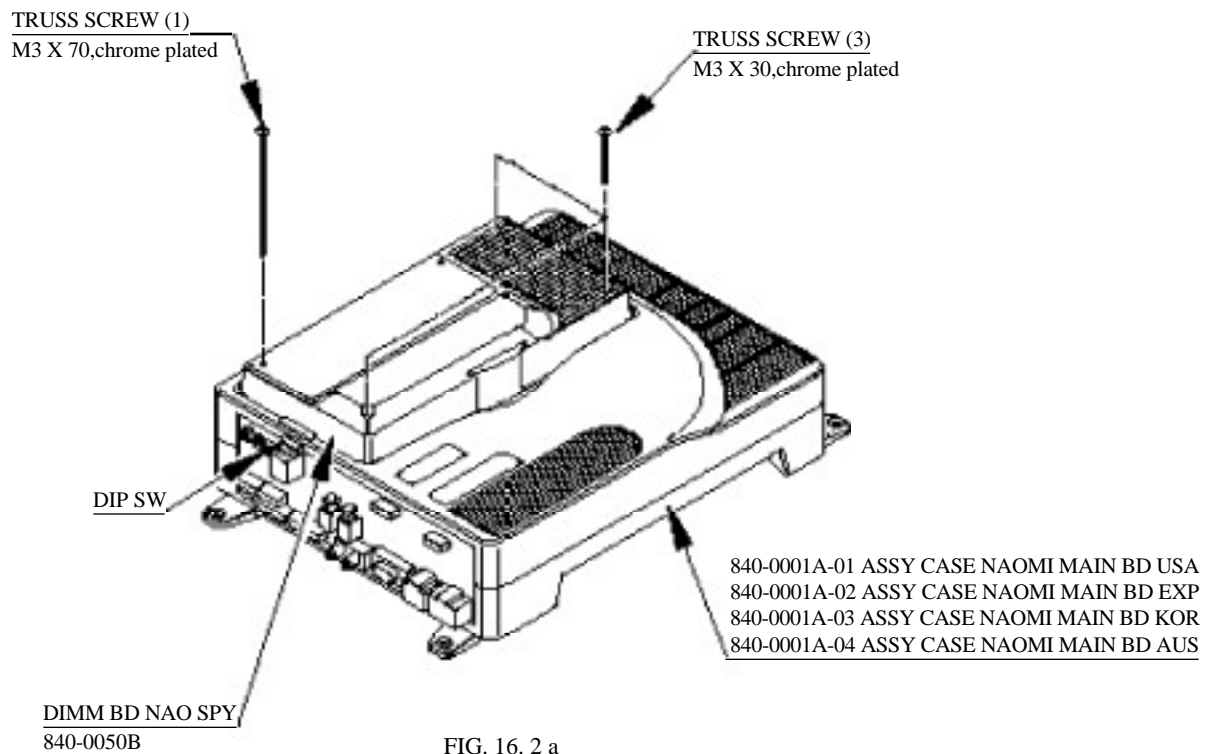
16 - 2 COMPOSITION OF GAME BOARD

ASSY CASE NAO GD SPY USA (840-0050D-01) :USA

ASSY CASE NAO GD SPY EXP (840-0050D-02) :OTHERS

ASSY CASE NAO GD SPY KOR (840-0050D-03) :KOREA

ASSY CASE NAO GD SPY AUS (840-0050D-04) :AUSTRALIA



DIP SW SETTING

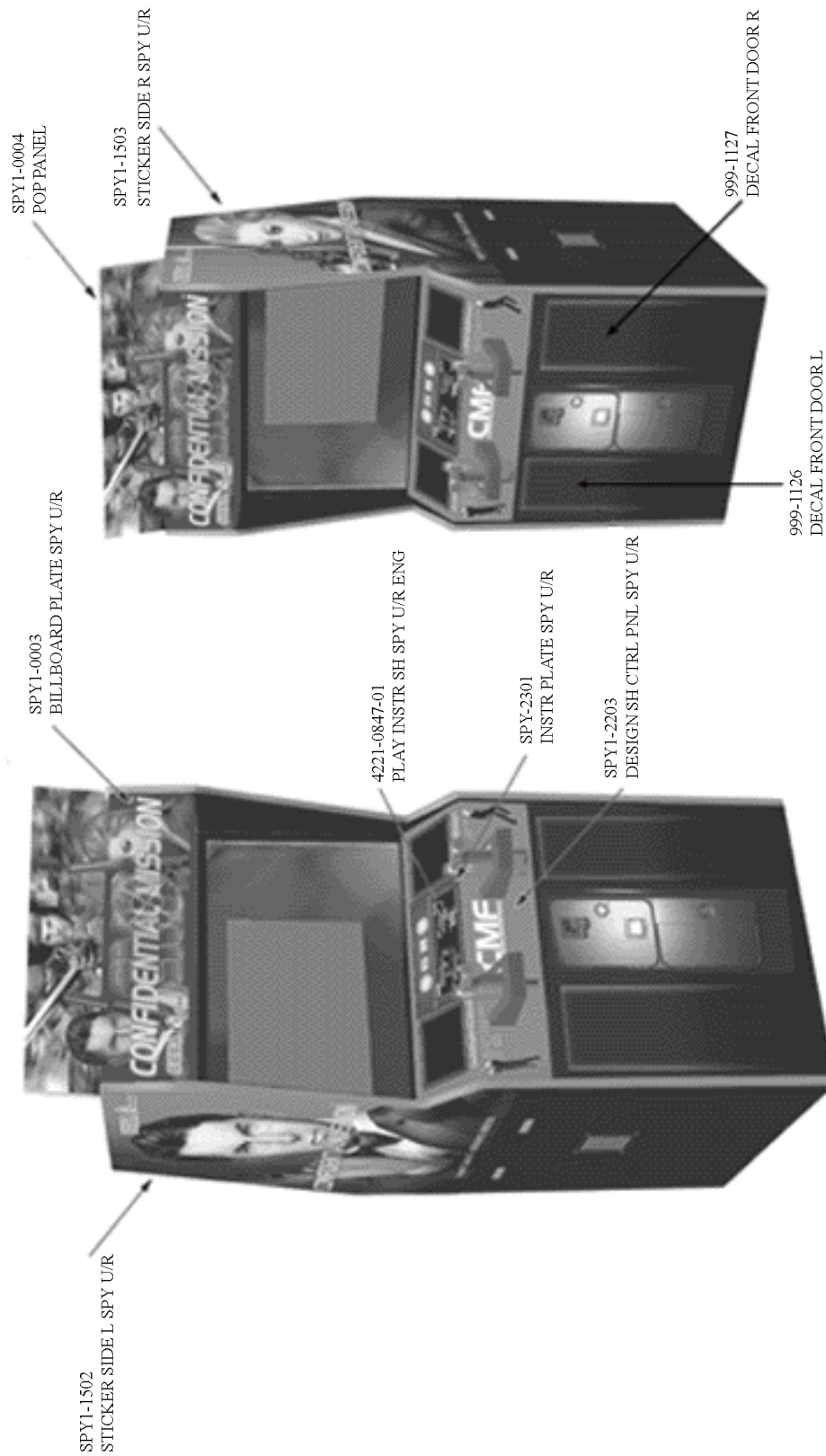
In this product, set the DIP SW to OFF.



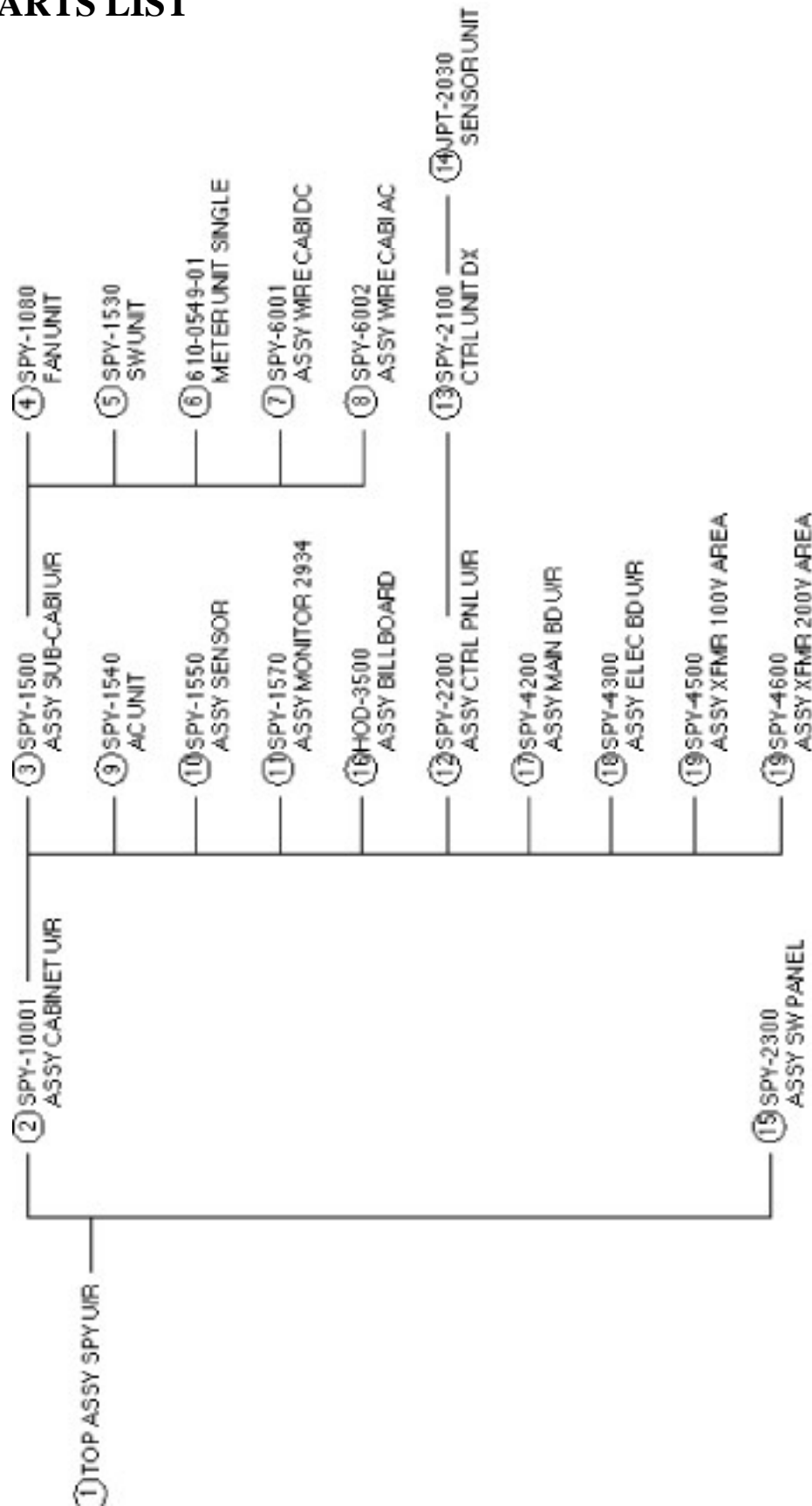
FIG. 16. 2 b

17. DESIGN RELATED PARTS

For the Warning Display stickers, refer to Section 1.

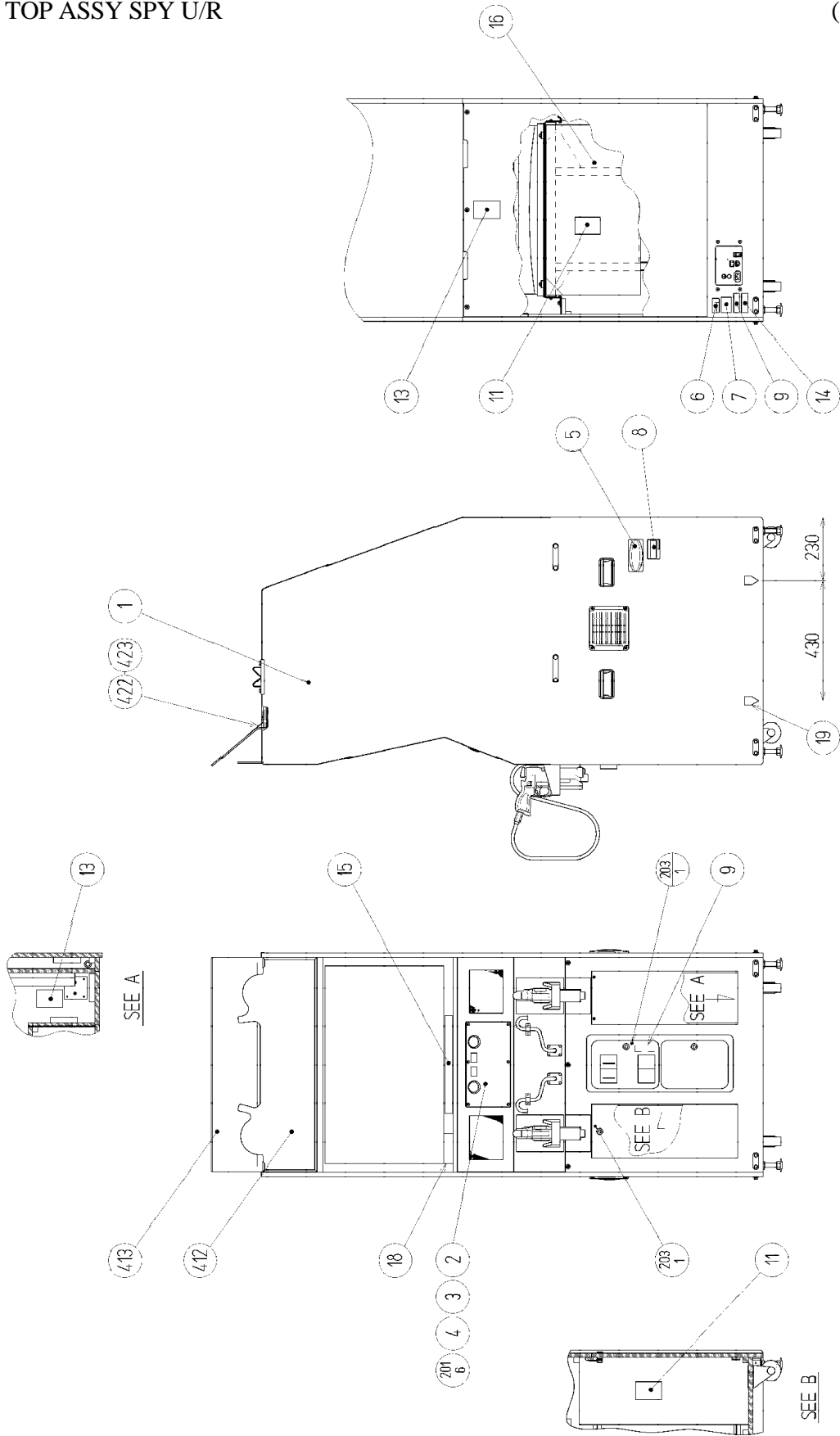


18. PARTS LIST



① TOP ASSY SPY U/R

(D-1/2)



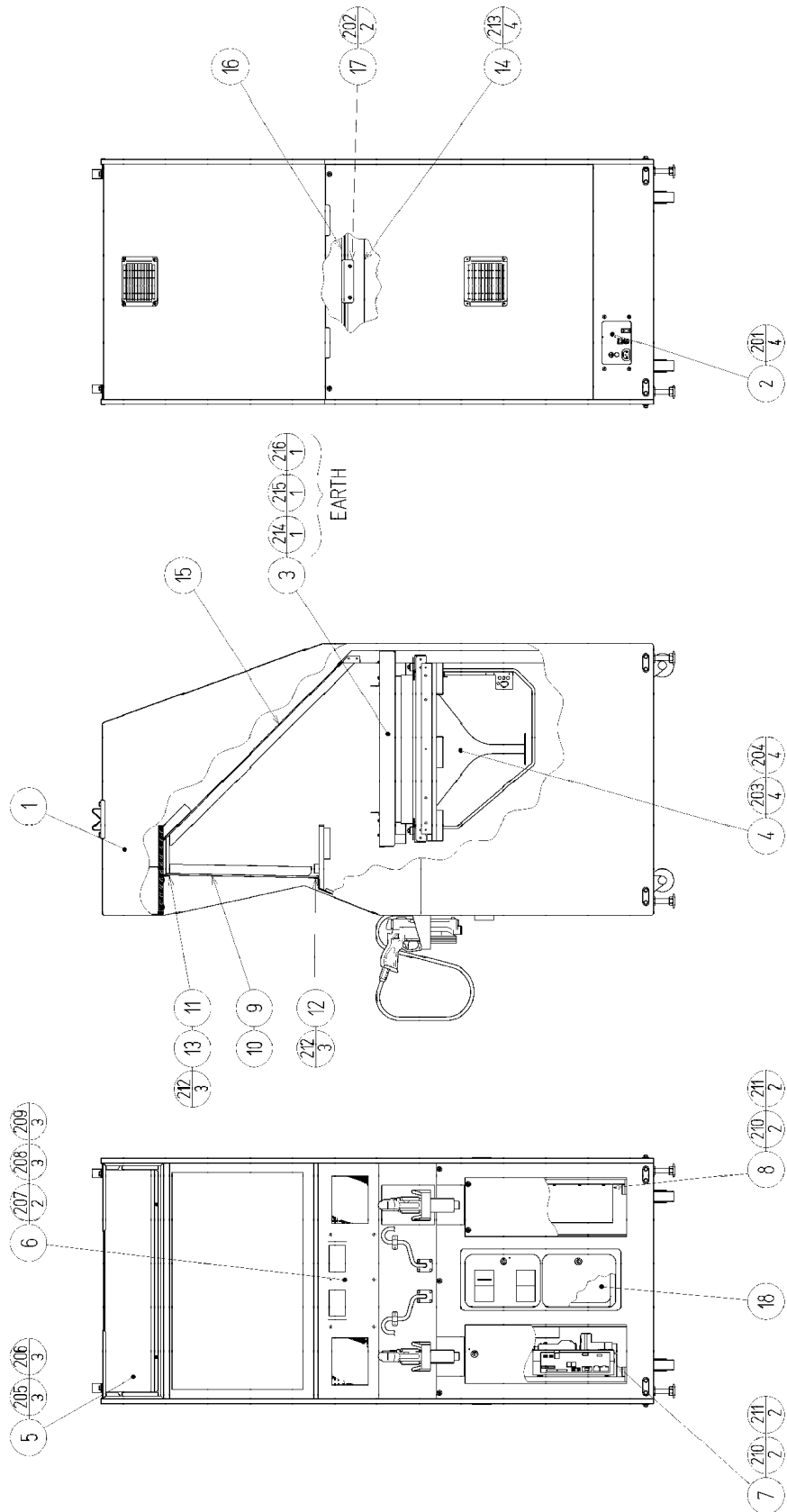
① TOP ASSY SPY U/R

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-10001	ASSY CABINET U/R	
2	SPY-2300	ASSY SW PANEL	
3	422-0847-01	PLAY INSTR SH SPY U/R ENG	
4	421-7907- ~	DENOMI SH ~	
10	421-8479-01	STICKER INSTR SUNLIGHT ENG	
11	440-DS0013XEG	STICKER D MONITOR ENG	
12	SGM-4323	POLY COVER 900 X 1300 X 1800	
13	440-WS0002XEG	STICKER W POWER OFF ENG	
15	440-CS0109-EG	STICKER C ZMB U/R ENG	
16	PRC-1045	COVER	
18	440-CS0186-EG	STICKER C EPILEPSY 40 ENG	
19	421-8885	STICKER CAUTION FORK	
201	000-T00412-0B	M SCR TH BLK M4 X 12	
203	008-T00412-0B	TMP PRF SCR TH BLK M4 X 12	
401	601-6604-70	CARTON BOX 70	
402	SGM-2675	POLYETHYLENE BAG, 240 X 370	
403	420-6602-01	OWNERS MANUAL SPY UR ENG	
405	220-5576	KEY MASTER FOR 220-5575	
406	SGM-4111	KEY BAG (SGB-1035X)	
407	509-5080	SW MICRO TYPE	
408	390-5160	LAMP WG B TYPE 6V 3W (C2R)	
409	600-6664-02	WIRE HARN EARTH W/LUG M6	TAIWAN
		NOT USED	OTHERS
410	600-6729	AC CABLE CONNECT TYPE 15A	TAIWAN
	600-6618	AC CABLE CONNECT TYPE FOR EXP	OTHERS
	600-6619	AC CABLE CONNECT TYPE FOR UK	HONG KONG
412	SPY-0003	BILLBOARD PLATE SPY U/R	
413	SPY-0004	BILLBOARD PLATE R SPY UR	
414	090-0174	GLASS CLEANER NAC S-100	
415	280-5009-01	CORD CLAMP 21	
416	105-5435	GD DRIVE BRKT STD	
417	012-P00408	TAP SCR #2 PH 4 X 8	
418	050-F00400	FLG NUT M4	
419	540-0006-01	WRENCH M4 TMP SCR	
420	420-6620-01	SERVICE MANUAL NAOMI GD ENG	
421	610-0625-0001	GD SOFT SPY	
422	SPY-0005	PLATE HOLDER	
423	011-T03512	TAP SCR TH 3.5 X 12	
/	105-5356	SHIPPING BRKT	
/	421-8740	CAUTION INSTR COP U/R	
/	421-6690-05	STICKER 240V	AC 240V AREA
/	421-6690-03	STICKER 220V	AC 220V AREA
/	421-6690-06	STICKER 110V	AC 110V AREA

② ASSY CABINET U/R (SPY-10001)

(D-1/2)



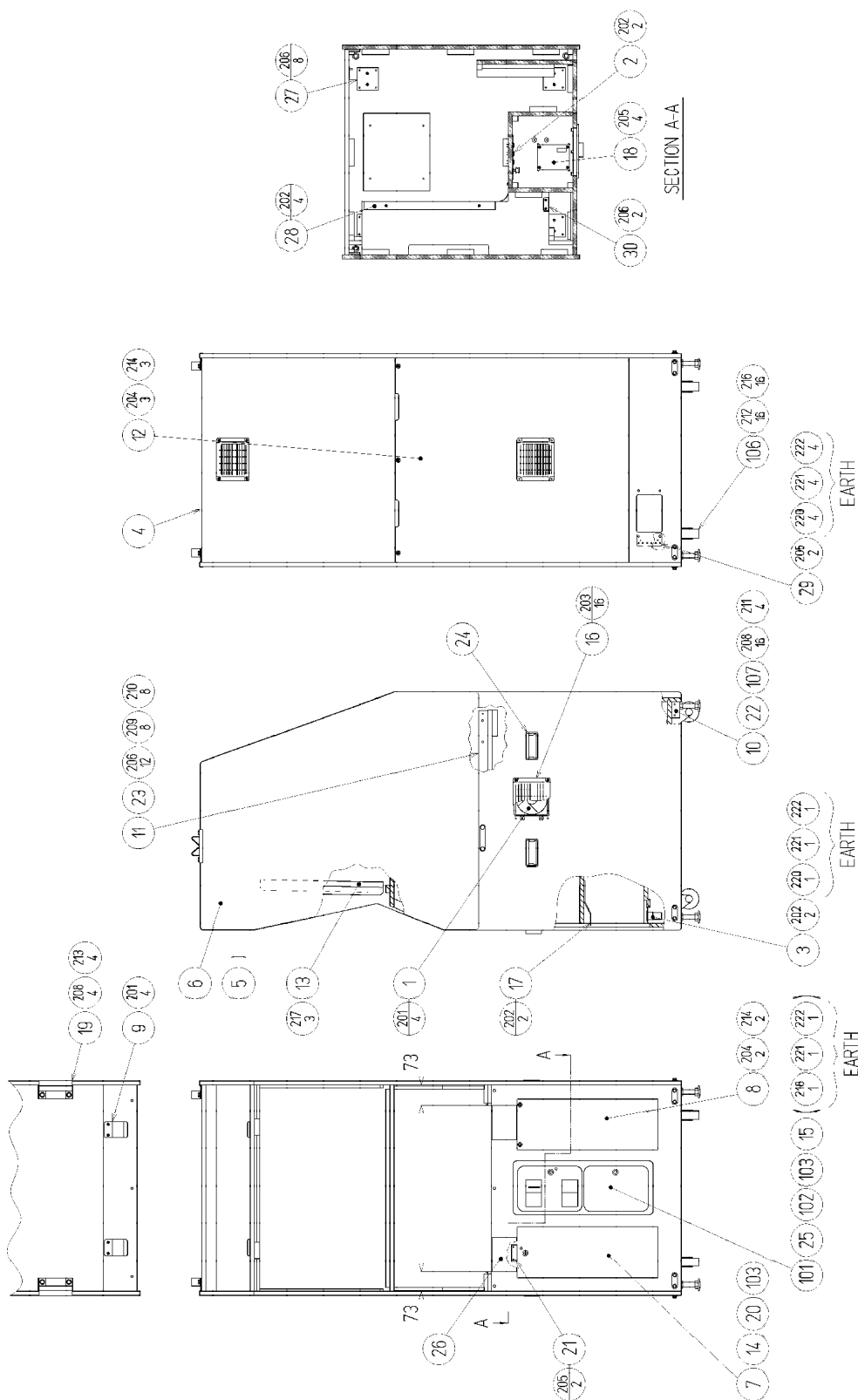
② ASSY CABINET U/R (SPY-10001)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	SPY-1500	ASSY SUB-CABI U/R
2	SPY-1540	AC UNIT
3	SPY-1550	ASSY SENSOR
4	SPY-1570	ASSY MONITOR 2934
5	HOD-3500	ASSY BILLBOARD
6	SPY-2200	ASSY CTRL PNL U/R
7	SPY-4200	ASSY MAIN BD U/R
8	SPY-4300	ASSY ELEC BD U/R
9	JPT-1510	FRONT GLASS
10	AIN-1032	RUBBER PACKING
11	AIN-1033	GLASS HOLDER UPPER
12	JPT-1509	GLASS HOLDER LOWER
13	AIN-1035	CUSHION
14	AIN-1044	MIRROR BRKT
15	AIN-1038	MIRROR
16	AIN-1039	MIRROR SASH
17	AIN-1040	MIRROR HOLDER
18	253-5366	CASH BOX
201	000-T00520-0B	M SCR TH BLK M X ~20
202	050-F00400	FLG NUT M4
203	030-000616-S	HEX BLT W/S M6 X 16
204	060-F00600	FLT WSHR M6
205	000-T00420-0B	M SCR TH BLK M4 X 20
206	068-441616-0B	FLT WSHR BLK 4.4-16 X 1.6
207	000-F00416	M SCR FH M4 X 16
208	000-T00525-0B	M SCR TH BLK M5 X 25
209	069-000017-0B	FLT WSHR BLK 5.5-16 X 1.6
210	032-000430	WING BLT M4 X 30
211	068-441616	FLT WSHR 4.4-16 X 1.6
212	000-T00516-0B	M SCR TH BLK M5 X 16
213	000-P00412-W	M SCR PH W/FS M4 X 12
214	050-H00400	HEX NUT M4
215	060-S00400	SPR WSHR M4
216	060-F00400	FLT WSHR M4

③ ASSY SUB-CABI U/R (SPY-1500)

(D-1/3)



註) ⑩⑪ がコンラックス製の時のみ。

③ ASSY SUB-CABI U/R (SPY-1500)

(D-2/3)

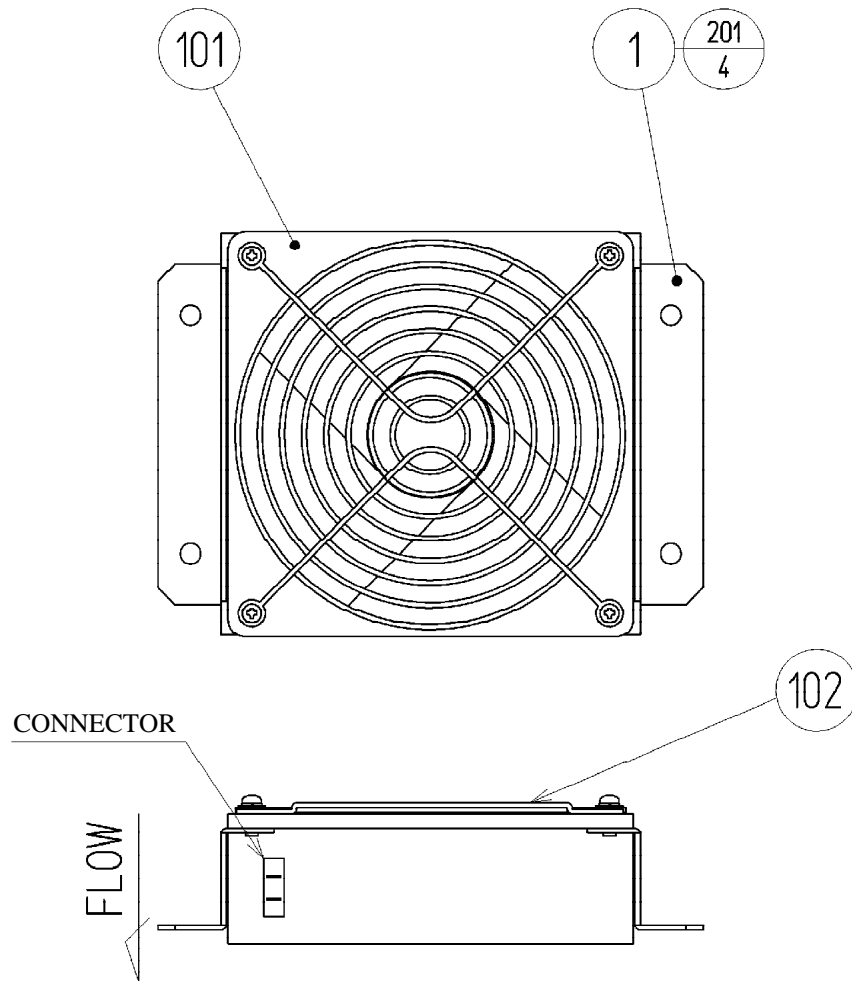
ITEM NO.	PART NO.	DESCRIPTION
1	SPY-1080	FAN UNIT
2	SPY-1530	SW UNIT
3	610-0549-01	METER UNIT SINGLE
4	SPY-1501	WOODEN CABINET U/R
5	SPY-1502	STICKER SIDE L SPY U/R
6	SPY-1503	STICKER SIDE R SPY U/R
7	SPY-1504	FRONT DOOR L
8	SPY-1505	FRONT DOOR R
9	JPT-1507	HOOK BRKT
10	ARC-1006	LEG BRACKET
11	AIN-1008	MONITOR SUPPORT BRKT
12	COP-1503	BACK DOOR
13	COP-1506	WIRE COVER
14	DP-1148X	LKG TNG
15	DP-1167	TNG LKG
16	253-5460-01	AIR VENT BLACK
17	105-5169	LOCK BRACKET W
18	105-5171	CHUTE PLATE SINGLE
19	105-5258-01	SHIPPING HOOK BRKT RED
20	117-0062	PLATE LOCK RETAINER
21	117-5098	TNG RETAINER PLATE
22	117-5233	PLATE LEG BRACKET BLACK
23	117-5284	PLATE 6-80 BLACK
24	253-5396-91	CABINET HANDLE
25	421-7501-02	STICKER 6.3V 0.15A
26	JPT-1508	PROTECT SHEET B
27	SCR-1008	NUT PLATE FOR CASTER
28	SPY-1506	COVER SIDE
29	SPY-1507	EARTH PLATE
30	SPY-1508	CLAMP BASE
101	220-5482-91- ~ 220-5237-92- ~	ASSY C.C ~ ASSY C.C ~
102	220-5574	CAM LOCK W/KEYS
103	220-5575	CAM LOCK MASTER W/O KEY
104	280-5275-SR10	CORD CLAMP SR10
105	310-5029-F20	SUMITUBE F F 20MM
106	601-9377	CASTER FAI=75
	601-6224	CASTER 75
107	601-5699X	LEG ADJUSTER BOLT M16 X 75
108	280-5009-01	CORD CLAMP 21
109	280-5207	HARNESS LUG CC-1005
110	280-5169	CORD CLAMP TL-20S

③ ASSY SUB-CABI U/R (SPY-1500)

(D-3/3)

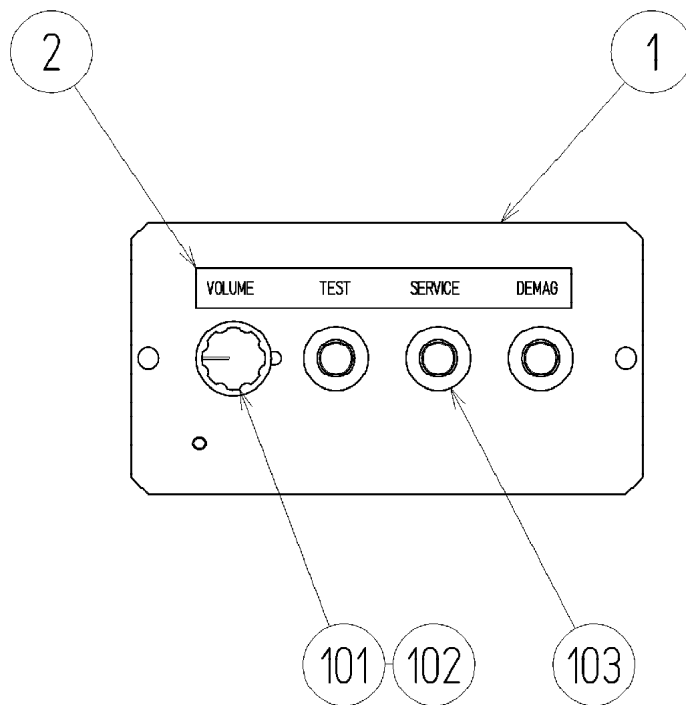
ITEM NO.	PART NO.	DESCRIPTION	NOTE
201	000-P00416-W	M SCR PH W/FS M4 X 16	
202	000-P00420-W	M SCR PH W/FS M4 X 20	
203	000-T00420-0B	M SCR TH BLK M4 X 20	
204	008-T00430-0B	TMP PRF SCR TH BLK M4 X 30	
205	011-T00312	TAP SCR TH 3 X 12	
206	011-T03512	TAP SCR TH 3.5 X 12	
207	030-000630-SB	HEX BLT BLK W/S M6 X 30	
208	030-000830-SB	HEX BLT W/S BLK M8 X 30	
209	031-000630-0B	CRG BLT BLK M6 X 30	
210	050-F00600	FLG NUT M6	
211	050-H01600	HEX NUT M16	
212	060-F00600	FLT WSHR M6	
213	060-F00800-0B	FLT WSHR BLK M8	
214	068-441616-0B	FLT WSHR BLK 4.4-16 X 1.6	
215	011-F00310	TAP SCR FH 3 X 10	
216	030-000625-S	HEX BLT W/S M6 X 25	
217	011-P00316-0B	TAP SCR #1 PH BLK 3 X 16	
218	000-P00408	M SCR PH M4 X 8	
220	050-H00400	HEX NUT M4	
221	060-S00400	SPR WSHR M4	
222	060-F00400	FLT WSHR M4	
301	SPY-6001	ASSY WIRE CABI DC	
302	SPY-6002	ASSY WIRE CABI AC	
303	600-6455-02	WIRE HARN C.C DOOR SINGLE	
305	SPY-61011	WH LED EXT	
306	600-6972-0120	WIRE HARN EARTH ID5 0120MM	
/	000-P00430-W	M SCR PH W/FS M4 X 30	
/	SPY-4600	ASSY XFMR 200V AREA	AC 220 ~ 240V AREA
/	SPY-4500	ASSY XFMR 100V AREA	AC 110 ~ 120V AREA

④ FAN UNIT (SPY-1080)



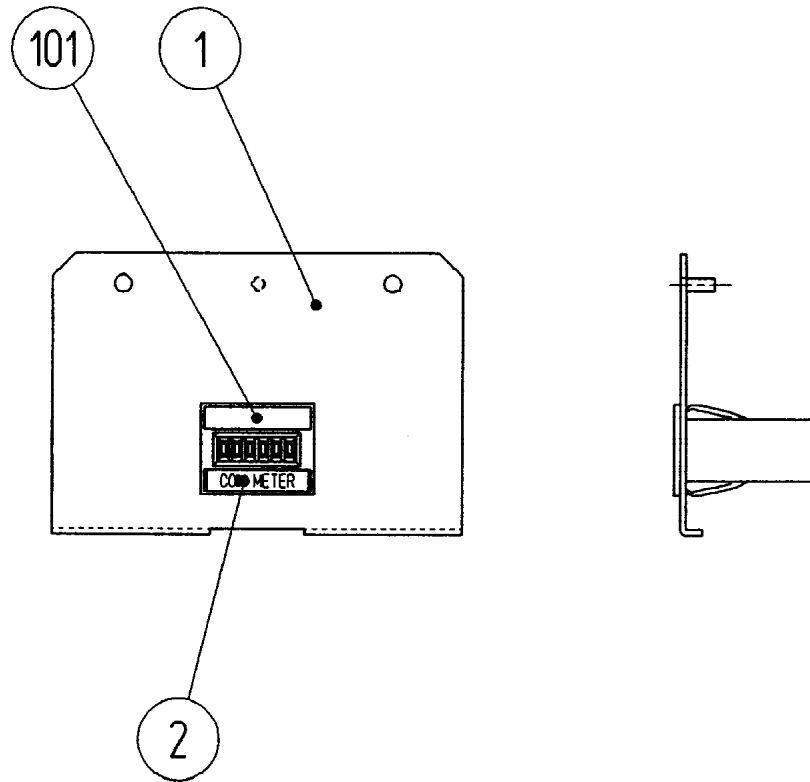
ITEM NO.	PART NO.	DESCRIPTION
1	SPY-1081	FAN BRKT
101	260-0011-02	AXIAL FLOW FAN AC100V 50-60HZ
102	601-8543	FAN GUARD
201	000-P00312-W	M SCR PH W/FS M3 X 12

⑤ SW UNIT (SPY-1530)



ITEM NO.	PART NO.	DESCRIPTION
1	HOD-1541	SW PLATE
2	421-9966	STICKER SW UNIT
101	220-5179	VOL CONT B-5K OHM
102	601-0042	KNOB 22 MM
103	509-5028	SW PB 1M
104	601-0460	PLASTIC TIE BELT 100 MM
105	310-5029-015	SUMITUBE F D 15MM
301	SPY-61022	WH SW UNIT

⑥ METER UNIT SINGLE (610-0549-01)



ITEM NO.	PART NO.	DESCRIPTION
1	OCN-1521	METER BRKT
2	421-9168-01	STICKER COIN METER
101	220-5643-01	MAG CNTR DC5V 6P WH MZ-674-D04

⑦ ASSY WIRE CABI DC (SPY-6001)

ASSY WIRE CABI DC (SPY-6001) is comprised of the following wire harnesses.
An ASSY DRG. is unavailable.

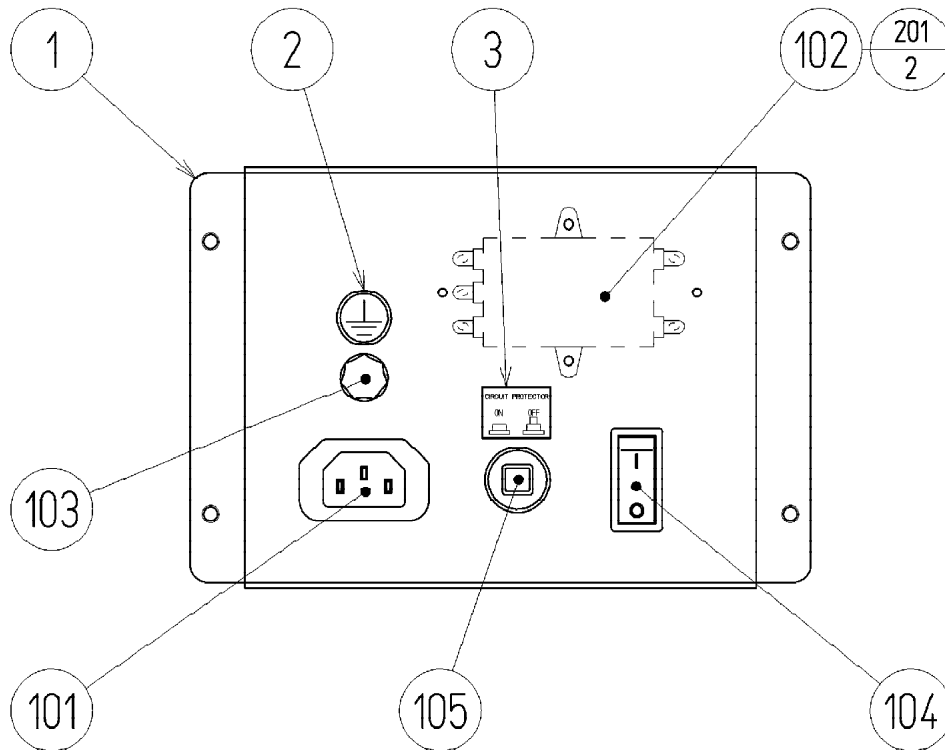
ITEM NO.	PART NO.	DESCRIPTION
101	601-0460	PLASTIC TIE BELT 100 MM
301	600-7159-070	WIRE HARN JVS PWR 070CM
302	SPY-61008	WH SIGNAL CABINET
303	SPY-61009	WH DC CABINET
304	SPY-61010	WH RECIEVER EXT
305	SPY-61025	WH EARTH CTRL PNL EXT
306	600-6972-1340	WIRE HARN EARTH ID5 L=1340
307	600-6972-1750	WIRE HARN EARTH ID5 1750MM

⑧ ASSY WIRE CABI AC (SPY-6002)

ASSY WIRE CABI AC (SPY-6002) is comprised of the following wire harnesses.
An ASSY DRG. is unavailable.

ITEM NO.	PART NO.	DESCRIPTION
101	601-0460	PLASTIC TIE BELT 100 MM
102	270-5117	FERRITE CORE TDK ZCAT3035-1330
301	600-7009-2250	ASSY RGB CA D-SUB 15P 2250MM
302	SPY-61004	WH AC CABINET
303	600-6972-1440	WIRE HARN EARTH ID5 L=1440
304	SPY-61026	WH MONITOR EXT

⑨ AC UNIT (SPY-1540)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-1541	AC BRKT	
2	421-8202	STICKER EARTH MARK	
3	421-7468-02	STICKER C.P W/PIC	
101	214-0202	AC INLET PANEL TYPE	
102	270-5020	NOISE FILTER AC250V 6A	
103	280-0417	TERMINAL BINDING POST BLACK	TAIWAN
		NOT USED	OTHERS
104	509-5453-91-V-B	SW ROCKER J8 V-B	
105	512-5046-5000	C.P 5000MA CE UL	AC 100 ~ 120V AREA
	512-5046-3000	C.P 3000MA CE UL	AC 220 ~ 240V AREA
106	280-5009-01	CORD CLAMP 21	
107	601-0460	PLASTIC TIE BELT 100 MM	
108	310-5029-F20	SUMITUBE F F 20MM	
109	310-5029-G20	SUMITUBE F G 20MM	
201	010-P00306-F	S-TITE SCR PH W/F M3 X 6	
202	050-H00400	HEX NUT M4	
203	060-S00400	SPR WSHR M4	
204	060-F00400	FLT WSHR M4	
301	SPY-61001	WH CONN J8	
302	SPY-61002	WH FILTER OUT	
/	008-T00408-0B	TMP PRF SCR TH BLK M4 X 8	

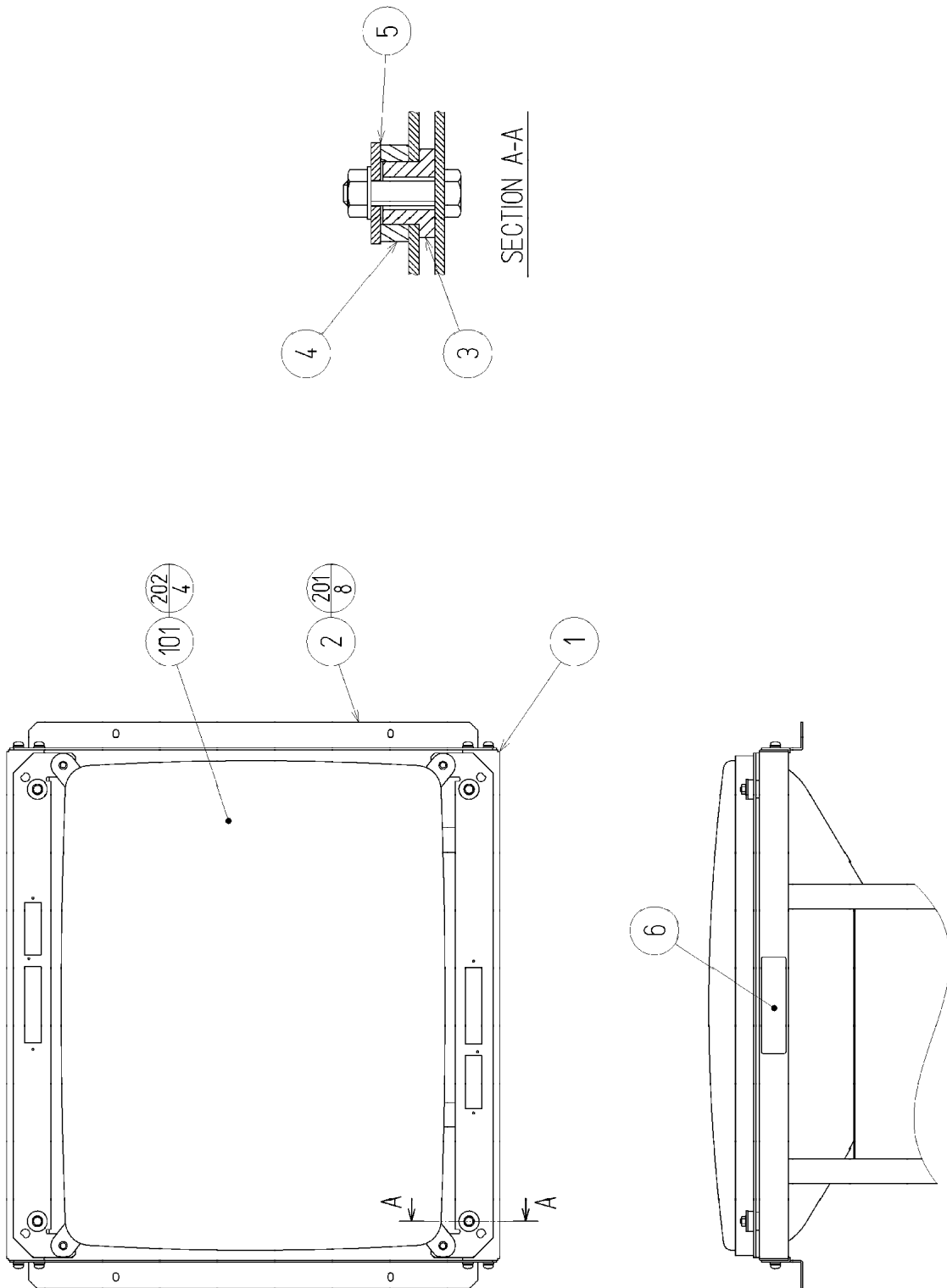
⑩ ASSY SENSOR (SPY-1550)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	HOD-1551	SENSOR BRKT SIDE
2	HOD-1552	SENSOR BRKT
3	JPT-1082	IR COVER
4	SPY-1551	MONITOR COVER SIDE
5	SPY-1552	MONITOR COVER
101	838-13145-02	LED BD GUN SENSE HOD
102	280-5008	CORD CLAMP 15
201	000-P00408-WB	M SCR PH W/FS BLK M4 X 8
202	050-U00300	U NUT M3
203	068-330808-PN	FLT WSHR PLASTIC 3.3-8 X 0.8
204	069-000026	FLT WSHR 3.2-11 X 0.5
205	000-T00408-0B	M SCR TH BLK M4 X 8
301	SPY-61012	WH MASK INTO
302	SPY-61013	WH MASK SHORT
303	SPY-61014	WH MASK LONG

⑪ ASSY MONITOR 2934 (SPY-1570)

(D-1/2)



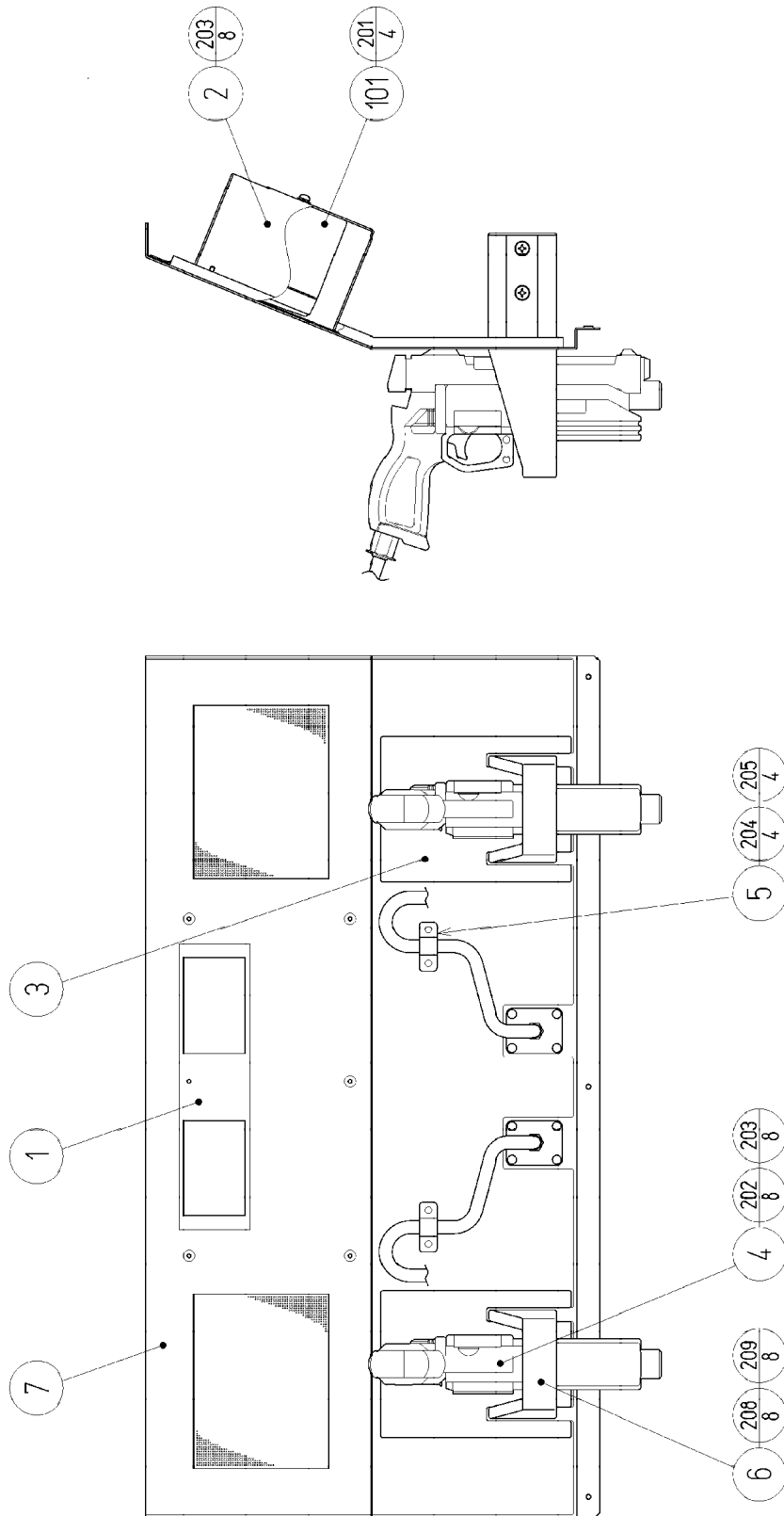
⑪ ASSY MONITOR 2934 (SPY-1570)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	AIN-1026X	MONITOR BRKT A
2	AIN-1027	MONITOR BRKT B
3	280-5112	BUSH FOR TV
4	280-5113	COLLAR FOR TV
5	280-5114	SPACER 6.4-25 X 2
6	440-CS0169-EG	STICKER C HEAVY ENG
101	200-5927-01	ASSY CLR DSPL 29 31K 2934 MR
201	000-P00512-W	M SCR PH W/FS M5 X 12
202	050-F00600	FLG NUT M6

⑫ ASSY CTRL PNL U/R (SPY-2200)

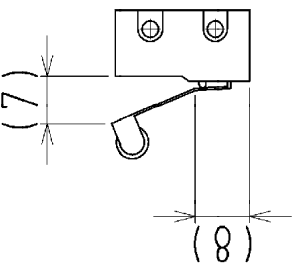
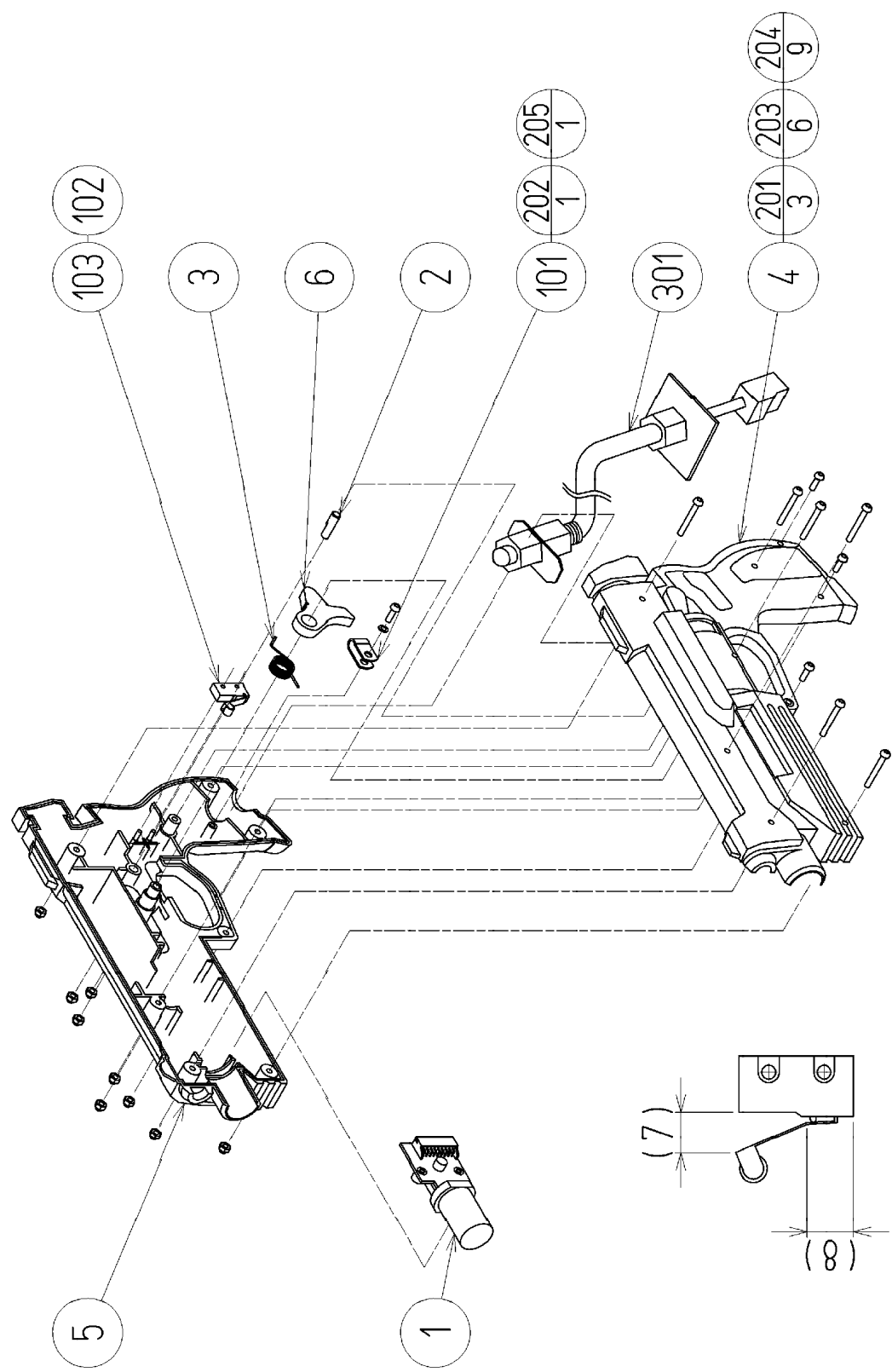
(D-1/2)



⑫ ASSY CTRL PNL U/R (SPY-2200)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-2201	CTRL PNL BASE	
2	SPY-2202	SPEAKER HOLDER MINI	
3	JPT-2204	PROTECT SHEET	
4	SPY-2100	CTRL UNIT DX	
5	COP-2135	CABLE CLAMP DX	
6	CPT-1019	HOLDER	
7	SPY-2203	DESIGN SH CTRL PNL SPY UR	
101	130-5124	SPEAKER MINI BOX 4OHM 10W	
102	280-5009-01	CORD CLAMP 21	
103	280-5275-SR10	CORD CLAMP SR10	
201	000-P00510-W	M SCR PH W/FS M5 X 10	
202	031-000410-0C	CRG BLT CRM M4 X 10	
203	050-F00400	FLG NUT M4	
204	050-U00400	U NUT M4	
205	060-F00400	FLT WSHR M4	
206	060-S00400	SPR WSHR M4	
207	050-H00400	HEX NUT M4	
208	030-000612-S	HEX BLT W/S M6 X 12	
209	060-F00600	FLT WSHR M6	
301	SPY-61021	WH EARTH CTRL PNL	
302	SPY-61015	WH CTRL PNL	



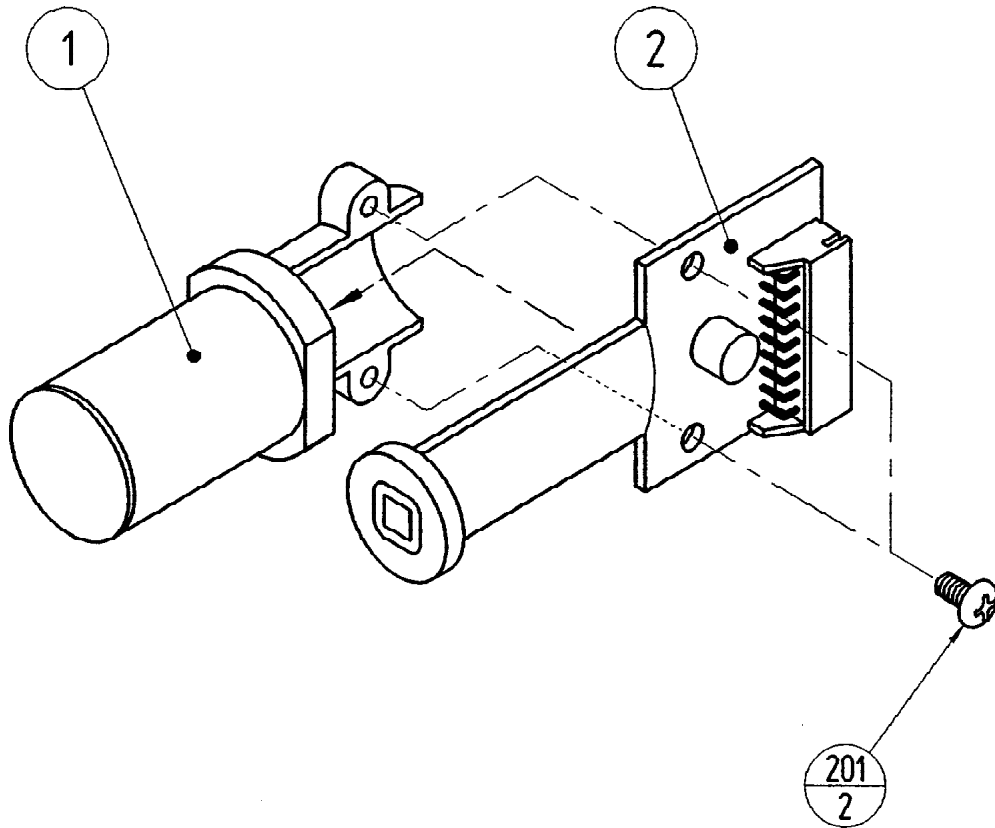
Details of PART 103

⑬ CTRL UNIT DX (SPY-2100)

(D-2/2)

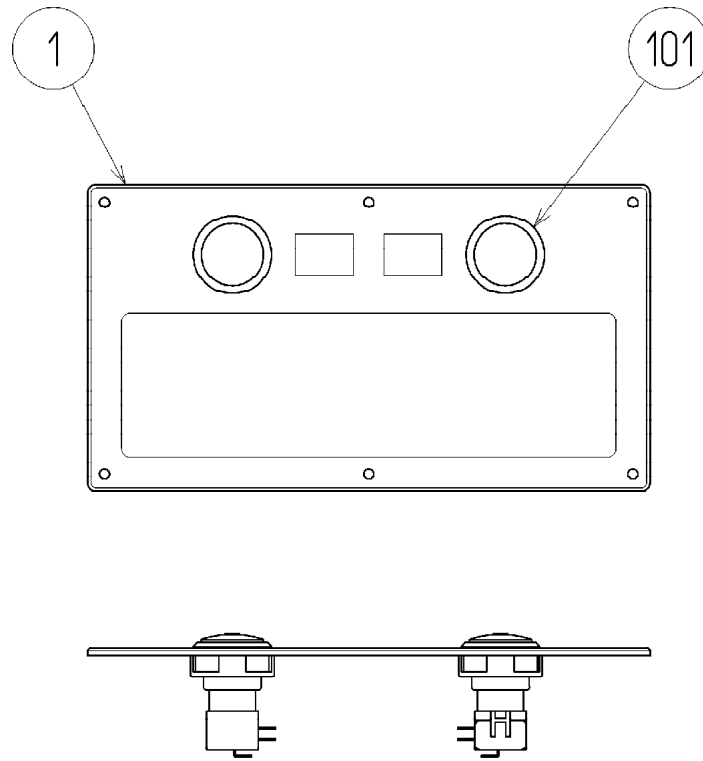
ITEM NO.	PART NO.	DESCRIPTION
1	JPT-2030	SENSOR UNIT
2	COP-2005	STOPPER PIN
3	125-5124	TORSION SPRING
4	253-5404-02	COVER LEFT RED
5	253-5405-02	COVER RIGHT RED
6	253-5406-02	TRIGGER RED
101	280-5124-03	NYLON CLAMP NK03
102	310-5029-D20	SUMITUBE F D 20 MM
103	509-5080	SW MICRO TYPE
104	601-0460	PLASTIC TIE BELT 100 MM
201	000-P00308-0B	M SCR PH BLK M3 X 8
202	012-P00308	TAP SCR #2 PH 3 X 8
203	FAS-000015	M SCR PH BLK M3 X 25
204	FAS-500006	CAP NUT TYPE 3 BLK M3
205	060-F00300	FLT WSHR M3
301	SPY-60018	WH GUN UNIT

⑭ SENSOR UNIT (JPT-2030)

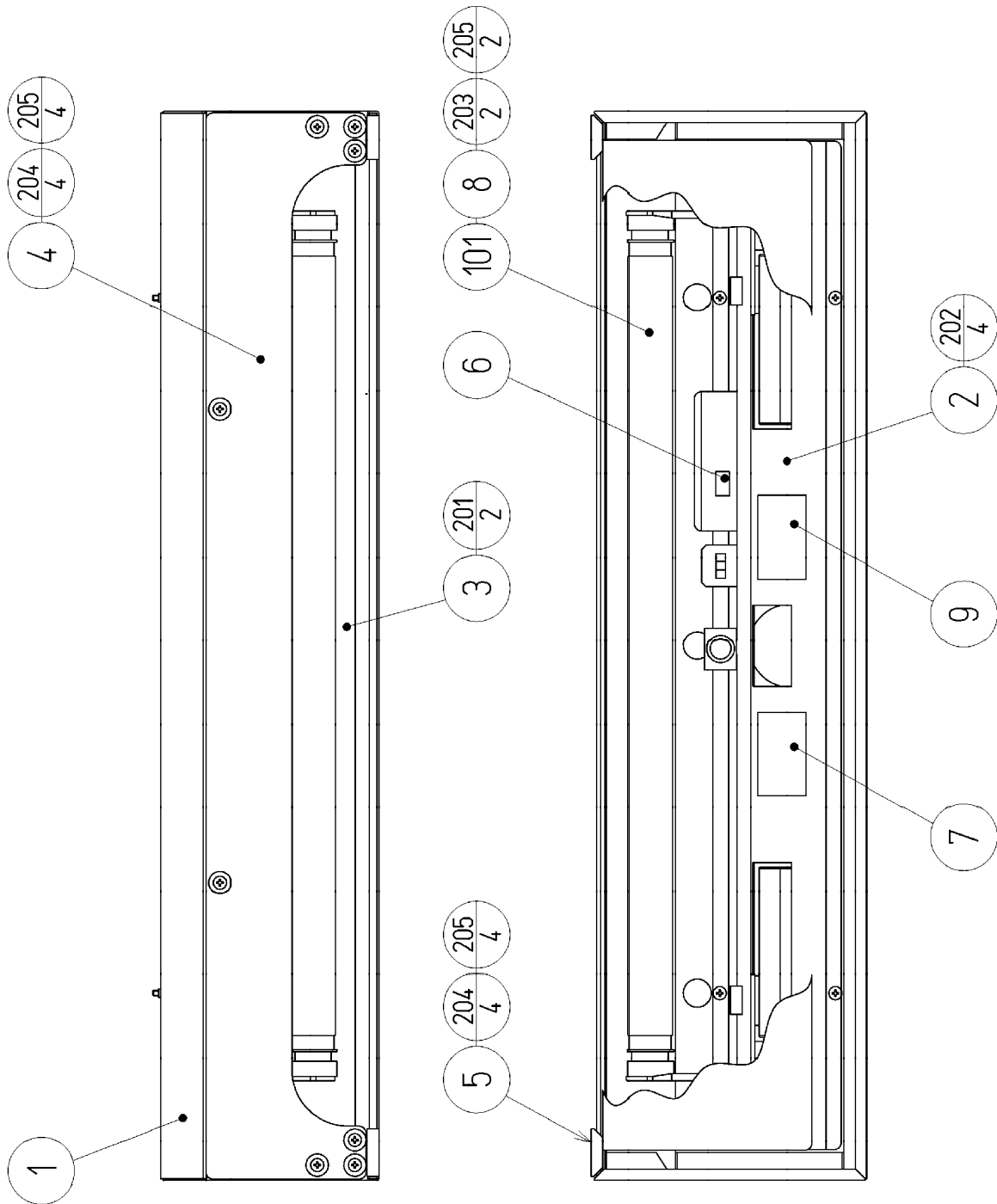


ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	JPT-2031	SENSOR HOLDER	
101	838-13144-91	SENSOR BD GUN SENSE	
201	012-P00306	TAP SCR #2 PH 3 X 6	

⑮ ASSY SW PANEL (SPY-2300)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-2301	INSTR PLATE SPY U/R	
101	509-5712-01	SW PB W/L 6V YELLOW	
301	600-6457-10	WIRE HARN START	
302	600-6457-36	WIRE HARN START EX	



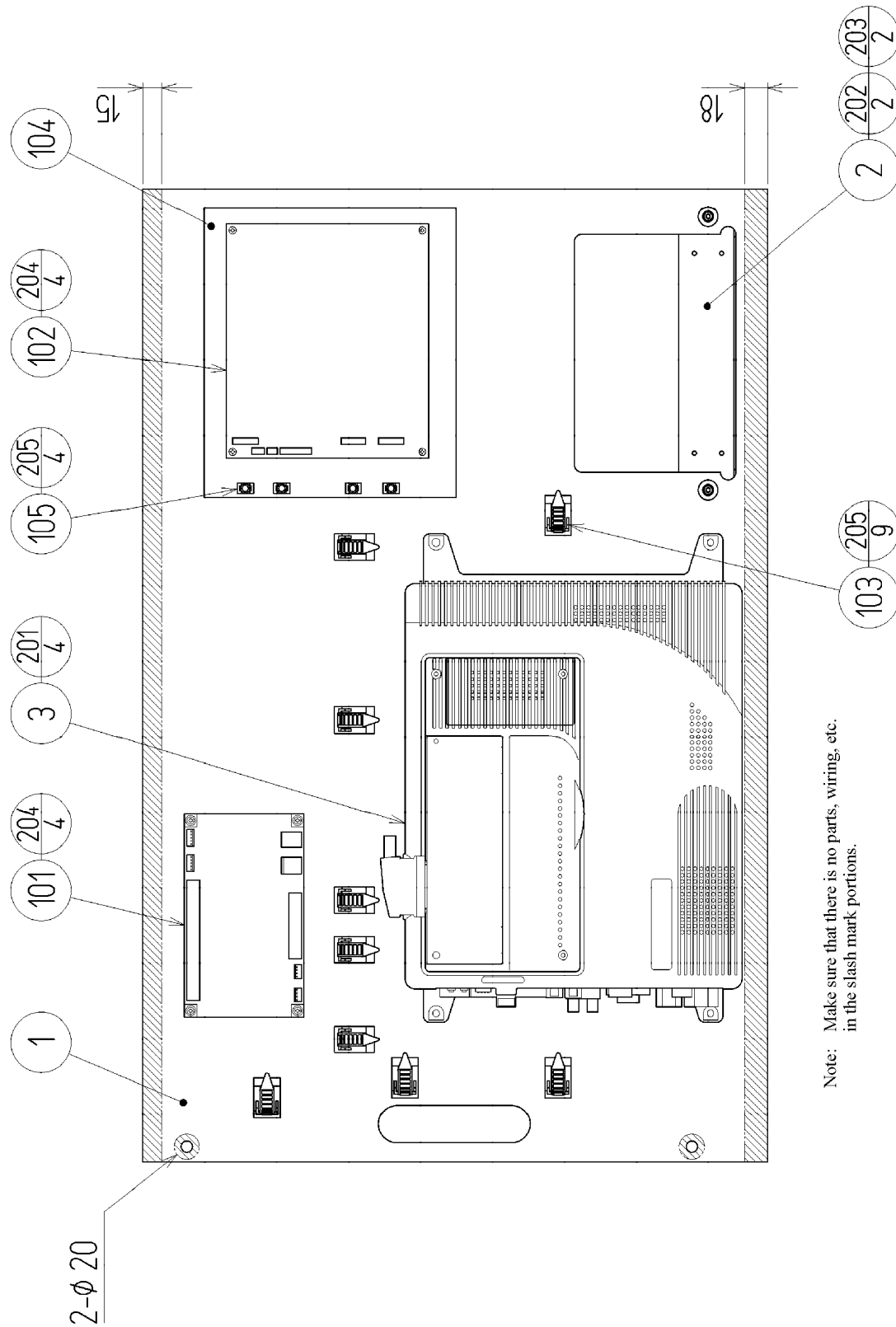
①6 ASSY BILLBOARD (HOD-3500)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	HOD-3501	BILLBOARD CASE
2	JPT-3502	REFLECTOR
3	JPT-3503	LAMP COVER A
4	HOD-3504	LAMP COVER B
5	HOD-3505X	BILLBOARD UPPER SUSH
6	421-7501-17	STICKER FL 20W
7	440-WS0012XEG	STICKER W HIGH TEMP ENG
8	253-5457	FL HOLDER
9	440-WS0002XEG	STICKER W POWER OFF ENG
101	390-5637-20SD	ASSY FL20W SD W/CONN HIGH T
	390-5638-20SD	ASSY FL20W W/CONN HIGH L
	390-5636-20SD	ASSY FL20W W/CONN HIGH S
102	280-5009-01	CORD CLAMP 21
201	000-F00408-0B	M SCR FH BLK M4 X 8
202	000-T00408-0B	M SCR TH BLK M4 X 8
203	000-P00430-S	M SCR PH W/S M4 X 30
204	000-T00412-0B	M SCR TH BLK M4 X 12
205	068-441616-0B	FLT WSHR BLK 4.4-16 X 1.6
301	600-6925-035	WIRE HARN FL

17 ASSY MAIN BD U/R (SPY-4200)

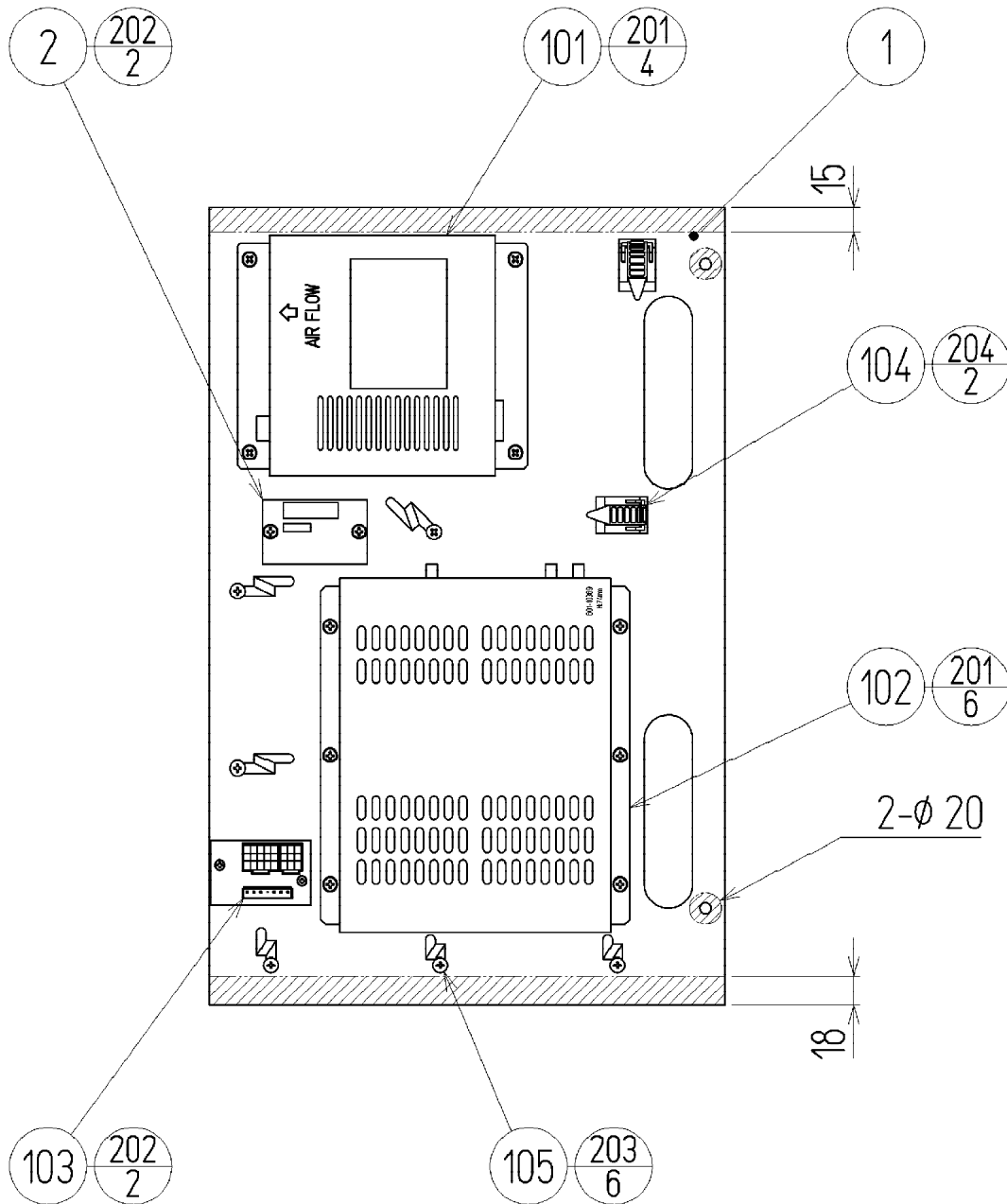
(D-1/2)



①7 ASSY MAIN BD U/R (SPY-4200)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-4201	MAIN BASE U/R	
2	SPY-4202	GD HOLDER	
3	840-0050D-04	ASSY CASE NAO GD SPY AUS	AUSTRALIA
	840-0050D-02	ASSY CASE NAO GD SPY EXP	OTHERS
	840-0050D-03	ASSY CASE NAO GD SPY KOR	KOREA
101	837-13551-92	I/O CONTROL BD FOR JVS	
102	838-13143-09	IC BD GUN SENSE SPY UR	
	838-13143-11	IC BD GUN SENSE SPY UR EXTRA	
103	280-5009-01	CORD CLAMP 21	
104	601-10397-01	SLIONTEC AL TAPE 8060 200 X 240	
105	280-5256	TIE BASE TM1S4	
106	601-0460	PLASTIC TIE BELT 100 MM	
201	000-P00416-W	M SCR PH W/FS M4 X 16	
202	050-F00400	FLG NUT M4	
203	068-441616	FLT WSHR 4.4-16 X 1.6	
204	011-P00325	TAP SCR PH 3 X 25	
205	011-F00310	TAP SCR FH 3 X 10	
301	600-7247-500	CABLE SCSI ST-L TYPE2 500MM	
302	600-7159-050	WIRE HARN JVS PWR 050CM	
303	SPY-61016	WH CTRL BD RECIEVER	
304	SPY-61017	WH CTRL BD LED	
308	SPY-60019	WH FREQ JUMPER	
309	600-7141-050	CABLE JVS TYPE A-B 050CM	
310	SPY-61027	ASSY WIRE MAIN BD	



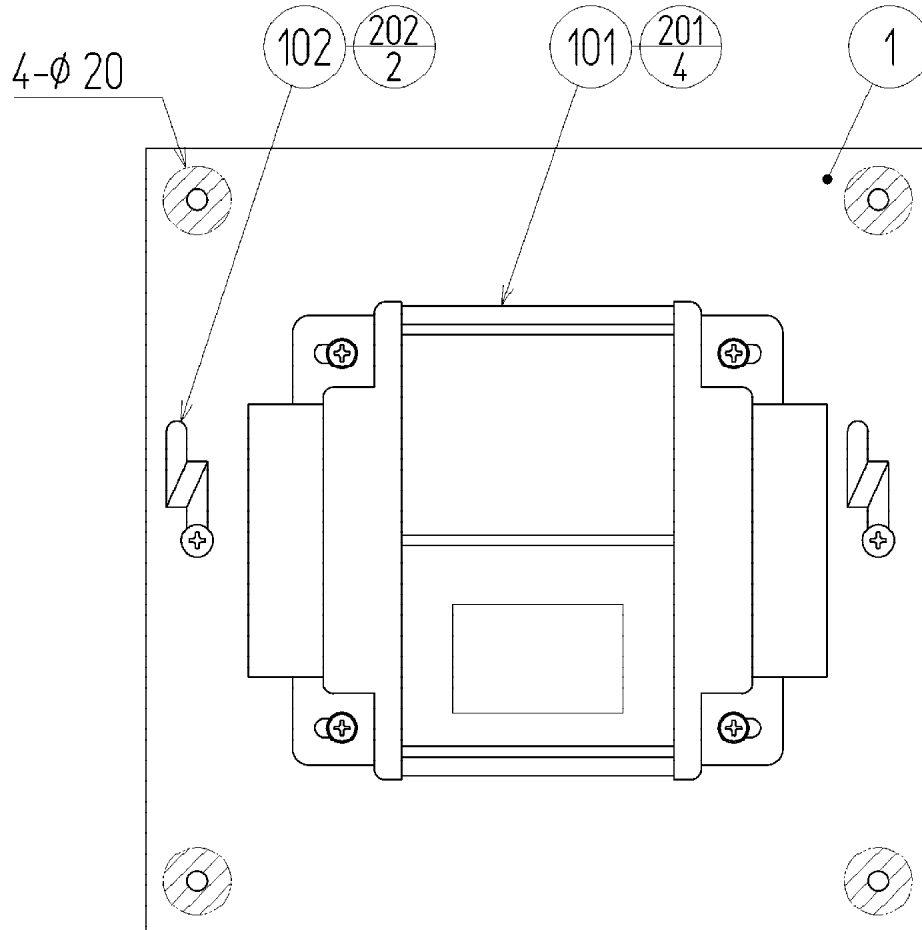
Note: Make sure that there is no parts, wiring, etc. in the slash mark portions.

①⑧ ASSY ELEC BD U/R (SPY-4300)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	SPY-4301	ELEC BASE U/R
2	839-0979	CONDENSER BD
101	400-5397-01	SW REGU FOR JVS VA
102	601-10369	STEREO PWR AMP 47
103	838-11856-UL	CONNECT BD UL
104	280-5009-01	CORD CLAMP 21
105	280-0419	HARNESS LUG
201	000-P00416-W	M SCR PH W/FS M4 X 16
202	011-P00325	TAP SCR PH 3 X 25
203	011-T03512	TAP SCR TH 3.5 X 12
204	011-F00310	TAP SCR FH 3 X 10
301	SPY-61005	WH AC ELEC BASE
302	SPY-61006	WH CAP BD
303	SPY-61007	WH AMP ELEC BASE

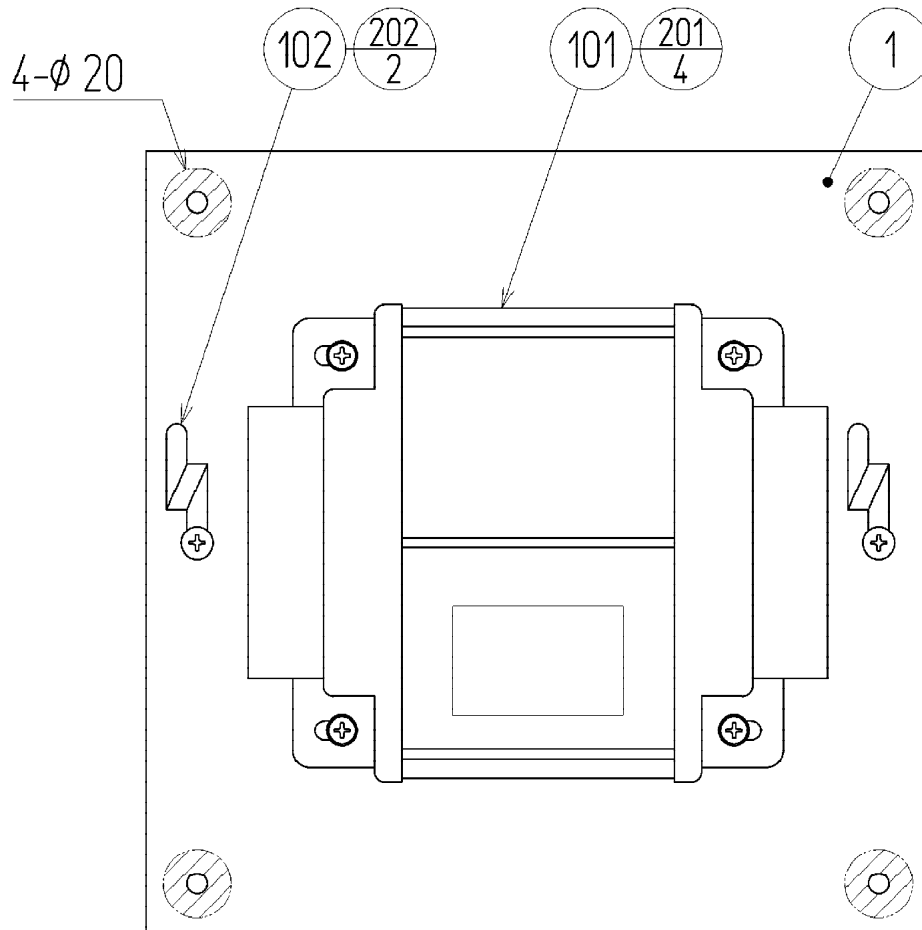
①9 ASSY XFMR 100V AREA (SPY-4500)



NOTE: Make sure that there is no wiring, etc.
in the slash mark portions.

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-4501	XFMR BASE	
101	560-5426-H	XFMR 100-120V 100V5.5A	
102	280-0419	HARNESS LUG	
201	000-P00416-W	M SCR PH W/FS M4 X 16	
202	011-T03512	TAP SCR TH 3.5 X 12	
301	SPY-61023	WH XFMR IN	
302	SPY-61024	WH XFMR OUT	

①⑨ ASSY XFMR 200V AREA (SPY-4600)



NOTE: Make sure that there is no wiring, etc.
in the slash mark portions.

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-4501	XFMR BASE	
101	560-5422-H	XFMR 200-240V 100V5.5A CE	
102	280-0419	HARNESS LUG	
201	000-P00416-W	M SCR PH W/FS M4 X 16	
202	011-T03512	TAP SCR TH 3.5 X 12	
301	SPY-61023	WH XFMR IN	
302	SPY-61024	WH XFMR OUT	

19. WIRE COLOR CODE TABLE

THE WIRE COLOR CODE is as follow:

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

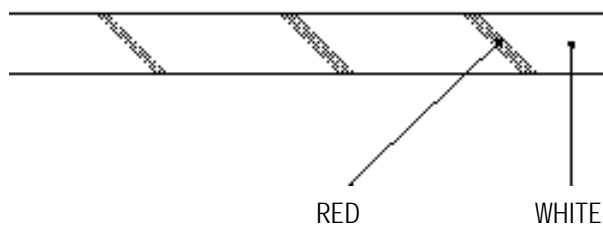
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

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 alphanumeric 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

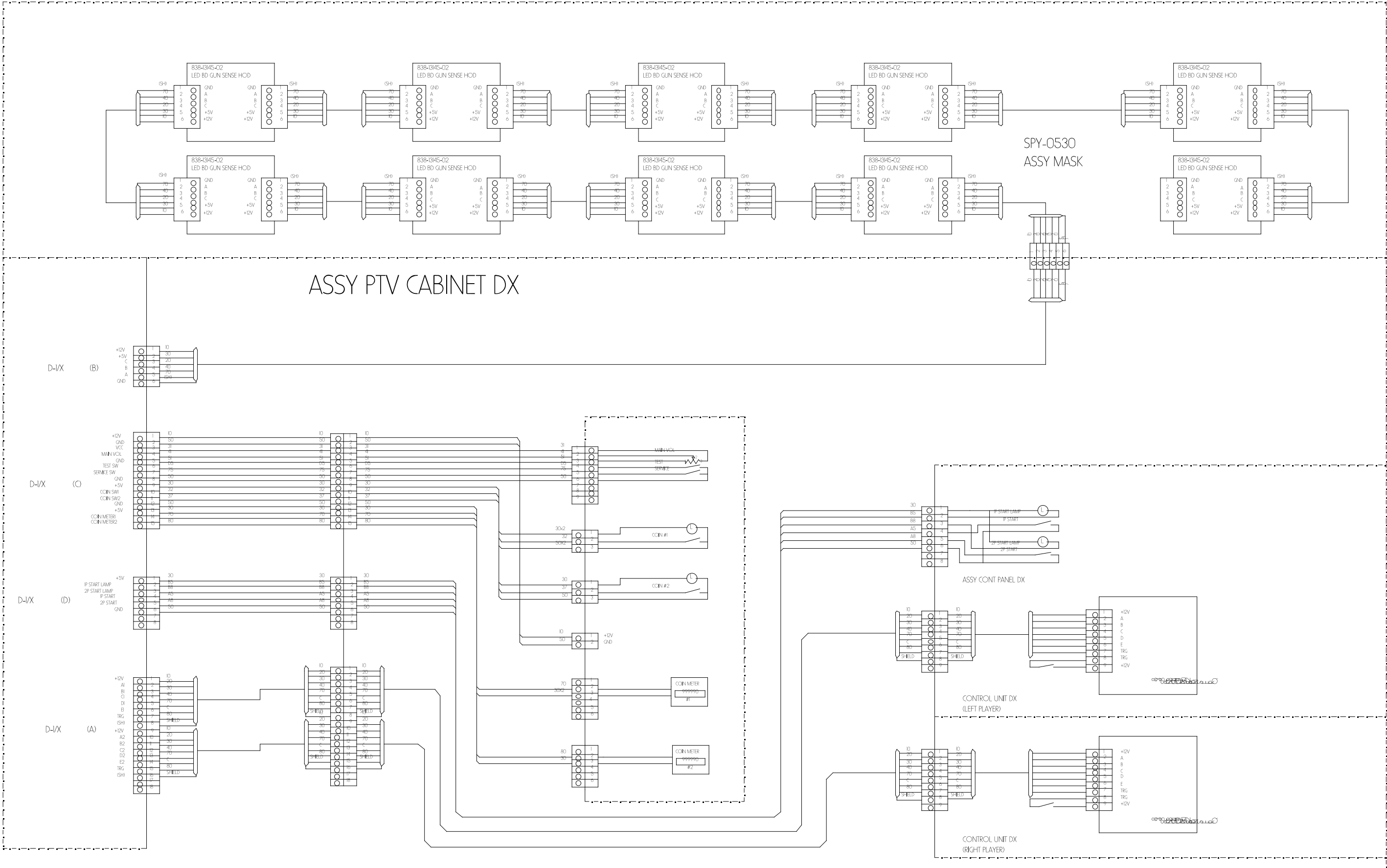


Note 2: The character following the wire color code indicates the size of the wire.

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



SEGA ENTERPRISES, LTD.



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