

OWNER'S MANUAL

**GHOST
SQUAD™**
EVOLUTION

50" DX CABINET



29"STD CABINET

IMPORTANT

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

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

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Sega Amusements U.S.A., Inc.

800 Arthur Avenue, Elk Grove Village, IL 60007-5215, U.S.A.

TEL: 1-847-364-9787

TOLL FREE: 1-888-877-2669

FAX: 1-847-427-1065

INTRODUCTION

This manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electro-mechanicals, servicing control, spare parts, etc. for the product, "**GHOST SQUAD EVOLUTION 29"STD AND 50"DX 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.

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

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



IMPORTANT

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

SPECIFICATIONS

50"DX	
Installation space:	47.2" [Width] x 66.1" [Depth]
Height:	87.8"
Width:	47.2"
Length:	58.1"
Weight:	557.8 lbs.
Power, maximum current:	840 W, 7 A (AC 120 V, 60 Hz Area)
Monitor:	50" TOSHIBA Projection TV Display
29"STD	
Installation space:	44.5" [Width] x 71" [Depth]
Height:	84"
Width:	34.5"
Length:	63"
Weight:	400 lbs.
Power, maximum current:	600 W, 5 A (AC 120 V, 60 Hz Area)
Monitor:	29" SANWA Monitor

Definition of 'Site Maintenance Personnel or Other Qualified Individuals'



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

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

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

Site maintenance personnel:

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

Activities to be carried out by site maintenance personnel:

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

Other qualified professionals:

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

Activities to be carried out by other qualified professionals:

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



WARNING

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 41°F to 86°F.

LIMITATIONS OF USAGE REQUIREMENTS



WARNING

- Be sure to check the Electrical Specifications. Ensure that this product is compatible with the location's power supply, voltage and frequency requirements. A plate describing Electrical Specifications is attached to the product. 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 15A or higher (AC single phase between 100 to 120 V area), and 7A or higher (AC 220 to 240 V 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 15A or higher (AC 100 to 120 V area) and 7A or higher (AC 220 to 240 V 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 2.3 m (7.5 ft) (W) x 2.8 m (9.2 ft) (D) for 5-"DX cabinet, 34.5" (W) x 78" (D) for 29"STD cabinet. 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.

**STOP IMPORTANT**

For transporting the machine into the location's building, the minimum necessary dimensions of the opening (of doors, etc.) are 1 m (39.4") (W) and 1.7 m (66.9") (H).

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.

FIG. 3

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



- Do not put any heavy item on this product. Placing any heavy item on the product can cause a falling down accident or parts damage.
- Do not climb on the product. Climbing on the product can cause falling down accidents. To check the top portion of the product, use a step.
- 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.



- 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.
- During daily cleaning and maintenance, check the surface of the control unit (Gun Controller) for cracks and other damage and ensure that screws are securely fastened. Loose screws, cracks, and other damage could cause harm to players and other customers if left unrepaired.



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

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

3

OPERATION

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.
- Playing close to the cabinet could cause the Gun Controller to strike the cabinet, possibly causing an accident. Be sure to ask your customers to maintain a safe distance during play.
- Wearing large rings and other accessories during play could result in injury to players' fingers. Be sure to ask your customers to remove such accessories before playing.



IMPORTANT

- The Gun Controller for use on 1P side (left side) and 2P side (right side) are different. Ensure that players do not confuse the right and left side guns when starting play.
- Make sure to avoid disturbing customers when moving/removing the machine from its current location.

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Width:	47.2"
Length:	58.1"
Weight:	557.8 lbs.
Power, maximum current:	590 W, 6.31 A (AC 120 V, 60 Hz Area)
Monitor:	50" Projection TV Display
29"STD	
Installation space:	44.5" [Width] x 71" [Depth]
Height:	84"
Width:	34.5"
Length:	63"
Weight:	400 lbs.
Power, maximum current:	420 W, 3.5 A (AC 120 V, 60 Hz Area)
Monitor:	29" SANWA Monitor

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

4. NAME OF PARTS

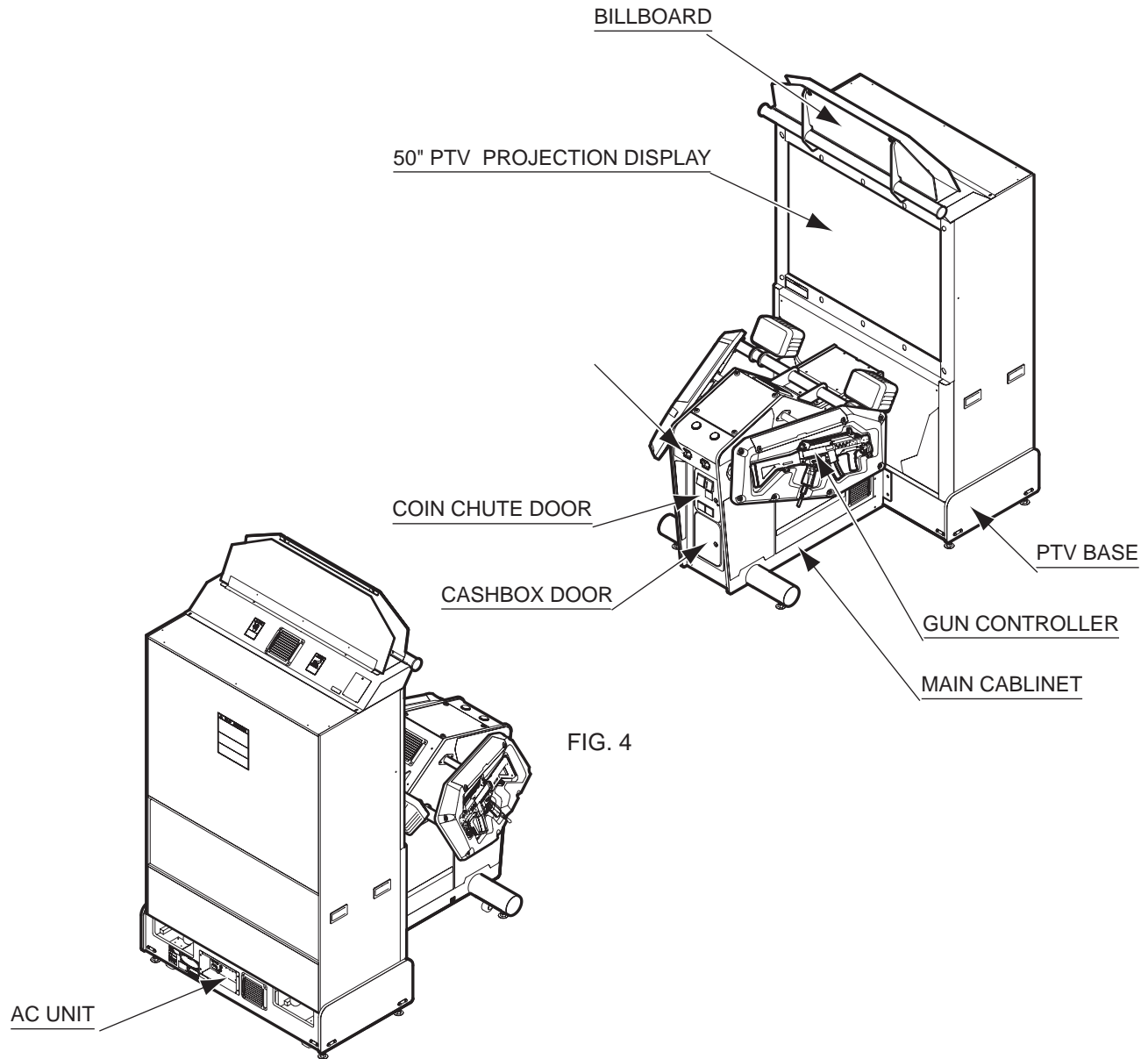


FIG. 4

TABLE 4 (50"DX) SIZE WHEN SEPALATE

	Width x Depth x Height	Weight
PTV	88.19" x 21.9" x 65.7"	220.4 lbs
PTV BASE	47.2" x 24.4" x 12.2"	57.3 lbs
BILLBOARD	46.06" x 16.14" x 15.16"	39.68 lbs
MAIN CABINET	44.9" x 42.91" x 39.76"	216.05 lbs
When assembled	47.27" x 66.14" x 67.8"	557.77 lbs

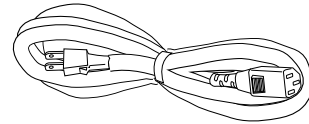
5. ACCESSORIES

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

TABLE 5 a ACCESSORIES

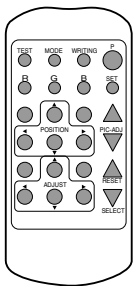
534-30-300:
 MANUAL, GHOST SQUAD EVOLUTION 50"DX / 29"STD (1)
 999-2101-01:
 GUN SUPPORT BRACKET (2 SETS)
 KEYS
 T-10, T-15, T-25, T-27 AND T-40 TAMPER WRENCH (1/ea)

AC POWER CORD

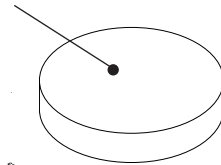


TOSHIBA
 200-5536 (1)

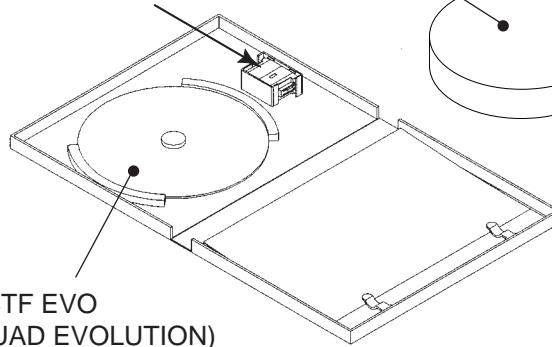
Remote Controller used for adjustment of the projector.



CUSHION SPONGE
 DVD-ROM Disc Protector



KEY CHIP (1)
 Already on
 MAIN PCB



DVD SOFT CTF EVO
 (GHOST SQUAD EVOLUTION)

6. ASSEMBLY AND INSTALLATION



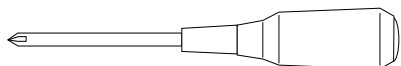
- Perform assembly work by following the procedure herein stated. Failing to comply with the instructions can cause electric shock hazard.
- Perform assembling as per this manual. Since this is a complex machine, erroneous assembling can cause an electric shock, machine damage and or not functioning 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 not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not carelessly push the PTV. Pushing the PTV carelessly can cause the PTV to fall down.
- This work should be performed by the site maintenance individual or other skilled professional. 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.
- Do not use this product with connectors other than those that were connected and used with the Game Board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.



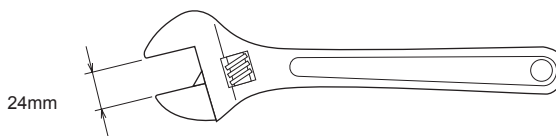
- When handling plastic parts, use care. Do not give a shock or apply excessive load to the fluorescent lamps and plastic parts. Failure to observe this can cause parts damage, resulting in injury due to fragments, cracks and broken pieces.
- To perform work safely and securely, be sure to prepare a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

When carrying out the assembling and installation, follow the following 9-item sequence.

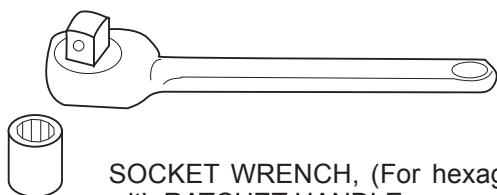
1. ASSEMBLING THE BILLBOARD
2. ASSEMBLING THE PTV
3. ASSEMBLING THE CABINET
4. ECURING IN PLACE ADJUSTER TUNING
5. ATTACHING THE FLUORESCENT LIGHTS AND LAMPS
6. POWER SUPPLY AND EARTH CONNECTION
7. TURNING THE POWER ON
8. ASSEMBLY CHECK



Phillips type screwdriver



WRENCH (for Hexagon bolt)



SOCKET WRENCH, (For hexagon bolt)
with RATCHET HANDLE

TAMPER SCREW WRENCH
T-10,15,25,27 and T-40)

1. ASSEMBLING THE BILLBOARD

Undo the 2 truss screws, and remove the pop bracket.

POP BRACKET

TRUSS SCREW
(2) Black M4×8

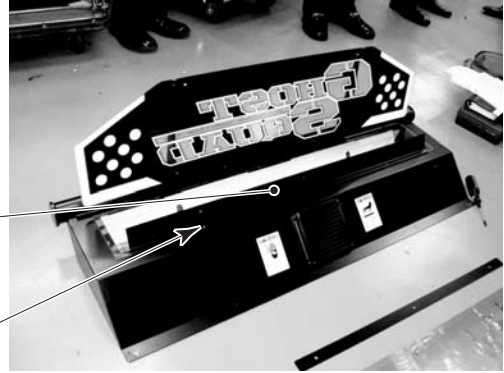


PHOTO 6. 1 a

Undo the 3 truss screws, and remove the pop holder.

TRUSS SCREW (3) Black M4×8

POP HOLDER



PHOTO 6. 1 b

Attach the billboard pop by fitting it between the pop bracket and pop holder, and fixing it in place with the 3 truss screws.

BILLBOARD POP

TRUSS SCREW
(3), black M4×8

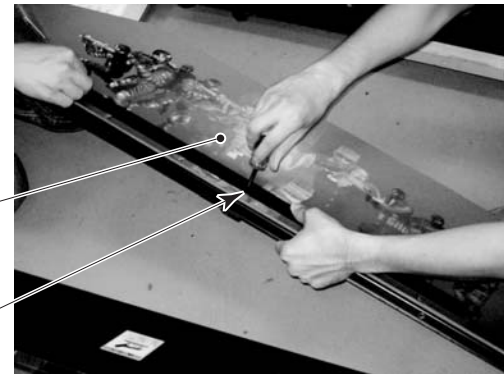


PHOTO 6. 1 c

Attach the assembled billboard pop using the 2 truss screws.

TRUSS SCREW
(2) Black M4×8



PHOTO 6. 1 d

2. ASSEMBLING THE PTV

By using 2 Flat Head screws, secure the 2 Mask Bracket Uppers to the PTV ceiling. Secure the Mask Bracket Lower to the front of PTV with 4 screws.

Install Mask to the PTV front. Install the Mask in a manner hooking up to both 2 Mask Bracket Uppers and the Mask Bracket Lower. Simultaneously insert the projections of the Mask into the square holes in the PTV screen left and right.

Secure the Mask by fastening a screw for each from both sides of PTV.

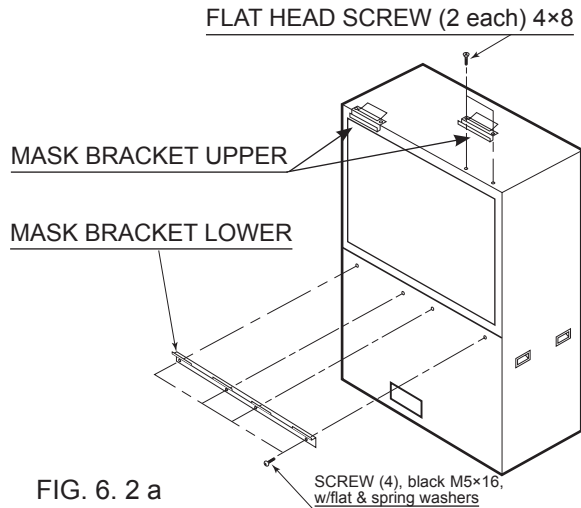


FIG. 6. 2 a

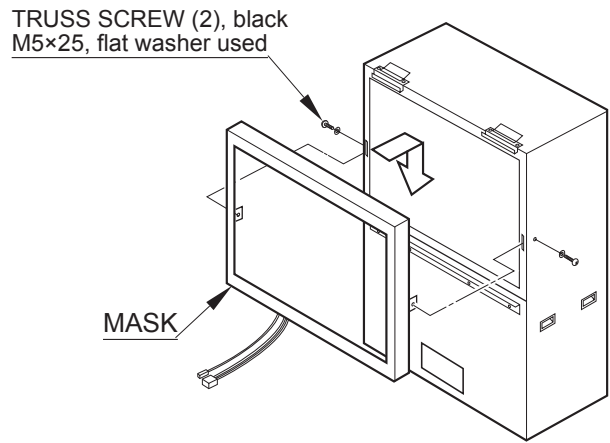
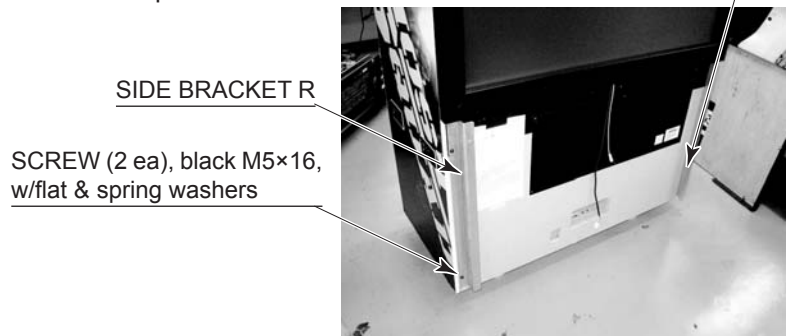


FIG. 6. 2 b

Affix the side bracket L and side bracket R to the PTV front face using 2 screws each. Be careful of the orientation of the parts.

PHOTO 6. 2 a

SIDE BRACKET L

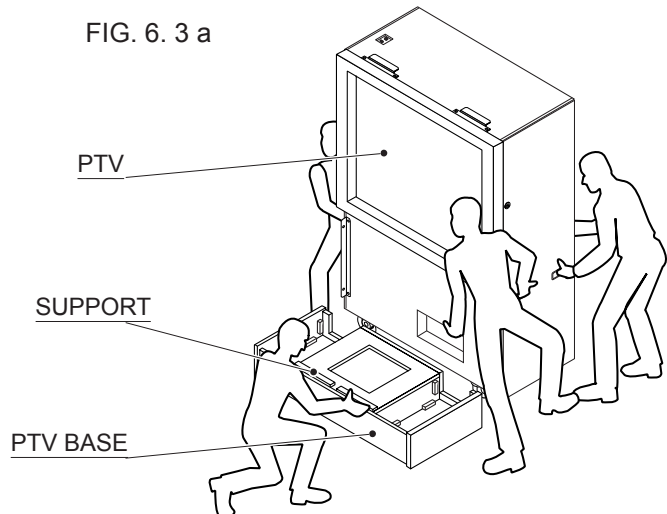


3. ASSEMBLING THE CABINET

Move the PTV to the back of the PTV base. Put the PTV on the PTV base. To do this, you will need at least 4 people to lift the PTV, and another person to hold the PTV base to stop it from moving. Lower the PTV until it touches the supports. Take care not to damage any wiring during this step.

You will need at least 5 people to perform this step.

FIG. 6. 3 a

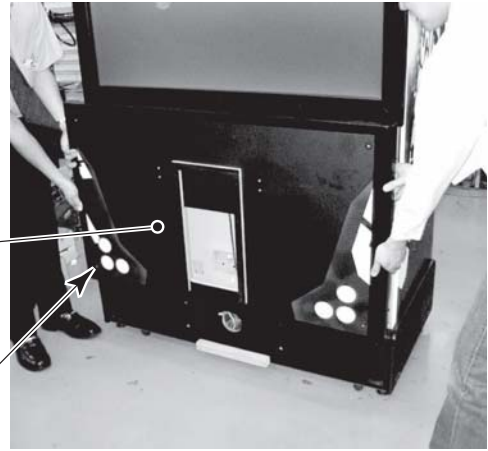


Attach the front panel using 4 truss screws. Take care that you do not damage any wiring during this step.

FRONT PANEL

TRUSS SCREW (4), black
M5×20, flat washer used

PHOTO 6. 3 a



Have 2 people lift the billboard and place it on the PTV. Lower the billboard so that the two mask bracket uppers that were attached in step 2 fit into the 2 rectangular holes in the billboard base plate, and push the billboard towards the PTV screen. The base plate of the billboard is then fixed into place by fitting into the mask brackets.

You will need 2 people to perform this step.

PHOTO 6. 3 b



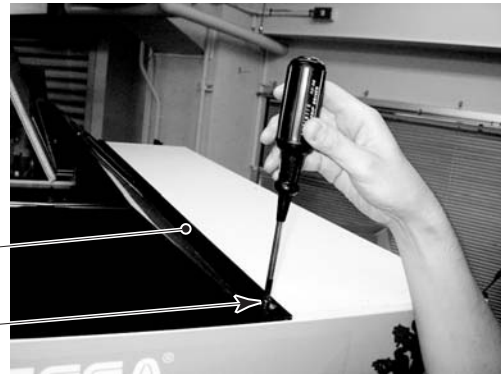
You will need a footstool to complete the following step. Attach the billboard to the PTV using 2 screws.

You will need a footstool to perform this step.

BILLBOARD

SCREW (2) M5×16, w/flat & spring washers

PHOTO 6. 3 c



Undo the single truss screw and remove the connector lid.

TRUSS SCREW (1), black M4×8

CONNECTOR LID



PHOTO 6. 3 d

Connect the internal billboard connector to the connector in the PTV ceiling.

BILLBOARD INTERNAL CONNECTOR

PTV CEILING CONNECTOR

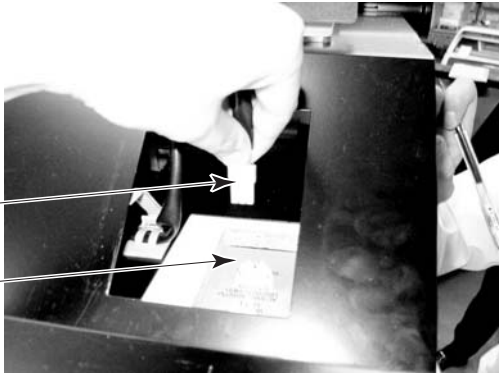


PHOTO 6. 3 e

Attach the connector lid using the single truss screw. Bring the main cabinet next to the PTV.

Connect the wiring between the main cabinet and the PTV. You will need to connect a total of 5 connectors.

CONNECTOR (5)

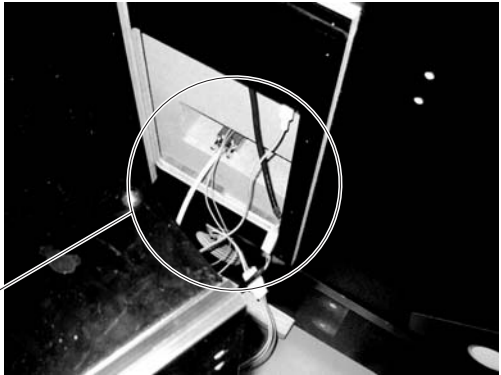


PHOTO 6. 3 f

Place the main cabinet on the supports in the PTV base. Make sure that the wires do not get pinched while you do this.

Be careful not to pinch the wiring.

SUPPORT

MAIN CABINET



PHOTO 6. 3 g

Tighten the 2 hexagon bolts on each of the left and right brackets of the main cabinet to affix the cabinet.

HEXAGON BOLT (2 ea), black w/spring washer, flat washer used

BRACKET

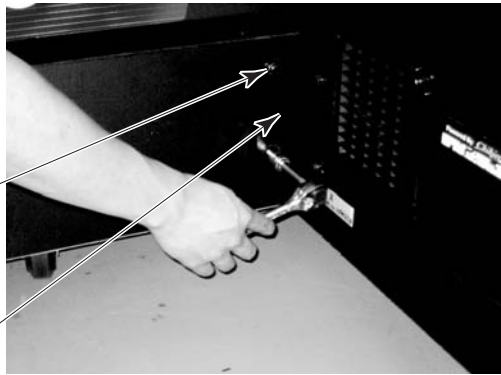


PHOTO 6. 3 h

Attach the joint bracket uppers to the left and right sides of the joint between the main cabinet and the PTV using 4 truss screws on each side to secure the joint. Arrange these so that the vertical holes correspond to the main cabinet and the horizontal holes correspond to the PTV.

If there is a gap between the main cabinet and the PTV, adjust the main cabinet or the adjuster on the PTV base to close the gap before tightening the screws.

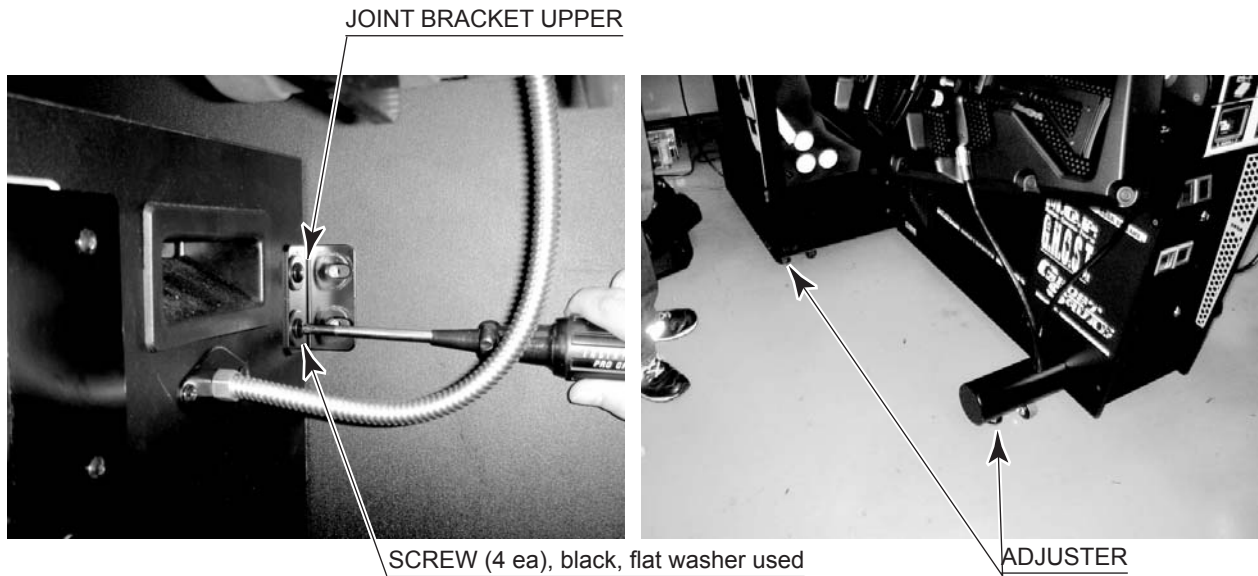


PHOTO 6. 3 i

4. SECURING IN PLACE (ADJUSTER TUNING)



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 product has 8 casters (4 for PTV Base, 4 for MAIN CABINET) and 6 Adjusters (4 for PTV Base, 2 for MAIN CABINET). (FIG. 6. 4 a) 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 5 mm. from the floor and make sure that the machine position is level.

Transport the product to the installation position.

Have all of the adjusters make contact with the floor. Adjust the adjuster's height by using a wrench so that the machine position is kept level.

When contacting the adjusters of the right and left fences onto the floor, manually turn them.

After making adjustment, fasten the adjuster nut upward and secure the height of adjuster.

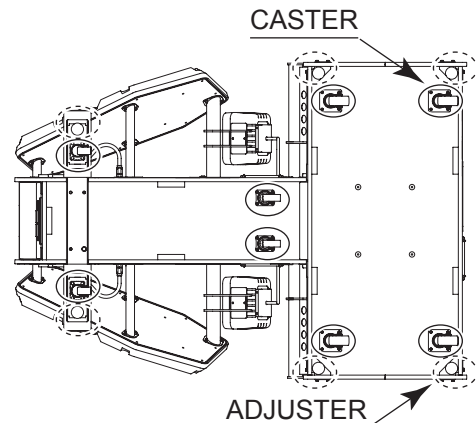


FIG. 6. 4 a BOTTOM VIEW

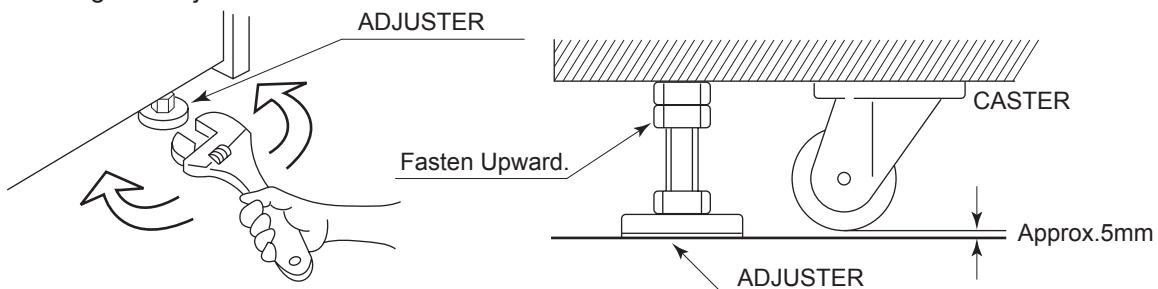


FIG. 6. 4 b ADJUSTER

5. ATTACHING THE FLUORESCENT LIGHTS AND LAMPS

Fluorescent Light

Undo the 4 screws using the supplied L-wrench, and remove the instruction panel.

INSTRUCTION PANEL

SCREW (4) > special washer used



PHOTO 6. 5 a

Attach the globe-shaped fluorescent light.
Reattach the instruction panel in its original position using the 4 screws.

GLOBE-SHAPED FLUORESCENT LIGHT 13W Part#: 390-6782)
Or 26Watt Spiral Fluorescent. (Screw in type base)

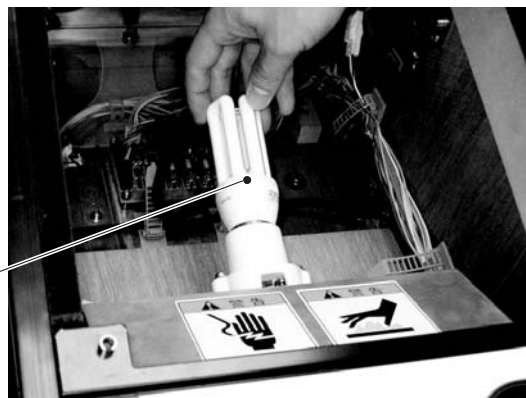


PHOTO 6. 5 b

Halogen Lamp

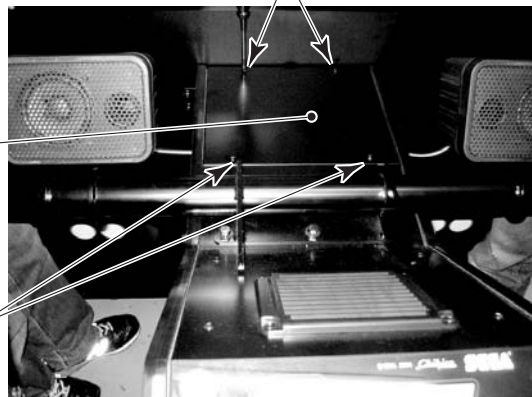
Undo the 4 truss screws, and remove the lamp lid.

TRUSS SCREW (2), black M4x20

LAMP LID

TRUSS SCREW (2), black M4x8

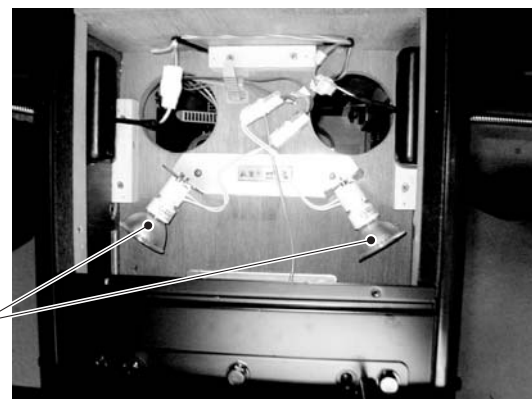
PHOTO 6. 5 c



Attach the halogen lamp.
Reattach the lamp lid in its original position using the 4 screws.

HALOGEN LAMP 40W
390-6732-40N

PHOTO 6. 5 d





- 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.

7. TURNING THE POWER ON

Turn the main switch on the AC unit on to turn the power on. When the power is turned on, the fluorescent lights in the billboard and instruction panel turn on. A few second later, the system startup screen is displayed, then the waiting screen for customers (advertising screen) is displayed.

The time required for the advertising screen to appear can vary between several tens of seconds and a few minutes. The time is not necessarily the same each time. This is due to the rechargeable battery in the GD-ROM system, and does not represent a malfunction.

Audio begins playing from the speakers on the left and right sides of the main cabinet at the same time the advertising screen is displayed. In addition, the halogen lamp, left and right controller holder LEDs, and the LED under the IC card unit all light up. However, if the game has been configured to not play sounds during advertising, then no sound is produced.

Even after you turn the power to this product off, the number of credits and ranking data are preserved. However, the number of excess coins (the number of coins that have been inserted that do not add up to a full credit) and bonus adder count data are not preserved.

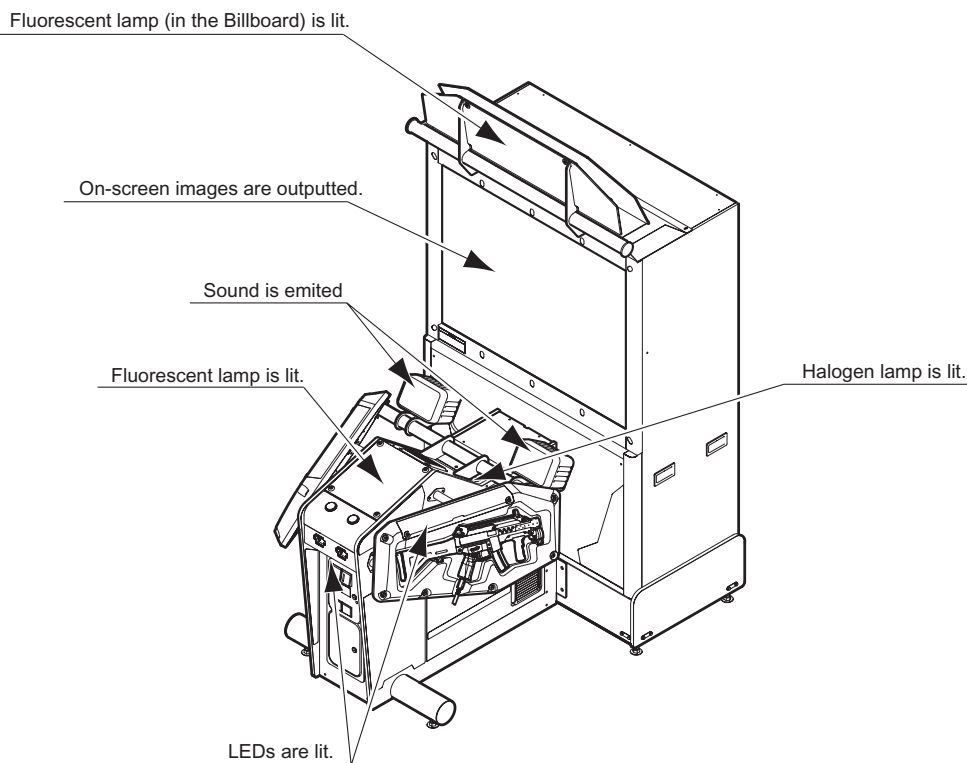


FIG. 6.7

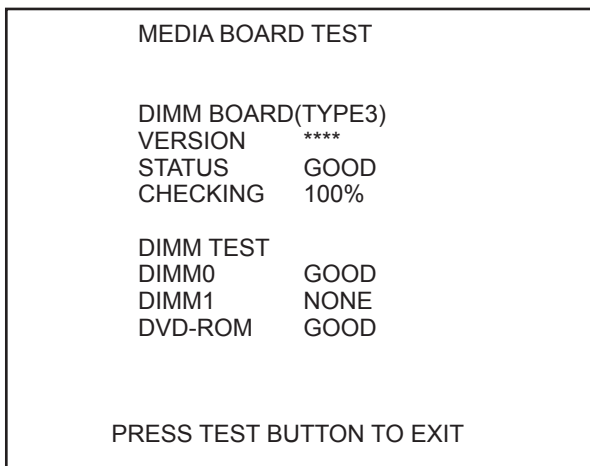
8. ASSEMBLY CHECK

In the TEST MODE, ensure that the assembly has been made correctly and IC BD. is satisfactory In the test mode, perform the following test:

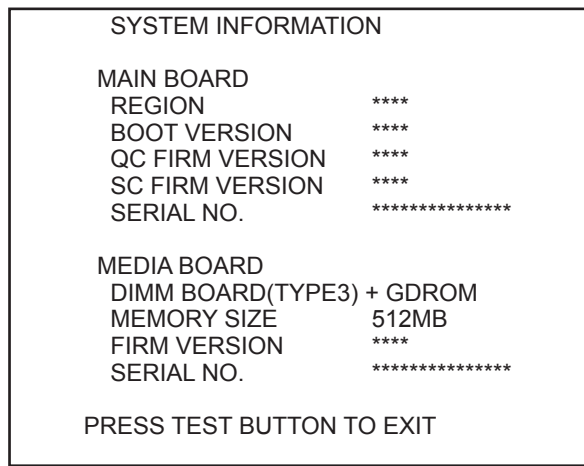
MEMORY TEST

When "MEDIA BOARD TEST" is selected from the System Test Mode Menu Screen the Game Board memory is automatically tested. If the display beside each memory reads "GOOD", the Game Board is functioning correctly.

Also, when "SYSTEM INFORMATION" is selected, Main Board and Media Board data for the Game Board are displayed. If data is displayed correctly, the Game Board is functioning correctly.



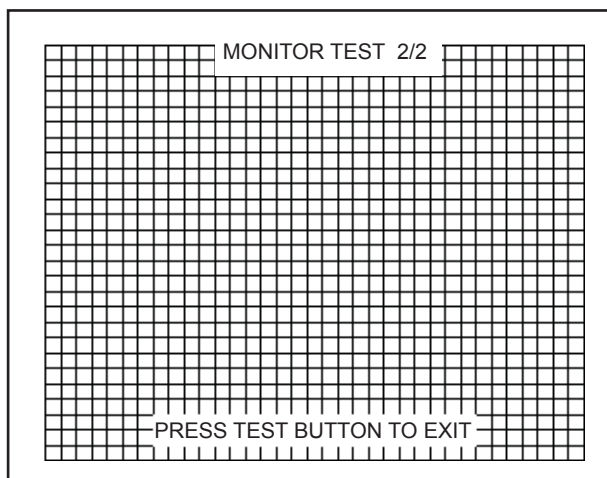
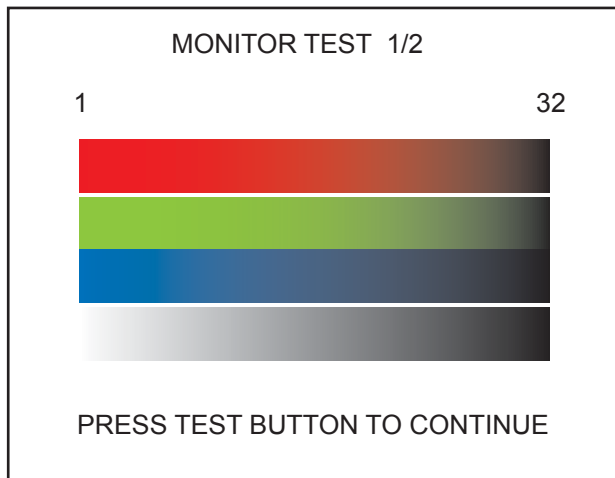
MEDIA BOARD TEST screen



SYSTEM INFORMATION screen

MONITOR TEST

In the TEST mode menu, selecting MONITOR TEST allows the screen (on which the projector is tested) to be displayed. Although the projector 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 projector by referring projector manual at end of this book.



INPUT TEST

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.

INPUT TEST		
PLAYER	1	2
TRIGGER	OFF	OFF
ACTION	OFF	OFF
CHANGE	OFF	OFF
CARD IN	OFF	OFF
GUN-X	00H	00H
GUN-Y	00H	00H
SCREEN	OUT	OUT
START	OFF	OFF
SERVICE	OFF	
TEST	OFF	
PRESS TEST AND SERVICE BUTTON TO EXIT		

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.

OUTPUT TEST		
PLAYER 1 START LAMP	OFF	
PLAYER 2 START LAMP	OFF	
PLAYER 1 HALOGEN LAMP	OFF	
PLAYER 2 HALOGEN LAMP	OFF	
PLAYER 1 HOLDER LAMP	OFF	
PLAYER 2 HOLDER LAMP	OFF	
PLAYER 1 GUN REACTION	OFF	
PLAYER 2 GUN REACTION	OFF	
COIN LED	OFF	
-> EXIT		
SELECT WITH SERVICE BUTTON		

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 of the moving/shipping divergence.

GUN ADJUSTMENT					
PLAYER 1			PLAYER 2		
-> TOP	5	233	-> TOP	5	233
LEFT	-318	17	LEFT	-318	17
CENTER	-10	15	CENTER	-10	15
RIGHT	242	34	RIGHT	242	34
BOTTOM	-10	-204	BOTTOM	-10	-204
DEFAULT			DEFAULT		
CANCEL			CANCEL		
CURSOR			CURSOR		
SELECT WITH SERVICE BUTTON					
AND PULL TRIGGER					
PRESS TEST BUTTON TO EXIT					

Interference Prevention Wiring



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- 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.

THE HOUSE OF THE DEAD 2, U/R type, DX type and Super DX type

DEATH CRIMSON, U/R type and DX type

THE LOST WORLD, U/R type, DX type and Super DX type

BRAVE FIRE FIGHTERS

SAMBA DE AMIGO

CONFIDENTIAL MISSION, U/R type and DX type

SHAKATTO TAMBOURINE

LUPIN THE 3RD THE SHOOTING, U/R type and DX type

THE MAZE OF THE KINGS, U/R type and DX type

THE HOUSE OF THE DEAD 3, U/R type and DX type

VIRTUA COP 3, U/R type and DX type

GHOST SQUAD, U/R type and DX type

Turn the power off.

Undo the 2 truss screws and remove the side door L from the main cabinet.

The interference prevention wire is connected to the sensor board on the lower right side.

If multiple units of the same game are installed side by side, make sure that the game units that are connected to the interference prevention wires are arranged so that they alternate with the units that are not connected.

INTERFERENCE PREVENTION WIRING
CTF-60013

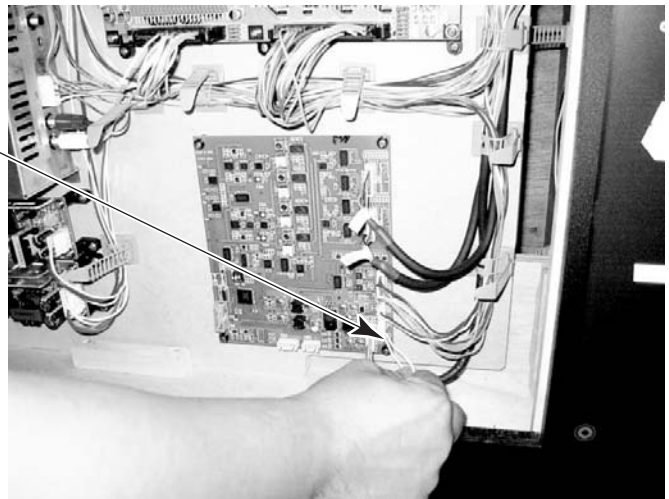


PHOTO 6. 8 a



- When moving the machine, be sure to pull out the plug from the power supply. Moving the machine with the plug as is inserted can cause the power cord to be damaged and could result in a fire and or electric shock.
- 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 an electric shock and or short circuit.
- In places where step-like grade differences exist, be sure to separate the PTV, PTV Cabinet, and the Controller Cabinet. Inclining the PTV as is mounted on the PTV Cabinet can cause the PTV to fall off from the Base and result in injury. When lifting the cabinet, be sure to hold the grip portions or bottom part. Lifting the cabinet by holding other portions can damage parts and installation portions due to the empty weight of the cabinet, and cause personal injury. When moving the PTV, do not push it from the rear side. Push it from sideways. Pushing the PTV from the rear side can have the PTV fall down, causing personal injury etc. In case the floor has slanted surfaces or step-like differences, be sure to move the machine by 2 or more persons.
- When the Cabinet is disassembled, the detached Controller Cabinet may be unstable. If it is carelessly pushed, it can fall and cause accidents. When the Control Cabinet is detached, place it in on a level surface and be careful not to tip it right or left when moving it.

Do not push PTV from the back. Pushing the PTV from the back can cause the PTV to fall down. Push it from the side.

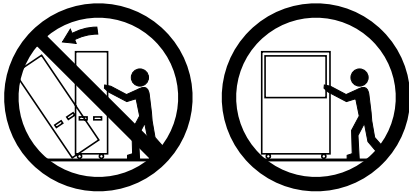


FIG. 7 a

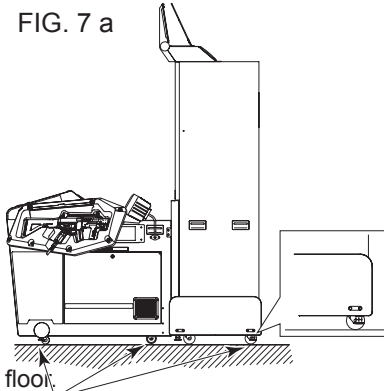
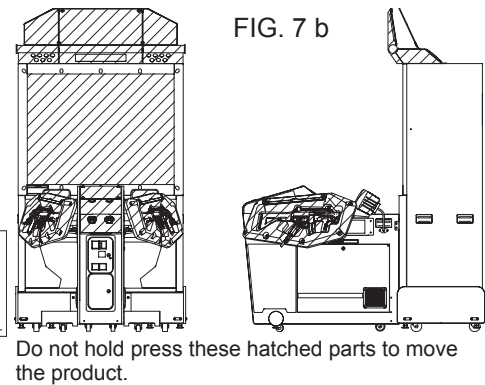
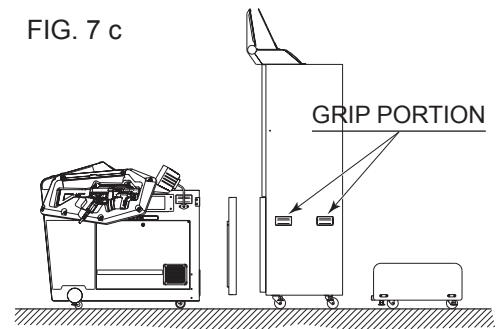


FIG. 7 b



When transporting the product in places with steps or step-like differences in grade, disassemble into each unit before transporting.

FIG. 7 c



Cautions When Transporting the Machine

Do not tie machine down using Plastic Parts as an anchor. When using straps or tie downs (rope etc), use caution. Use protective material where tie downs contact machine to avoid damage. To keep machine from shifting during transport, be certain all leg adjusters are in contact with the pallet.

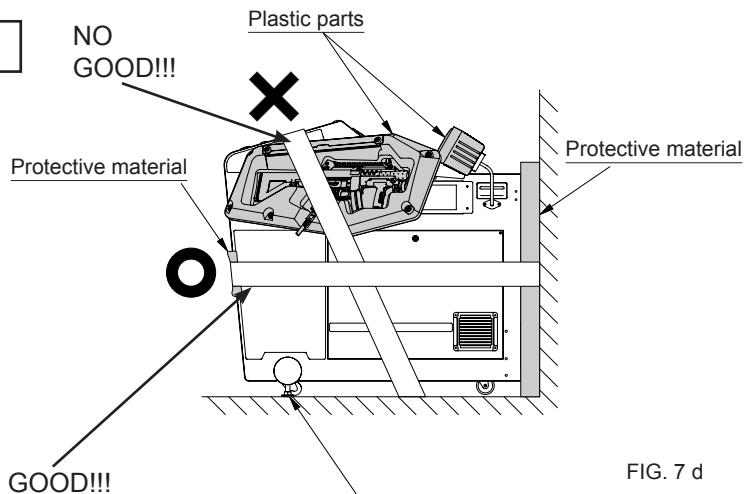


FIG. 7 d

8. GAME DESCRIPTION

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.

The fluorescent lights in the billboard and in the instruction panel are always on whenever the power is turned on. Demo movies and game rankings are displayed on the screen.

In addition, the left and right controller holder LEDs are all turned on. Audio may also be played from speakers on the left and right sides of the main cabinet. However, it is possible to select whether sound is played during advertising or not using the Test mode settings.

Each of the right and left start buttons is integrated with a light. The light flashes when coins are inserted sufficiently for a play. The light goes out when the start button is pressed to start the game.

Press the appropriate start button to begin play as 1P or 2P. If enough credits for a game are remaining, the other player's START button will flash. Press the flashing START button to join a game.

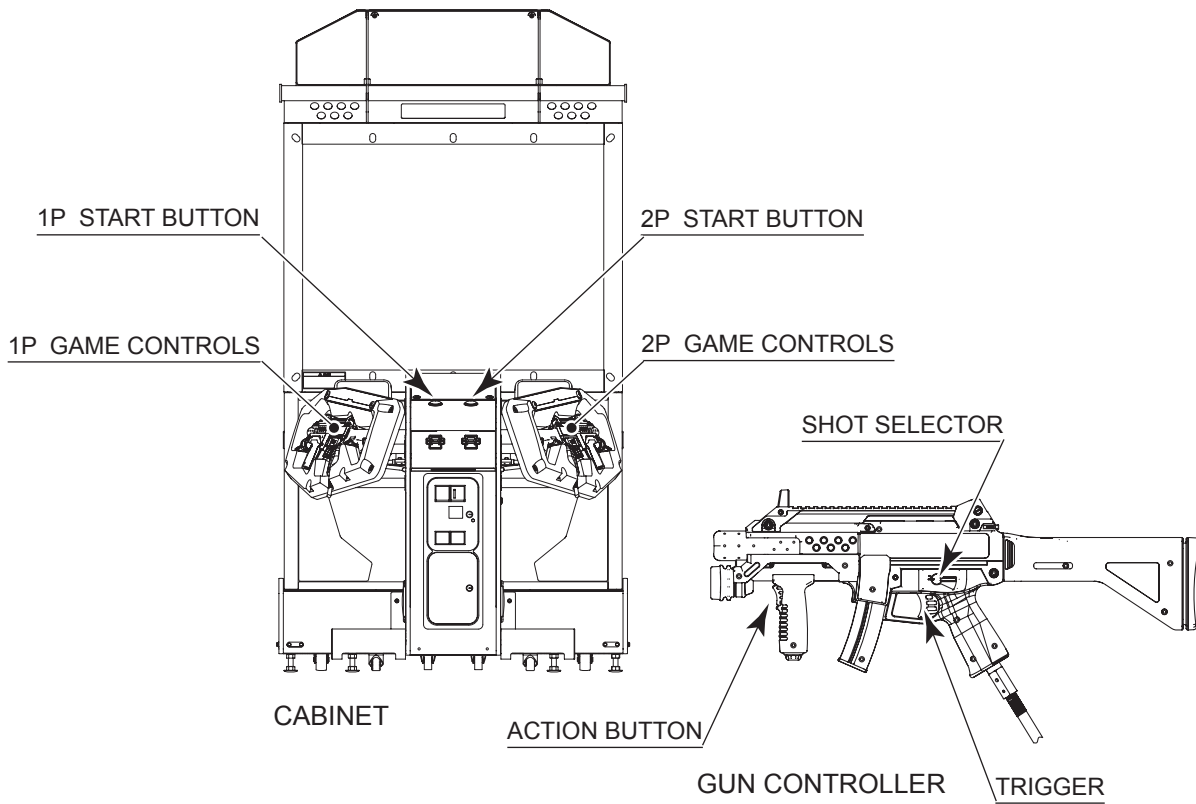


FIG. 8

(1) GAME OUTLINE

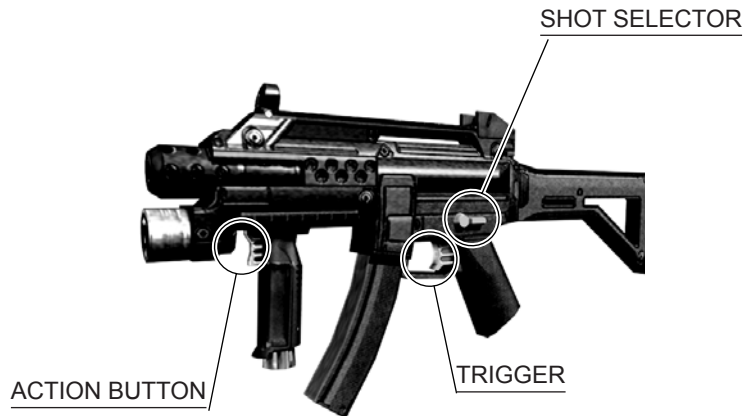
The player is a member of the special forces unit, "Ghost Squad", out to suppress vicious terrorists. Each mission contains multiple routes, allowing the player to choose how to proceed. Special events occur throughout the game depending on the route chosen, such as securing hostages or providing friendly cover fire.

(2) GAME CONTROLS

The game is controlled with the cabinet START buttons and the provided sub-machinegun-style gun controllers.

Each gun controller is equipped with 3 buttons, the TRIGGER, ACTION and SHOT SELECTOR buttons.

- START BUTTON : Used for starting the game and skipping event descriptions.
- TRIGGER : Used for firing (shooting bullets) and panel selection.
- ACTION BUTTON : Used during events and for skipping demo scenes.
- SHOT SELECTOR : Used to switch between firing modes (single shot, 3-shot burst, full auto).

**(3) CHARACTERS**

- Alpha Unit

The Alpha Unit are the main characters in the game and are young hot-shot members of "Ghost Squad", an unofficial unit of the anti-terrorist group, "M.O.P." (Multiple-Operation-Program)

- Fellow M.O.P. Members

The Commander provides radio backup and pertinent advice to the Alpha Unit.

Also assisting the Alpha Unit in operations are Bravo Unit and Charlie Unit. These two units assist the players in suppressing the terrorist threat.



COMMANNDER



UNIT BRAVO

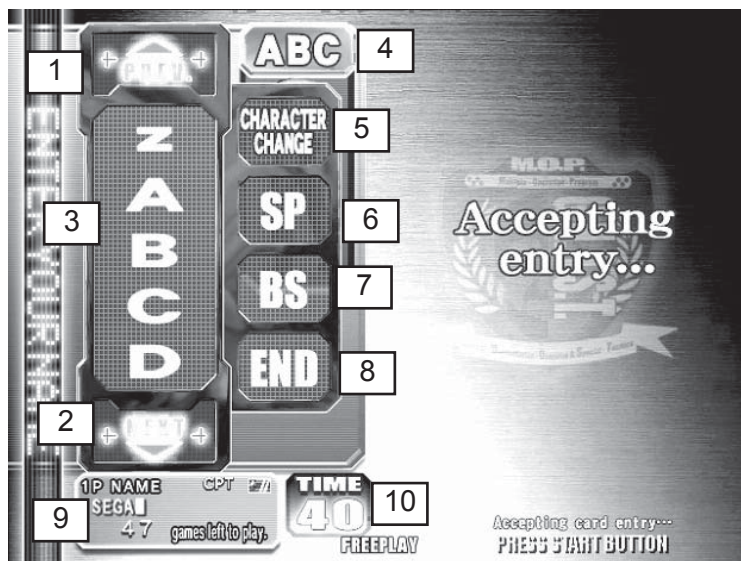


UNIT CHARLIE

- Customize Screen
Starting the game will display the following screen and allow weapon and costume selection.



- Name Entry Screen
Name will be used to display the score if it makes the cabinet ranking.



Name Entry Screen

- 1 & 2: Character Scroll Buttons
Scroll through selectable characters (letters). Rapid scrolling is possible by keeping it held down.
- 3: Selectable Characters
Line up the cursor and pull the trigger to select a character.
- 4: Current Character Type
Displays the current name entry character type.
- 5: Character Change Button
Changes the character type.
- 6: Space Button
- 7: Backspace Button
- 8: END Button
Sets the entered name.
- 9: Name as Entered
- 10: Remaining Time
The currently entered name is used if the remaining time reaches zero.

Names up to 16 characters in length can be entered, using alphanumeric and symbol character types.

- Gun Controller Explanation Screen

Exiting the Customize Menu plays the demo explaining how to use the gun controller.

This explains the shooting stance, and how to use the SHOT SELECTOR and ACTION button.

It is possible to skip this explanation with the START button.



Gun Controller Explanation Screen

- Gun Controller Calibration Screen

If the CALIBRATION setting in the game Test Mode is turned on, this screen is displayed before starting the game.

Holding the gun controller correctly, aim at the target bulls-eye and pull the trigger to calibrate the gun.

Press the START button to exit the Calibration Screen without waiting for the time limit to run out.



Gun Controller Calibration Screen

- Mission Select Screen

On this screen, the player selects which mission to play from 3 available missions.

Playing one mission all the way to the end displays this screen once again, allowing the player to select another mission.

A mission played once cannot be played again in the same game.



Mission Select Screen

The Mission Level is displayed on the Mission Select Screen.

Line up the cursor with the Mission Level display and push the ACTION button. By changing the level, it is possible to play at the desired level.

Mission Level 1 to 16 can be selected from the beginning.

- In-game Display
During game play, information such as life and remaining ammunition is displayed.



- 1: Life (remaining health): The color will grow red as it nears zero.
- 2: GS Meter: Special Points accumulated during the game are shown here.
- 3: Score: Points accumulated during play.
- 4: Mission Level: Level of the current mission.
- 5: Terrorist: Find and suppress!
- 6: Fellow Troops: Members of the "Ghost Squad".
- 7: Correspondence: Support requests from fellow troops, or advice from the Commander appears here.
- 8: Firing Mode: Selectable firing modes and the currently selected firing mode are displayed.
- 9: Weapon Information : Equipped weapon and remaining magazine ammunition are displayed.
- 10: Auxiliary Item: Any currently effective auxiliary items are displayed.

(5) GAME RULES AND GAMEPLAY

Life

During play, the player's life is displayed at the top part of the screen. Life is diminished by enemy attack or accidental fire on hostages. Once the player's life runs out, play stops.

The amount of life to start a game with can be configured in Test Mode settings. Changing life settings will not affect the length of the life gauge. Instead, the amount of life lost when receiving damage changes, effectively varying the number of sustainable enemy hits. (Refer to the "LIFE" setting of the "GAME ASSIGNMENTS" section in "Test Mode.")

Continue and Game Over

The option to "Continue" is available when the player's life runs out. The START button can be used to continue the game, as long as there are credits remaining.

GS Meter

The GS Meter measures the value of the player's special force performance. For example, pulling off a special shot ("GOOD SHOT", "QUICK SHOT", etc.) or successfully completing an event raises the meter, while shooting fellow troops or hostages lowers the meter. When the GS Meter reaches its maximum level, the current weapon receives an upgrade. Building up the GS Meter also increases the amount of experience gained following a game.

Reload

When a magazine is empty, reloading is executed by simply aiming the gun controller outside of the screen. At that time it is not necessary to press the trigger or any other buttons. The time it takes between reloading and being able to shoot again varies between weapons.

E-Marker

When discovered, the terrorists commence fire upon the player.

However, not all shots result in injury. An "E-Marker" will be displayed on any enemy whose shots will inflict damage, serving as a warning to the player.

When under fire from multiple enemies, first defeating enemies marked with an E-Marker should help the player avoid damage.

E-Marker

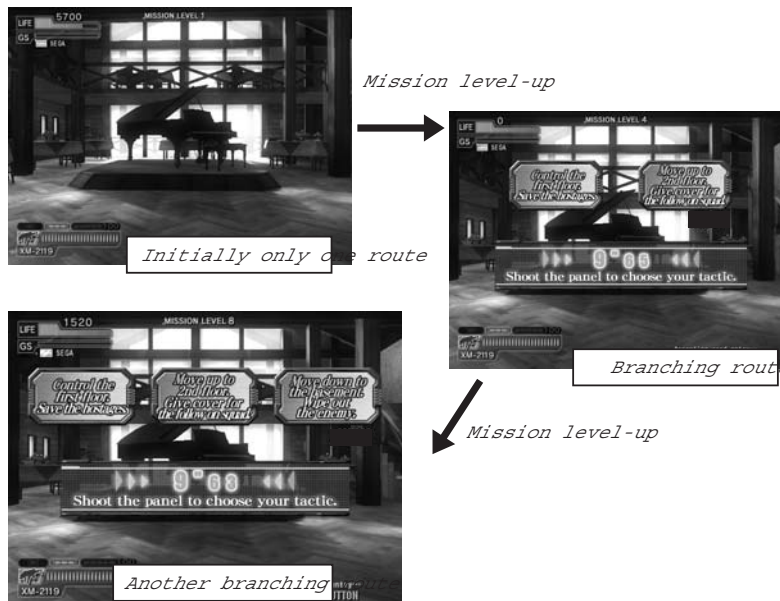


Tactic Selection

Proceeding through the game, "Tactic Selection" panels (as shown below) will appear. The mission route will vary greatly depending on which panel is chosen.



The number of selectable tactics will increase along with the Mission Level.



Events (Special Operations)

Besides normal terrorist suppression, this game includes additional "events", such as bomb removal or securing hostages.

A certain number of events are initially open for play and leveling-up missions, more number of additional events become available.

Some events allow use of specialized weapons.

For example, when attacking the enemy from a distance in a Sniper event, the weapon temporarily changes to a sniper rifle.










Auxiliary Items

Auxiliary items appear in certain situations during the game. There are two types of auxiliary items—items that are put to use and disappear immediately after picking up, and those that are stocked and continue to be effective over time. The latter type can be used only one at a time.

Some auxiliary items can be taken advantage of only when combined with certain weapons.

For example, the "Compensator" is effective only when using weapons that produce a bullet spread effect. The auxiliary items appearing in this game consist of the following 7 types.

-  First-Aid Kit : Restores 1 life unit.
-  Dot Sight : Displays the gun's sight reticule as an illuminated point.
-  Hi-cap Magazine : Doubles magazine capacity.
-  Compensator : Eliminates bullet spread effects.
-  Body Armor I : Halves the amount of damage taken for up to 2 hits.
-  Body Armor II : Halves the amount of damage taken for up to 4 hits.
-  Medal : Increases experience points acquired following the game. [When no IC Card is being used, it boosts the GS Meter.]

Costumes

This game has 14 different costumes. The chosen costume can be viewed during in-game cut scenes. Costumes have no direct effect on damage, score, or other game content.



EXAMPLE:

Weapons

The weapon can be selected from the Customize Screen before starting a game.

Once equipped, however, a weapon cannot be changed during play.

This game has 25 different types of weapons, each with varying characteristics and auxiliary weapon compatibility.

- Machinegun class: A typical weapon, capable of rapid-fire shooting.
- Shotgun class: Blasts covering a wide area, a single shot is capable of taking out multiple enemies.
- Handgun class: Requires a high learning curve, suitable for expert players.
- Rifle class: Capable of piercing walls and obstacles, can take out hidden enemies.
- Others: Weapons not fitting in any of the above categories.

EXAMPLE:

"XM-2119":

A standard sub-machinegun. Can toggle between Semi-auto, 3-Shot Burst, and Full-auto firing modes to best match the situation. There is, however, an ammunition restriction on Full-auto fire.

"TK1B":

A powerful machinegun. It has high firepower and no Full-auto ammunition restriction. It is also has penetration power, making hidden enemies vulnerable to its fire. Its lack of accuracy from bullet spread is its main weakness, along with a long reload time.

"P44M":

This handgun has no rapid-fire ability, but proves reliable in targeting enemies. It is extremely powerful and capable of penetration.

"M4E":

A shotgun, capable of hitting multiple enemies with a single shot. Despite its power, the danger of hitting hostages or fellow troops with friendly fire warrants caution.

Mid-game Entry

It is possible for an additional player to join later, even if a player is in the middle of play. If the necessary number of credits has been inserted, a message (as shown below) is displayed on the bottom part of the screen.

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 LINDBERGH RED game board.

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).

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.	9-3C 9-3A 9-3B 9-2C
PERIODIC SERVICING	Periodically perform the following: 1. SYSTEM INFORMATION 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.	9-2C 9-3C, D 9-3A 9-3B
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.	9-3A 9-3D 10
MONITOR	In the Monitor Adjustment mode, check to see if Monitor (Projector) adjustments are appropriate.	9-2F 12
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc.	9-3G

9-1 SWITCH UNIT AND COIN METER

STOP IMPORTANT

- Adjust the sound to the optimum volume, taking into consideration the environmental requirements of the installation location.
- Removing the Coin Meter circuitry renders the game inoperable.

Open the upper coin door, and the switch unit shown will appear. The functioning of each SW is as follows: Coin meters are located below of it.

SOUND VOLUME:

Adjusts sound volume for all of the machines' Speakers.

SERVICE BUTTON: Gives credits without registering on the coin meter. (SERVICE)

TEST BUTTON: For the handling of the test button, refer to the following pages. (TEST)

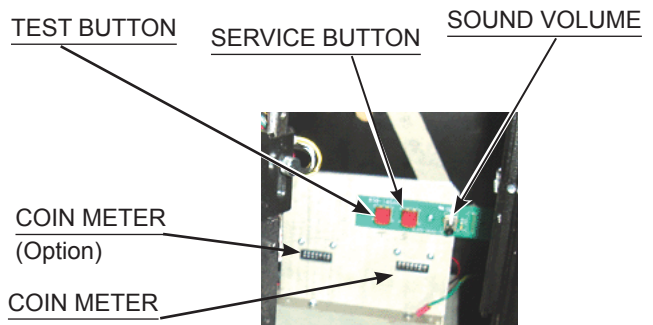


FIG. 9. 1 a SWITCH UNIT

STOP IMPORTANT

- Any settings that are changed by users during TEST MODE are saved upon exiting TEST MODE with the EXIT command in the SYSTEM MENU. If the unit is powered off prior to exiting, changes to settings will not take effect.
- You may not enter GAME TEST MODE while the unit is reading from or checking the DVD-ROM. If error messages are displayed when exiting TEST MODE, you should power the unit off and on again.
- Use with the specified settings. If settings other than those specified are used, inappropriate operations or malfunction may occur.

A. SYSTEM TEST MENU MODE

System Test Mode can be used to check that the main circuit operations are correct, adjust Monitor color, and perform coin/credit settings. However, this product can only be used with the settings shown below.

- COIN ASSIGNMENTS
- COIN CHUTE TYPE: COMMON
- SERVICE TYPE: COMMON

- 1) Press the TEST Button after powering on the unit to display the following SYSTEM MENU.
- 2) Press the SERVICE Button to move the cursor to the desired test item.
- 3) Move the cursor to the desired item and press the TEST Button to display each test screen.
- 4) Move the cursor to ENTER GAME TEST and press the TEST Button to enter the individual test menus for each game. Refer to "9-3 GAME TEST MODE".
- 5) When testing is complete, move the cursor to EXIT and press the TEST Button. The game advertisement screen should be displayed.

SYSTEM MENU

SYSTEM INFORMATION
 JVS TEST
 MONITOR TEST
 SPEAKER TEST
 COIN ASSIGNMENTS
 CLOCK SETTING
 NETWORK SETTING
 GAME TEST MODE

→EXIT

SELECT WITH SERVICE AND PRESS TEST

B. SYSTEM INFORMATION

Use SYSTEM INFORMATION to check version and other information for system programmes. Screens may differ depending on the type of MEDIA BOARD connected to the unit. NOTE: The following is the SYSTEM INFORMATION screen for a unit with a DIMM BOARD.

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

- (A) REGION: The COUNTRY CODE of the MAIN BOARD.
- (B) BOOT VERSION, QC FIRM VERSION, SC FIRM VERSION: Version information for the MAIN BOARD system programmes.
- (C) SERIAL NO.: Serial number of the MAIN BOARD.
- (D) DIMM BOARD + GDROM: Type of MEDIA BOARD. This example shows a DIMM BOARD with a DVD-ROM DRIVE connected.
- (E) MEMORY SIZE: Capacity of DIMM memory installed on the DIMM BOARD.
- (F) FIRM VERSION: Version information for the DIMM BOARD system programme.
- (G) SERIAL NO.: Serial number of the DIMM BOARD.

SYSTEM INFORMATION

MAIN BOARD		(A)
REGION	****	(B)
BOOT VERSION	****	(B)
QC FIRM VERSION	****	(B)
SC FIRM VERSION	****	(C)
SERIAL NO.	*****	
MEDIA BOARD		(D)
DIMM BOARD + GDROM		(E)
MEMORY SIZE	512MB	(F)
FIRM VERSION	****	(G)
SERIAL NO.	*****	

PRESS TEST BUTTON TO EXIT

C. JVS TEST

JVS TEST is used to verify the specs of the I/O BOARD connected to the Chihiro and to run input tests. I/O BOARD specs are displayed initially.

Screens may differ depending on the type of I/O BOARD connected to the unit.

```

          JVS TEST
          INPUT TEST
          NEXT NODE
          →EXIT
NODE      *****
NAME      *****
I/O BD JVS Ver*****

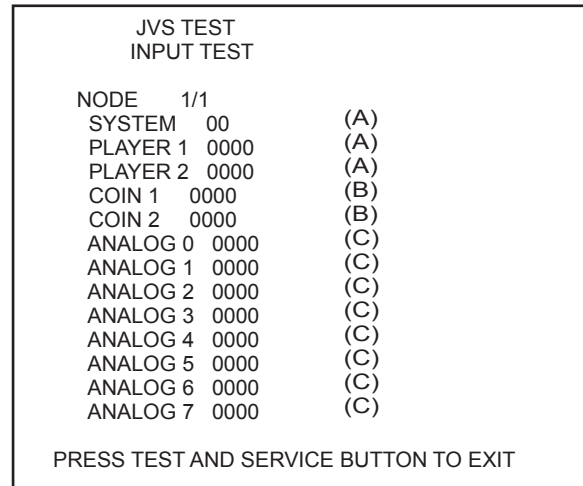
CMD VER  1.1
JVS VER  2.0
COM VER  1.0
SWITCH   2 PLAYER(S) 13 BITS
COIN     2 SLOT
ANALOG   8 CH
ROTARY   0 CH
KEYCODE  0
SCREEN   X:0 Y:0 CH:0
CARD     0 SLOT
HOPPER OUT 0 CH
DRIVER OUT 6 CH
ANALOG OUT 0 CH
CHARACTER CHARA:0 LINE:0
BACKUP   0
SELECT WITH SERVICE AND PRESS TEST

```

- 1) Use the SERVICE Button to move the cursor to the desired test item.
- 2) Move the cursor to INPUT TEST and press the TEST Button to enter the INPUT TEST screen for the I/O BOARD currently displayed.
- 3) When 2 or more I/O BOARDS are connected, move the cursor to NEXT NODE and press the TEST Button to enter the test screen for the next I/O BOARD. The lower the NODE number, the further away the node is from the LINDBERGH BOARD.
- 4) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

INPUT TEST Screen

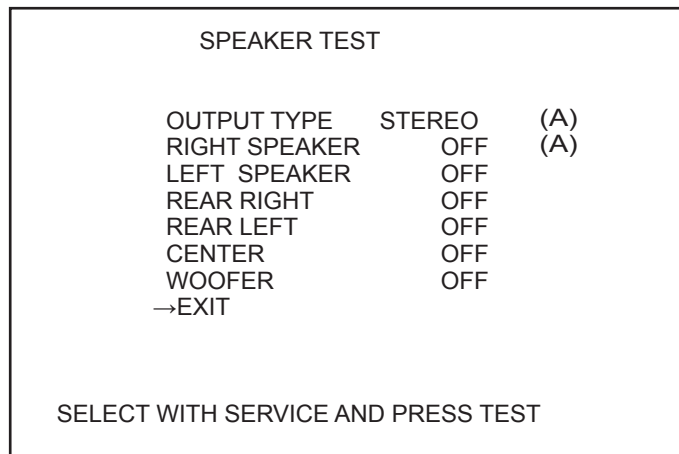
- 5) On-screen values change according to the input from switches and the volume.
- (A) SYSTEM, PLAYER
Values change with input from control panel /other switches.
- (B) COIN
Increases with input from the COIN SWITCH.
The count is cleared when exiting TEST MODE.
- (C) ANALOG
Displays analog values from "0000" to "FFFF".
- 6) Press the SERVICE and TEST Buttons simultaneously to return to the JVS TEST main screen.



D. SPEAKER TEST

Use SOUND TEST to test sound output and to select the stereo/mono/surround setting.

- 1) Use the SERVICE Button to move the cursor to the desired test item.
- 2) Press the TEST Button to enter the selected item.
- (A) RIGHT/LEFT SPEAKER (ON, OFF)
When set to "ON", the test sends a beep to each audio output interface. Only the word "SPEAKER" is displayed when the OUTPUT TYPE is set to "MONO", and when set to "ON", the test sends the same beep to both the left/right audio output interfaces. To test surround output, it is necessary to use a separate Audio Amp, and receive signal from a terminal not in use at the time of shipping.
Note: Not available with this product.
- 3) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.



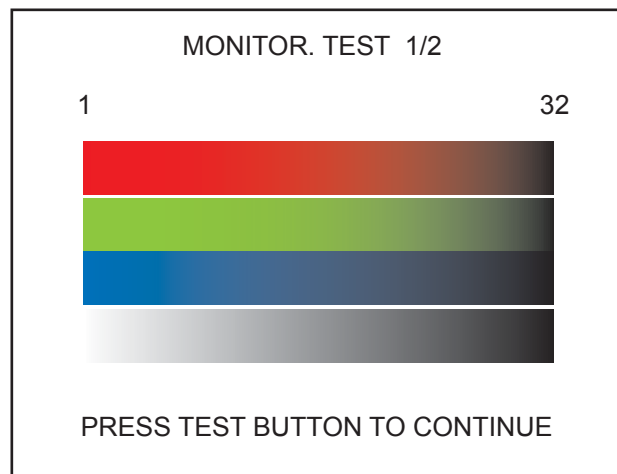
NOTE: GHOST SQUAD EVOLUTION USES ONLY 2 FRONT SPEAKERS

E. CMONITOR TEST

Use the MONITOR TEST to adjust monitor colours and verify screen size.

COLOUR CHECK Screen

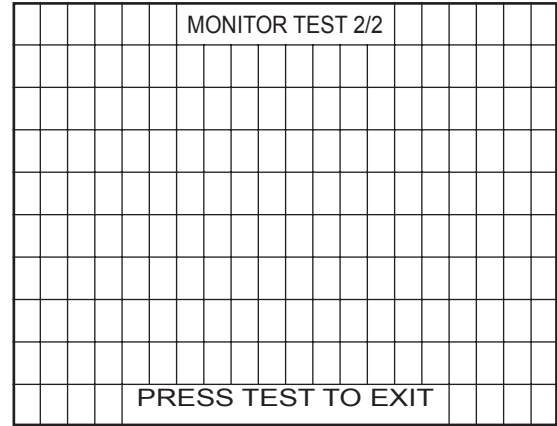
- 1) Monitor COLOUR CHECK screen is displayed initially.
Each of the colours (red, green and blue) is darkest at the far left and gets progressively lighter (32 steps) towards the right. Monitor brightness is set correctly if the white colour bar is black at the left edge and white at the right edge.



2) Press the TEST Button to proceed to the next page.

SIZE CHECK Screen

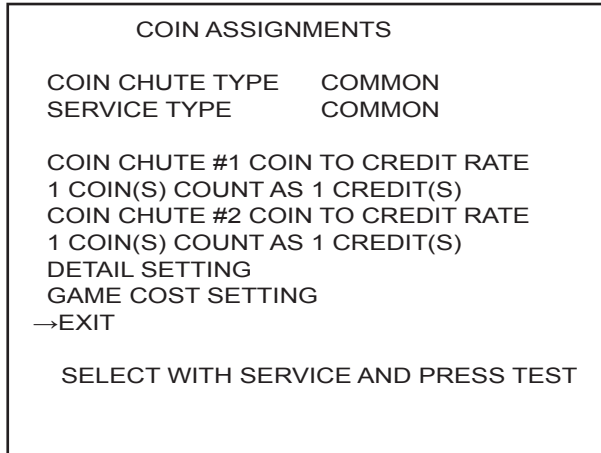
- 3) Adjust the CHECK GRID so that the entire GRID is displayed on the screen.
- 4) Press the TEST Button to return to the SYSTEM MENU screen.



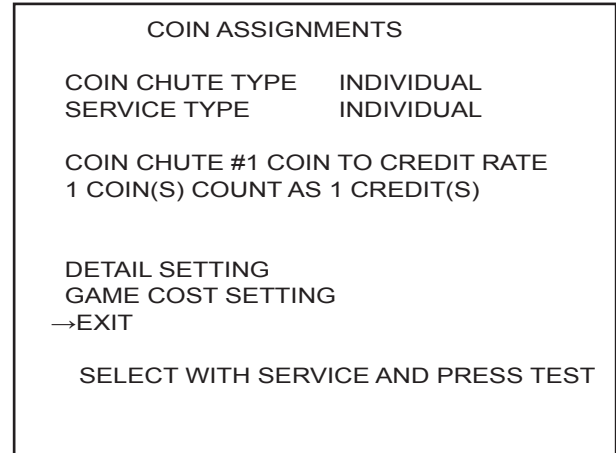
F. COIN ASSIGNMENTS

Use COIN ASSIGNMENTS to set the credit rate for each coin inserted.

- 1) Use the SERVICE Button to move the cursor to the desired test item.
- 2) Press the TEST Button to change the setting or to open the detailed settings.
- 3) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.



COIN CHUTE TYPE...COMMON



COIN CHUTE TYPE...INDIVIDUAL

(A) COIN CHUTE TYPE (COMMON, INDIVIDUAL)

Adjust settings according to the specs of the cabinet COIN CHUTE.

COMMON

This is for cabinets where a single COIN CHUTE is used by multiple players. Coins inserted by each player are treated as common credits. Up to 2 COIN CHUTES (#1 and #2) may be used. The (C) COIN TO CREDIT RATE setting for COIN CHUTE #1 and #2 may be set differently.

INDIVIDUAL

This is for cabinets with individual COIN CHUTES for each player. Coins inserted by each player are treated as individual player credits. The (C) COIN TO CREDIT RATE setting is used by all COIN CHUTES.

(B) SERVICE TYPE (COMMON, INDIVIDUAL)

Use this to set the function of each SERVICE Button when there is more than one SERVICE Button.

COMMON

Pressing any SERVICE Button enters service credits for all players.

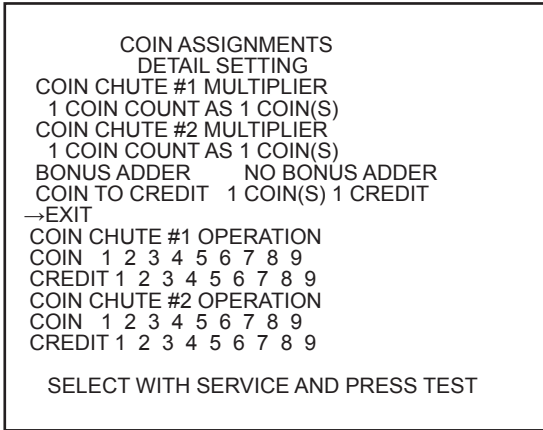
INDIVIDUAL

Pressing the SERVICE Button enters service credits only for the corresponding player.

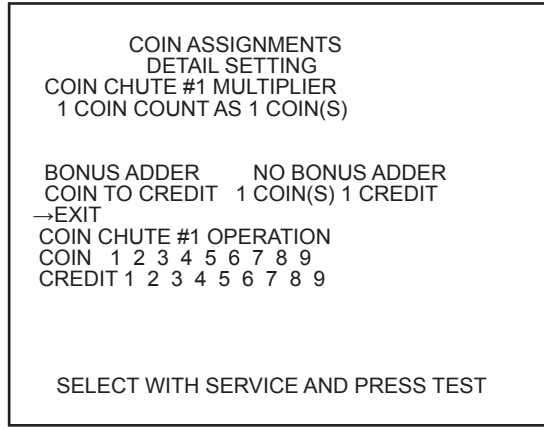
(C) COIN TO CREDIT RATE
 Set the CREDIT RATE for each coin inserted. The "XX COIN(S) COUNT AS XX CREDIT(S)" setting indicates that "Inserting XX coins equals XX credits". Set this to "FREE PLAY" to allow game play without credits. When (A) COIN CHUTE TYPE is set to "COMMON", COIN CHUTE #2 settings are restricted to some extent by the settings for COIN CHUTE #1.

(D) DETAIL SETTING
 This mode allows for more detailed credit rate settings than the (C) COIN TO CREDIT RATE setting. Changes made in DETAIL SETTING override any (C) COIN TO CREDIT RATE settings.

DETAIL SETTING Screen



COIN CHUTE TYPE...COMMON



COIN CHUTE TYPE...INDIVIDUAL

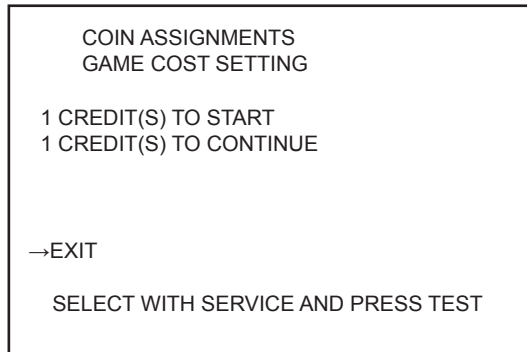
(E) COIN CHUTE MULTIPLIER
 Use this to set how many coins will be counted for each coin inserted. The "1 COIN COUNT AS XX COIN(S)" setting indicates that "Each coin will be counted as XX coins". When the (A) COIN CHUTE TYPE is set to "COMMON", the setting may be set individually for COIN CHUTE #1 and #2.

(F) BONUS ADDER
 Use this to set the number of coins calculated with the (E) COIN CHUTE MULTIPLIER setting that need to be inserted to get 1 bonus coin. When the (A) COIN CHUTE TYPE is set to "COMMON", the sum of the coins for COIN CHUTE #1 and #2 is used for the calculation. The "XX COINS GIVE 1 EXTRA COIN" setting indicates that "For every XX coins, 1 bonus coin is given". Set this to "NO BONUS ADDER" to disable bonus coins entirely.

(G) COIN TO CREDIT
 Use this to set how many coins calculated with the (F) BONUS ADDER setting count as 1 credit. The "XX COIN(S) 1 CREDIT" setting indicates that "Every XX coins equals 1 credit."

(H) GAME COST SETTING
 Use this mode to set the number of credits required to start a game. Screens may differ depending on the game.

(I) Set the number of credits required to start a game.
 (J) Set the number of credits required to continue a game.

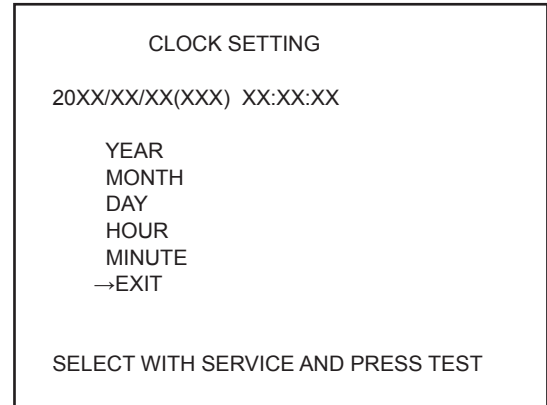


(I)
(J)

G. CLOCK SETTING

Use CLOCK SETTING to set the Chihiro internal clock.

- 1) Use the SERVICE Button to move the cursor to the item to be set.
- 2) Move the cursor to the desired item and press the TEST Button to increase values.
The max value for YEAR is "2099"; further increases return the value to "2000".
- 3) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

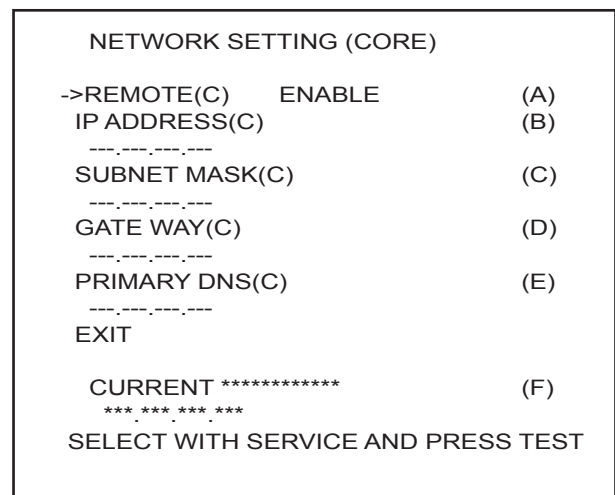


H. NETWORK SETTING (CORE) >>> NOTE: NOT USED FOR GHOST SQUAD EVOLUTION

Use the LAN PORT attached to the Main Board, and carry out the settings necessary for network communication.

Note: This function is not available with this product.

- 1) Use the SERVICE Button to move the cursor to the desired test item.
(When setting IP ADDRESS, SUBNET MASK, GAME WAY or PRIMARY DNS, use the underline as a guide.)
- 2) Press the TEST Button to change the setting.
- 3) Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.



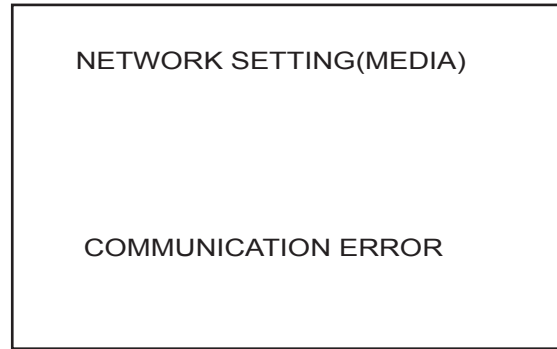
- (A) REMOTE (C)
This sets up whether a communication setting is automatic or manual.
ENABLE: Sets the communication setting automatically.
DISABLE: Sets the communication setting manually.
- (B) IP ADDRESS (C)
This is one of the settings required for communication network. After setting the number, press TEST Button on SET position to memorize the setting. If you set the REMOTE setting to ENABLE, you cannot select this.
- (C) SUBNET MASK (C)
This is one of the settings required for communication network. After setting the number, press TEST Button on SET position to memorize the setting. If you set the REMOTE setting to ENABLE, you cannot select this.
- (D) GATE WAY (C)
This is one of the settings required for communication network. After setting the number, press TEST Button on SET position to memorize the setting. If you set the REMOTE setting to ENABLE, you cannot select this.
- (E) PRIMARY DNS (C)
This is one of the settings required for communication network. After setting the number, press TEST Button on SET position to memorize the setting. If you set the REMOTE setting to ENABLE, you cannot select this.
- (F) CURRENT
This displays the present setting value during a setup of each item [(B), (C), (D), (E)]. Pressing TEST Button on SET position, the settings are memorized and the screen is changed.

I. NETWORK SETTING (MEDIA)

Use NETWORK SETTING to establish and test network connections.

This is only displayed the following error message screen.

NOTE: This game does not support network communication connections.



9-3 GAME TEST MODE

STOP IMPORTANT

When changing the game configuration, changes will not take effect until the Game Test Mode has been completed. Be sure to exit the Game Test Mode properly after configuration changes.

Select ENTER GAME TEST from the System Menu screen to display the Game Test Menu screen as follows. Use the SERVICE Button to move the cursor to the desired test item. Press the TEST Button to enter the selected item's test.

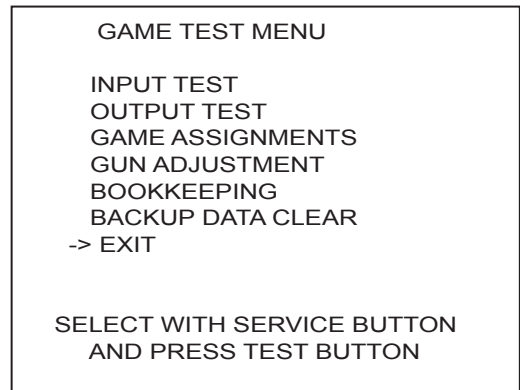


FIG. 9.3 GAME TEST MENUscreen

Performs tests, adjustments and settings for each of the Game Test Menu screen items below.

- A. INPUT TEST : Tests each input device used in the game.
- B. OUTPUT TEST : Tests each output device used in the game.
- C. GAME ASSIGNMENTS : Adjusts game settings.
- D. GUN ADJUSTMENT : Performs sight settings for the game's Control Unit (Gun).
- E. BOOKKEEPING : View all recorded game data.
- F. BACKUP DATA CLEAR : Erase all game records.

After selecting an item, read the explanations below regarding operation.

After performing tests and adjustments, return to the Game Test Menu screen, select EXIT and press the TEST Button.

You will return to the System Menu screen. Move the cursor to EXIT on the System Menu screen and press the TEST Button to return to the Game Play screen.

A. INPUT TEST

Select INPUT TEST to display the following screen and check the status of input devices. This test should be used periodically to check that each input device is functioning correctly.

The items refer to the following input devices.

- TRIGGER: The controller's TRIGGER switch.
- ACTION: The controller's ACTION button.
- CHANGE: The controller's SHOT SELECTOR button.
- GUN-X: The current X-coordinate of the controller's target location. (range: 00-FF)
- GUN-Y: The current Y-coordinate of the controller's target location. (range: 00-FF)
- SCREEN: If the controller is facing the screen, this will be IN, otherwise it is OUT.
- START: The START button.
- SERVICE: The SERVICE button.
- TEST: The TEST button.

INPUT TEST		
PLAYER	1	2
TRIGGER	OFF	OFF
ACTION	OFF	OFF
CHANGE	OFF	OFF
GUN-X	00H	00H
GUN-Y	00H	00H
SCREEN	OUT	OUT
START	OFF	OFF
SERVICE	OFF	
TEST	OFF	
PRESS TEST AND SERVICE BUTTON TO EXIT		

FIG. 9. 3 a INPUT TEST screen

Input is normal if the display to the right of each item changes from OFF to ON when each input device is operated.

Input is normal if the display to the right of SCREEN changes from OUT to IN and GUN-X and GUN-Y show values between 00 and FF when the controller is pointed at the screen.

Press the SERVICE and TEST Buttons simultaneously to return to the Game Test Menu Screen.

B. OUTPUT TEST

Select OUTPUT TEST to display the following screen and check the status of each lamp.

This test should be used periodically to check that the lamps are functioning correctly.

Press the SERVICE Button to move the cursor and the TEST Button to select. Displays ON when selected.

- PLAYER 1 START LAMP: Lights up the 1P START button.
- PLAYER 2 START LAMP: Lights up the 2P START button.
- PLAYER 1 HOLDER LAMP: Lights up the 1P holder lamp.
- PLAYER 2 HOLDER LAMP: Lights up the 2P holder lamp.
- PLAYER 1 GUN REACTION: Vibrates the 1P gun.
- PLAYER 2 GUN REACTION: Vibrates the 2P gun.
- EXIT: Returns to the Game Test Menu.

Move the cursor to EXIT and press the TEST Button to return to the Game Test Menu Screen.

OUTPUT TEST	
PLAYER 1 START LAMP	OFF
PLAYER 2 START LAMP	OFF
PLAYER 1 HOLDER LAMP	OFF
PLAYER 2 HOLDER LAMP	OFF
PLAYER 1 GUN REACTION	OFF
PLAYER 2 GUN REACTION	OFF
-> EXIT	
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON	

FIG. 9. 3 b OUTPUT TEST screen

C. GAME ASSIGNMENTS

Select GAME ASSIGNMENTS to display the current game settings and make changes.

Perform the following settings for each item.

- **DIFFICULTY:** Choose the difficulty level of the game from EASY, NORMAL and HARD. The product is shipped with the default set at NORMAL.
- **LIFE:** Choose the amount of life given for players starting a new game between 1 and 7. If the amount of damage sustained in the game equals this number, the game will be over. (Default: 4)

Note that these settings will not affect the appearance of the life gauge to the player. (refer to the "Life" section in "GAME RULES AND GAMEPLAY" for more information)

- **REACTION:** Turn the gun controller vibration ON and OFF. (Default: ON)
- **CALIBRATION:** Turn the initial gun controller calibration screen ON and OFF. (Default: OFF)
- **ADVERTISE SOUND:** Turn sounds ON and OFF during the demo screen. (Default: ON)
- **EXIT:** Confirm the setting changes and return to the Game Test Menu.

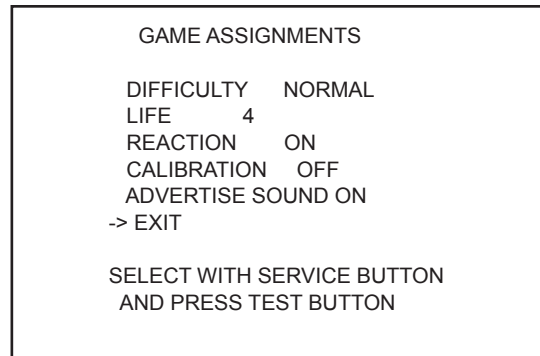


FIG. 9. 3 c GAME ASSIGNMENTS screen

Changes to settings are not enabled until Test Mode is exited. After changing settings, be sure to exit Test Mode.

After changing the settings, select EXIT and press the TEST Button to return to the Game Test Menu Screen.

D. GUN ADJUSTMENT

Select GUN ADJUSTMENT to display the following screen.

This screen allows you to adjust the gun using the five calibration targets (TOP, LEFT, CENTER, RIGHT, BOTTOM). Use each target to calibrate as follows.

Use the standard gun controller, carefully aim at the correct target and pull the trigger to calibrate the value. Select between the calibration targets with the 1P and 2P START buttons or SERVICE button.

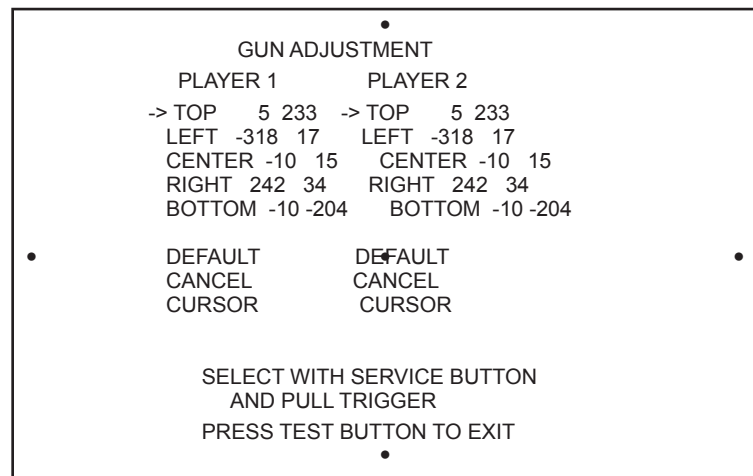


FIG. 9. 3 d GUN ADJUSTMENT screen

Details for each item are as follows.

- **TOP x y:** Set the TOP value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the TOP target (circle) and pull the trigger to set the value. This will not affect horizontal calibration.
- **LEFT x y:** Set the LEFT value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the LEFT target and pull the trigger to set the value. This will not affect vertical calibration.
- **CENTER x y:** Set the CENTER value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the CENTER target and pull the trigger to set the CENTER value.
- **RIGHT x y:** Set the RIGHT value.
The number on the left (x) is the horizontal component, and the number on the right (y) is the vertical component. Aim the controller at the RIGHT target and pull the trigger to set the RIGHT value. This will not affect vertical calibration.

- **DEFAULT:** Restore calibration values to original settings.
- **CANCEL:** Restore calibration values to previous settings.
- **CURSOR:** Select CURSOR and aim the controller at the screen to display a round cursor (blue for 1P, red for 2P) where the controller hits the screen. Use this cursor to check calibration.
- **OUT OF SCREEN:** Displays "OUT OF SCREEN" when the controller is pointed outside the screen. Values cannot be set when the controller is out of screen. Changes to settings are not enabled until the Test Mode is exited. After changing settings, be sure to exit Test Mode. After changing the settings, select EXIT and press the TEST Button to return to the Game Test Menu Screen.

E. BOOKKEEPING

Select **BOOKKEEPING** on the Game Test Menu screen to display the three screens of operating status data. Press the TEST Button on the **BOOKKEEPING 1/3** and **BOOKKEEPING 2/3** screens to move to the second and third (**BOOKKEEPING 3/3**) screens. Press the TEST Button in the third screen to return to the Game Test Menu Screen.

The display items for the screen (Page 1 of 3) are as follows.

- **COIN CHUTE #1:** The number of coins inserted into Coin Slot 1.
- **COIN CHUTE #2:** The number of coins inserted into Coin Slot 2.
- **TOTAL COINS:** The total number of coins inserted into the coin slots.
- **COIN CREDITS:** The number of credits for the coins inserted.
- **SERVICE CREDITS:** The number of credits input by the SERVICE Button.
- **TOTAL CREDITS:** Total credits from coins and the SERVICE Button

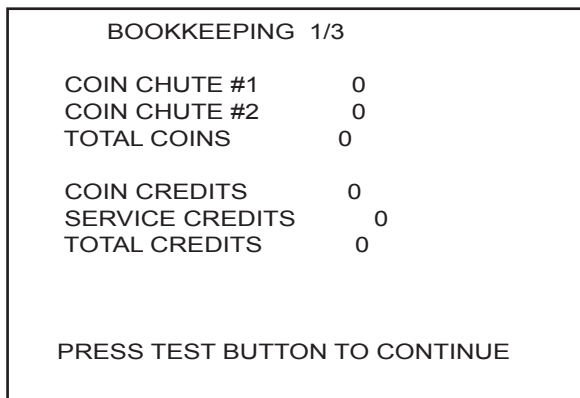


FIG. 9. 3 g a BOOKKEEPING 1/3 screen

Press the TEST Button to display the next screen.

The display items for the screen (Page 2 of 3) are as follows.

- **NUMBER OF GAMES:** The total number of games played.
- **NUMBER OF GAME START:** Number of games started.
- **NUMBER OF GAME JOIN:** Number of times game has been joined in-progress.
- **NUMBER OF CONTINUE:** Number of times game has been continued.
- **TOTAL TIME:** The amount of time the unit has been in operation.
- **PLAY TIME:** The sum of 1P's time played and 2P's time played.
- **LONGEST PLAY TIME:** The longest play time for one game.
- **SHORTEST PLAY TIME:** The shortest play time for one game.
- **AVERAGE PLAY TIME:** The average amount of time played per game.

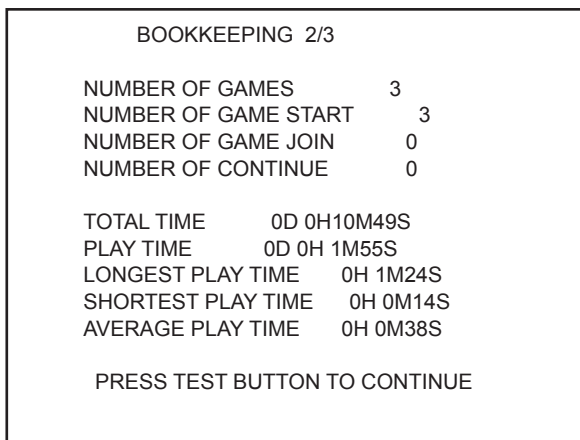


FIG. 9. 3 g b BOOKKEEPING 2/3 screen

Press the TEST Button to display the next screen (Page 3 of 3).

PLAY TIME HISTOGRAM shows the number of plays and the respective play times. This histogram should be referred to when setting the Game Difficulty.

This displays play times on a scale from 0M00S to 9M59S with 30-second intervals.

All play times over ten minutes are included in the item OVER 10M00S.

Press the TEST Button after viewing. You will return to the Game Test Menu Screen.

BOOKKEEPING 3/3		
0M 00S ~ 0M 29S	2	
0M 30S ~ 0M 59S	0	
1M 00S ~ 1M 29S	1	
1M 30S ~ 1M 59S	0	
2M 00S ~ 2M 29S	0	
2M 30S ~ 2M 59S	0	
3M 00S ~ 3M 29S	0	
3M 30S ~ 3M 59S	0	
4M 00S ~ 4M 29S	0	
4M 30S ~ 4M 59S	0	
5M 00S ~ 5M 29S	0	
5M 30S ~ 5M 59S	0	
6M 00S ~ 6M 29S	0	
6M 30S ~ 6M 59S	0	
7M 00S ~ 7M 29S	0	
7M 30S ~ 7M 59S	0	
8M 00S ~ 8M 29S	0	
8M 30S ~ 8M 59S	0	
9M 00S ~ 9M 29S	0	
9M 30S ~ 9M 59S	0	
OVER 10M 00S	0	
PRESS TEST BUTTON TO EXIT		

FIG. 9. 3 g c BOOKKEEPING 3/3 screen

F. BACKUP DATA CLEAR

Select BACKUP DETA CLEAR to clear the contents of BOOKKEEPING, ranking data and coin/credit data.

To clear data, use the SERVICE Button to move the cursor to YES (CLEAR) and then press the TEST Button. When the data has been cleared, the message "COMPLETED" will be displayed.

Press the TEST Button again to return to the Game Test Menu screen.

Move the cursor to NO (CANCEL) and press the TEST Button to return to the Game Test Menu Screen without clearing the data.

Note that this operation does not affect GAME ASSIGNMENTS or GUN ADJUSTMENT settings.

BACKUP DATA CLEAR	
YES (CLEAR)	-> NO (CANCEL)
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON	

FIG. 9. 3 h BACKUP DATA CLEAR screen

10. CONTROL UNIT (GUN CONTROLLER)



- In order to prevent any electric shocks or short circuits, be sure to turn the power off before performing any work that involves touching the interior parts of the product.
- Be careful not to damage the wires. Damaged wires may cause electric shocks or short circuits, or present a risk of fire.
- 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 do this may damage the parts, and fragments resulting from damage may cause injury.
- When reassembling the Gun Controller, be sure to check the connecting portion and the trigger, etc. If the reassembly work is insufficient and/or incorrect, fingers may be caught and result in injury.
- The solenoid on the Control Unit (Gun Controller) may become hot. Take care as there is a risk of accidental burns.



IMPORTANT

- Do not cut the tie belt securing the wires in the Control Unit (Gun Controller). Cutting the tie belt may cause malfunctioning of the wire connection. If you cut the tie belt when replacing the wire etc., be sure to secure the wires using a new tie belt as before.
- Follow these directions carefully to avoid damaging or losing small parts.

In cases where the gun's operation is unsatisfactory or the gun sight deviates from the direction in which the control unit is pointed, the gun's interior parts may have been damaged. Replace the parts by disassembling the gun with the procedure described below. Also, be sure to perform a sighting check in the test mode when the gun parts are replaced.

REPLACING THE MICROSWITCH

To replace the Gun Controller's internal components, first separate the left shell (Cover L) and right shell (Cover R). The controller's internal components are mounted on the right shell, so work with the gun lying on its right side. To replace the Shot Selector button microswitch, first remove the Shot Selector button from the right shell.

Turn power off.

Remove the 15 screws to separate the two shells.



SCREW (15), black
M3×12, w/small flat & spring washers

PHOTO 10 a

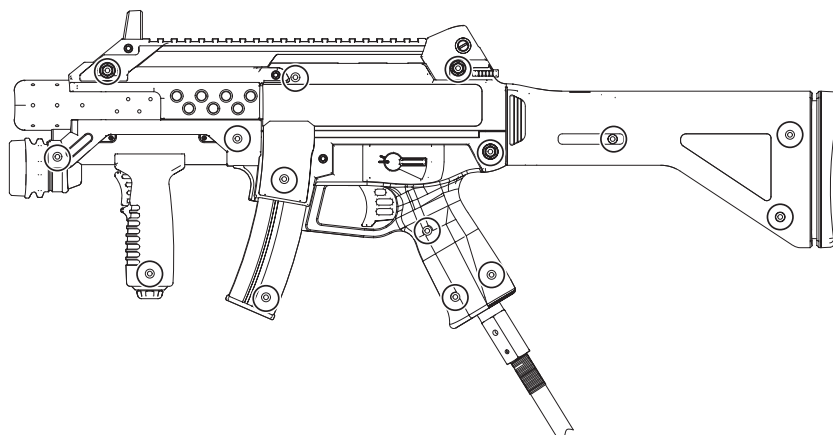


FIG. 10 a

With the right shell lying flat, carefully lift the left shell from the right shell.

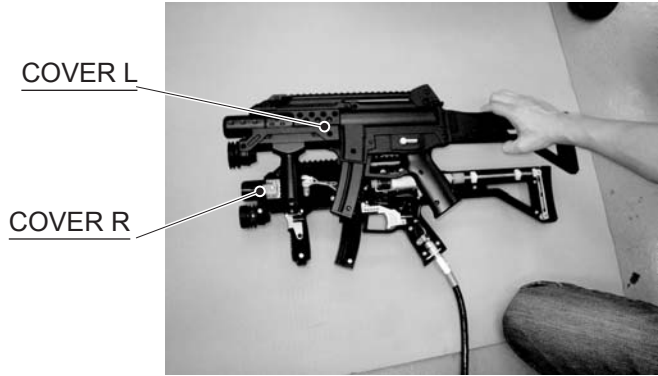


PHOTO 10 b

Remove the microswitch to be replaced from Cover R. There are a total of three microswitches.

MICROSWITCH
509-5080



PHOTO 10 c

Remove the soldering to take out the microswitch.

Solder the new microswitch in place to reconstruct the gun controller. When performing this step, verify the points listed below before reattaching Cover L and Cover R.

The wires and connectors are laid out correctly in Cover R.

The bearing holder is securely in place when the pad assembly spring is compressed.

The selector is laid out horizontally.

The selector joint and selector spring are set properly.

MICROSWITCH
509-5080

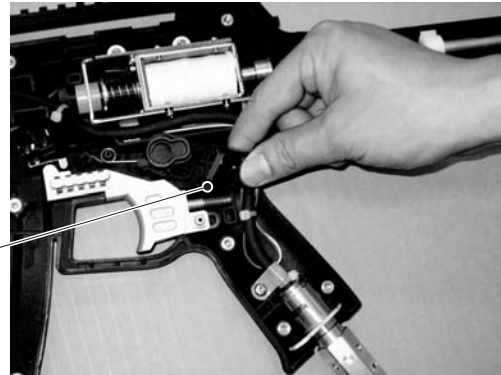


PHOTO 10 d

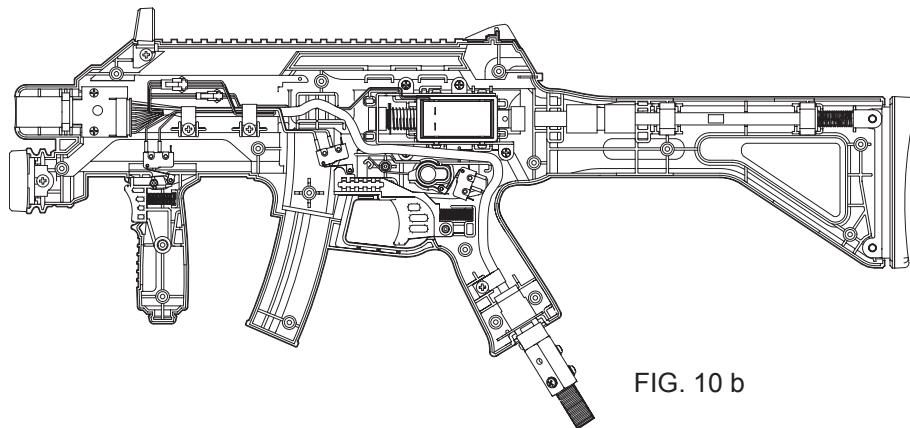


FIG. 10 b

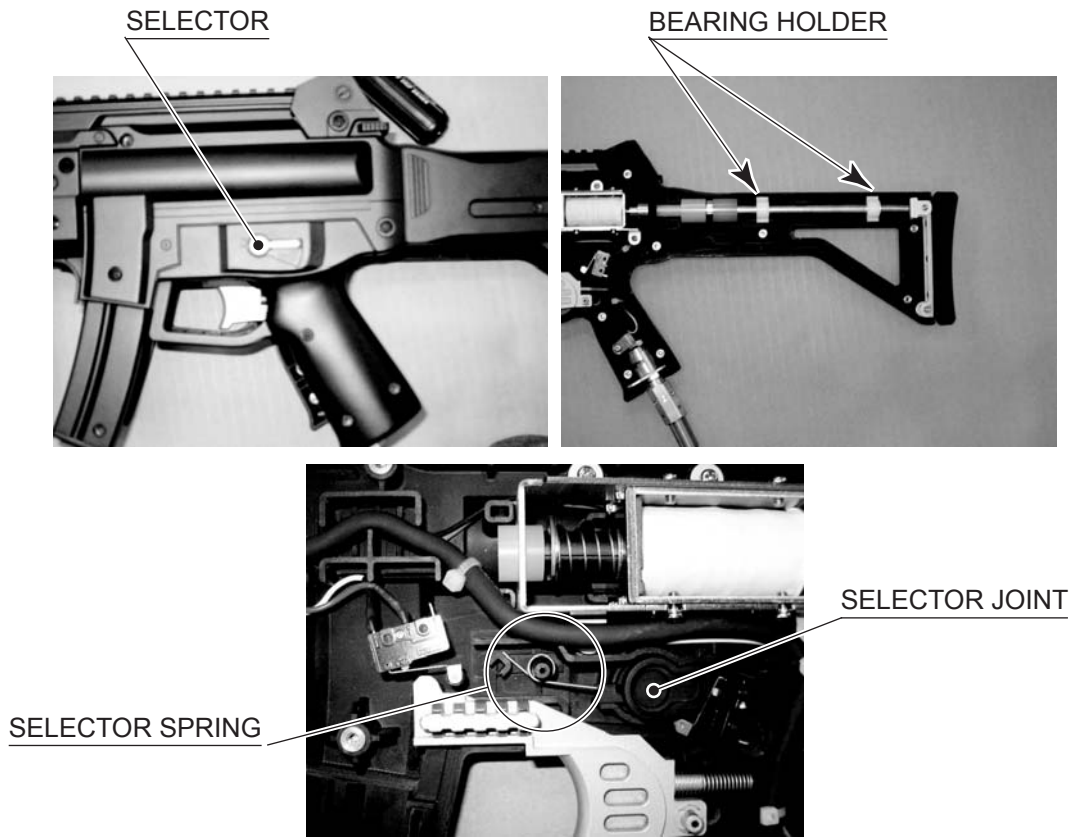
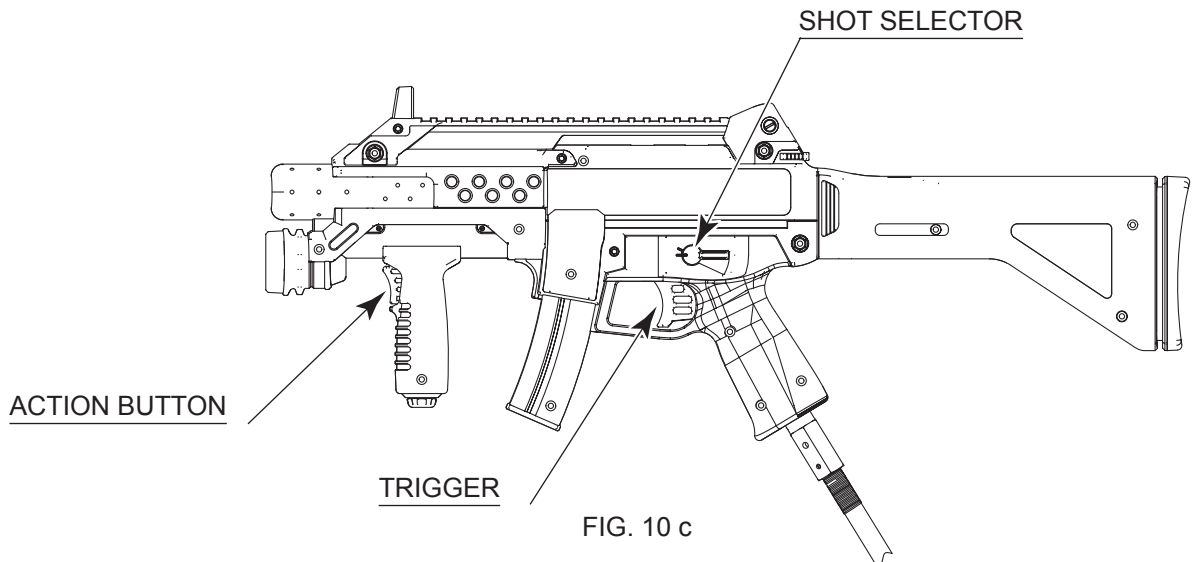


PHOTO 10 e

Operate the TRIGGER, SHOT SELECTOR and ACTION buttons to make sure that the microswitches turn ON/OFF correctly.



After replacement, perform an INPUT TEST, referring to the instructions in "Game Test Mode".

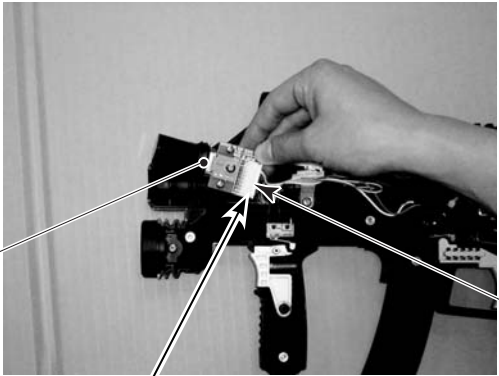
REPLACING THE SENSOR UNIT

Follow instructions of "Replacing the Microswitch" to remove the cover L. Remove the connector to replace the sensor unit.

Refer to the previous item, then attach COVER R while being careful of each of the parts.

After replacement, perform a GUN ADJUSTMENT, referring to the instructions in "Game Test Mode".

SENSOR UNIT
JPT-2030



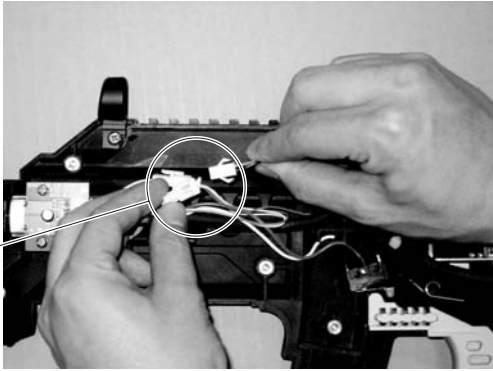
Remove the connector. PHOTO 10 f

REPLACING THE SOLENOID

Follow instructions of "Replacing the Microswitch" to remove the cover L.

Remove the 2P connector, wire and 4 screws to take off the solenoid assembly.

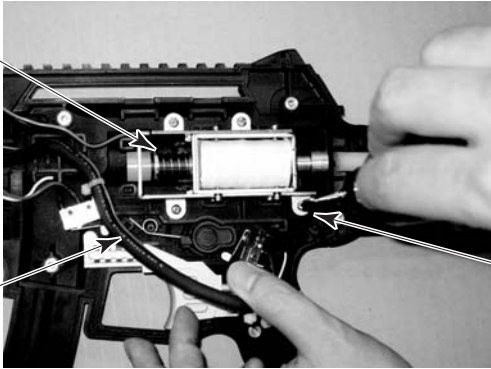
Remove the connector.



SOLENOID
ASSEMBLY

PHOTO 10 g

WIRE



SCREW (4)
M3×6, w/spring washer

Remove the 8 screws and replace the solenoid.

Secure the solenoid assembly with 4 screws and replace the connector. When doing this, make sure not to damage the wiring.

SCREW (8) M3×6,
w/spring washer

Refer to the previous item, then attach COVER R while being careful of each of the parts.

After replacement, perform an OUTPUT TEST, referring to the instructions in "Game Test Mode".

SOLENOID

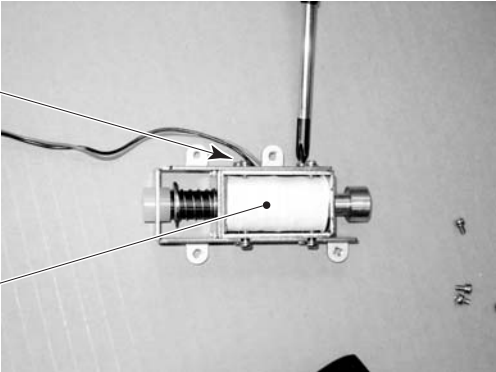


PHOTO 10 h

11. REPLACING THE FLUORESCENT LIGHTS AND LAMPS



- 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.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.



- 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.

Billboard Internal Fluorescent Light

Turn the power off. Undo the 2 truss screws that hold the pop bracket in place, then remove the billboard pop.

Use a footstool to perform this step.

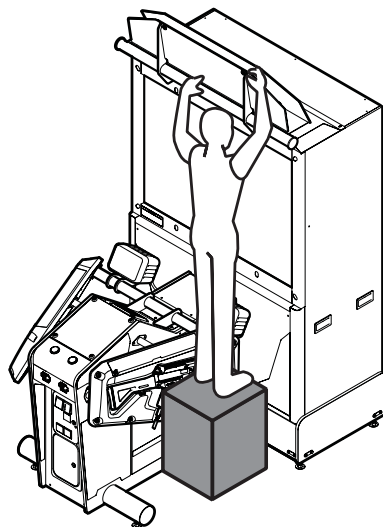
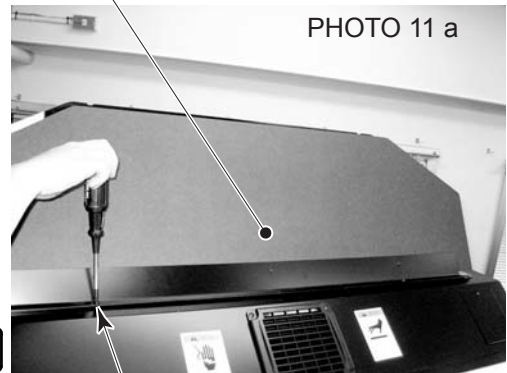


FIG. 11 a

BILLBOARD POP

PHOTO 11 a



TRUSS SCREW (2), black
M4x8

Remove the acrylic panel and replace the fluorescent light.



ACRYLIC PANEL

PHOTO 11 b

FLUORESCENT LIGHT
F30T12, 30 Watt



PHOTO 11 c

Instruction Panel Internal Fluorescent Light

Turn the power off. Undo the 4 screws using the supplied L-wrench, and remove the instruction panel.

INSTRUCTION PANEL

HEXAGONAL SOCKET SCREWS (4)
M5×10, using special washers



PHOTO 11 d

Replace the globe-shaped fluorescent light.

GLOBE-SHAPED FLUORESCENT LIGHT 13W
390-6782

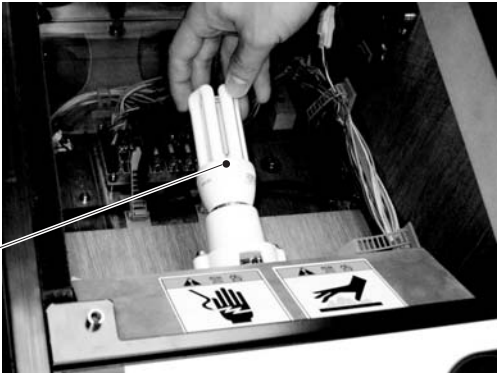


PHOTO 11 e

Halogen Lamp

Turn the power off.
Undo the 4 truss screws and remove the lamp lid.

TRUSS SCREW (2), black M4×20

LAMP LID

TRUSS SCREW (2), black M4×8

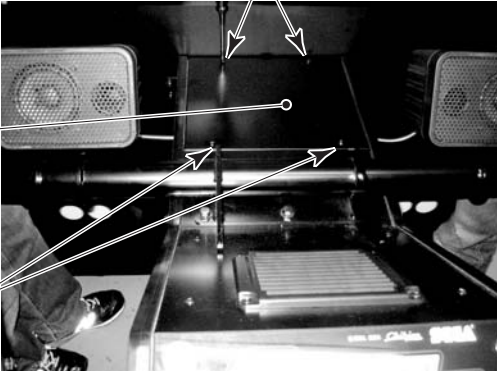


PHOTO 11 f

Replace the halogen lamp.

HALOGEN LAMP 40W 390-6732-40N

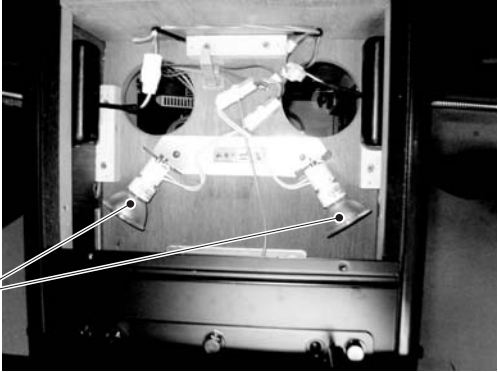


PHOTO 11 g

12. PERIODIC INSPECTION

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

When handling the control unit, 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.



- 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.
- Never use a water jet, etc. to clean inside and outside the cabinet. If wetness occurs for any reason, do not use the product until it has completely dried.
- 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 12: PERIODIC INSPECTION TABLE

	Description	Period	Reference
CABINET	Checking adjuster grounding	Daily	3
CONTROL UNIT (GUN CONTROLLER)	Cleaning	As necessary	
	Checking sight	Weekly	9
	Inspecting switches	Monthly	9
	Inspecting solenoids	Monthly	9
COIN SHUTE DOOR	Inspecting coin switches	Monthly	9-2
	Testing coin insertion	Monthly	13
PROJECTOR	Cleaning the coin selector	Tri-monthly	13
	Screen cleaning	Weekly	18
	Checking adjustments	Monthly or when moving	6, 9-2, 18
GAME BOARD	Performing memory test	Monthly	9-2
	Checking settings	Monthly	9
POWER SUPPLY PLUG INTERIOR	Inspecting and cleaning	Annually	
	Cleaning		
CABINET SURFACES	Cleaning	As necessary	

CLEANING THE CABINET SURFACES

When the cabinet surfaces become dirty, remove stains with a soft cloth soaked in water or diluted (with water) chemical detergent and then wrung dry. To avoid damaging the finish, do not use such solvents as thinner, benzene, etc. (other than ethyl alcohol) or abrasives (bleaching agent and chemical dust-cloth).

Some general-purpose household, kitchen, and furniture cleaning products may contain strong solvents that degrade plastic components, coatings, and print. Before using any cleaning product, read the product's cautionary notes carefully and test the product first on a small area that is not highly visible.

13. TROUBLESHOOTING

13-1. PROBLEMS NOT INVOLVING THE GAME BOARD

In case a problem occurs, first check wiring connector connections.



- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- 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.

TABLE 13. 1 a

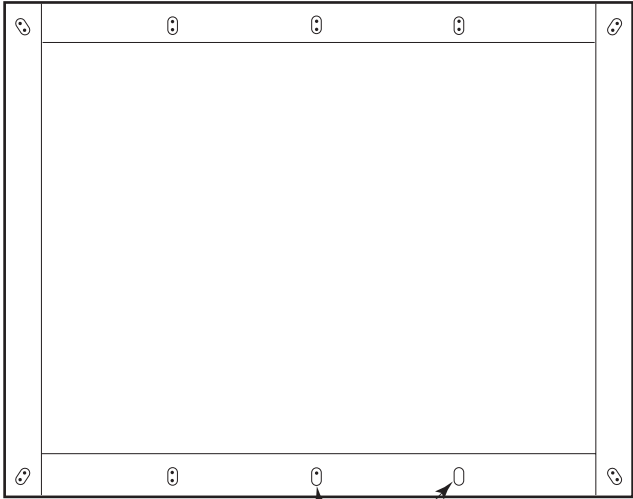
PROBLEMS	CAUSE	COUNTERMEASURES
With Main SW ON, no activation.	Power is not supplied.	Securely insert the power plug into the plug socket.
	Power supply/voltage is not correct.	Make sure that power supply/voltage is correct.
	The Circuit Protector functioned due to the momentary overload.	After eliminating the cause of overload, reinstate the AC Unit's Circuit Protector
The color on PTV screen is incorrect.	Image adjustment is inappropriate.	Adjust appropriately (see Sec. 18).
Color deviation on PTV screen.	Affected by peripheral machines or the building's steel frames.	Perform convergence adjustment (see Sec. 18).
		Change installation direction or position.
		Move the machine which causes the problem.

TABLE 13.1b

PROBLEMS	CAUSE	COUNTERMEASURES
No sound is emitted.	Sound volume adjustment is not appropriate.	Adjust sound volume (see Sec. 9).
	Board and Amplifier malfunctioning	Perform the sound test and confirm (see Sec. 9-2).
Control Unit sighting is not satisfactory.	Sights are not aligned due to changes in the surrounding environment. LED board malfunctioning	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).
	Sensor unit malfunctioning LED board and LED board cover are contaminated.	Replace the sensor unit (see Sec. 10). Wipe off soiled surfaces (see Sec. 11 and next page).
	Fuse on the connector board has blown due to a momentary electrical Overload.	Fix the source of the overload, then replace the fuse. <Fuse: 250V 200mA, 514-5086-200> (see Sec. 13, 16)
During game play, the control unit is not operable for shooting.	Microswitch malfunctioning	Check that the switches turn off and on using test mode. Replace the switch if it does not operate (see Sec. 10).
	LED board malfunctioning	Check to ensure that the LED lights up. If does not light up, replace (see next page).
	Sensor board malfunctioning Fuse on the connector board has blown due to a momentary electrical Overload.	Replace the sensor board. Fix the source of the overload, then replace the fuse. <Fuse: 250V 200mA, 514-5086-200> (see Sec. 13, 16)
The operation of the ACTION button and SHOT SELECTOR are unsatisfactory. The gun controller does not vibrate.	Microswitch malfunctioning	Check that the switches turn off and on using test mode. Replace the switch if it does not operate (see Sec. 10).
	Solenoid is broken.	Replace the solenoid (see Sec. 10).
	Fuse on the connector board has blown due to a momentary electrical Overload.	Fix the source of the overload, then replace the fuse. <Fuse: 250V 200mA, 514-5086-200> (see Sec. 13, 16)
The FL does not light up. The lamp does not light up.	The FL has burnt out.	Replace the fluorescent light (see Sec. 11).
	Lamp has burnt out.	Replace the lamp (see Sec.11).

REPLACING THE LED BD

In case two of LED's do not emit light, failure and malfunctioning may be considered. Replace in the following procedure. When removing surface soils, also use the following procedure.



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

FIG. 13. 1 a

Turn the power off.

By referring to 3 , Section 6, demount the PTV from Cabinet DX.

By referring to 2 , Section 6, remove the Mask from the PTV.

The Mask has the LED Board. Disconnect the Connectors from both ends of LED Board, remove 2 U Nuts, take out and replace the LED Board. At this time, pay attention to the direction of the LED Board, and install it.

After replacing the LED Board, be sure to perform sighting check according to the test mode of Section 9.

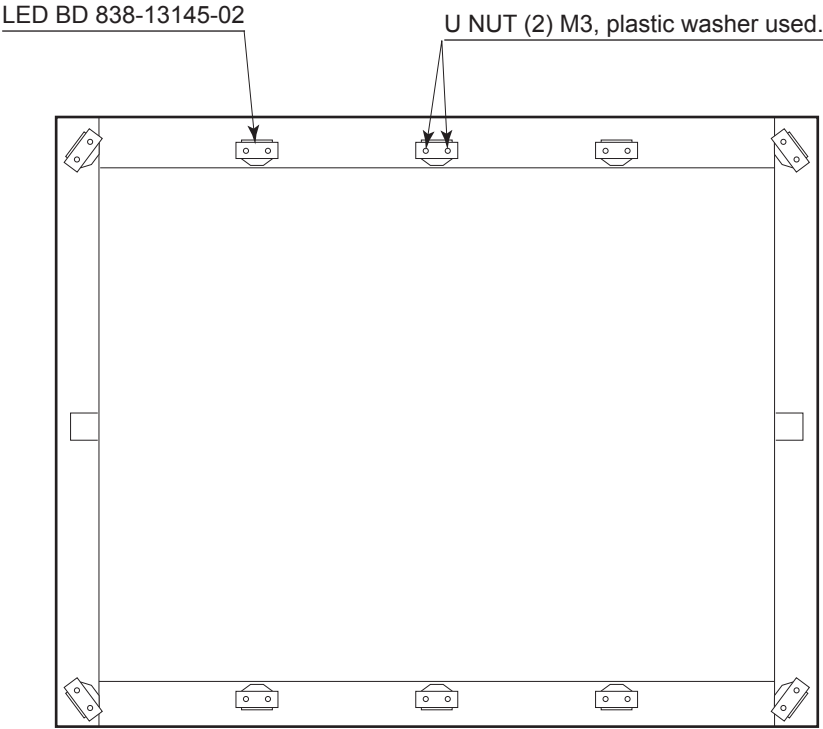


FIG. 13. 1 b

REPLACING THE FUSE



- Fuse replacements other than those specified can cause accidents and are strictly forbidden. In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.
- To prevent accidents due to electrical shock, always turn the power off and disconnect the power plug from the power outlet before performing any task that involves touching the interior of the product.
- Be careful not to damage the wires. Damaged wires may cause electric shock, short circuit or present a risk of fire.
- Be sure to use fuses meeting the specified rating. Using fuses exceeding the specified rating can cause fire and electric shock accidents.
- After eliminating the cause of a blown fuse, replace the fuse. Depending on the cause of the fuse blow, continued use with the blown fuse can cause generation of heat and present a risk of fire.
- There is a risk of burns due to heat of the globe-shaped fluorescent light. Take the appropriate precautions when you are replacing the light.

Turn the power off. Undo the 4 screws using the supplied L-wrench and remove the instruction panel.

INSTRUCTION PANEL

HEXAGON SOCKET SCREW (4)
M5×10, special washer used



PHOTO 13. 1 a

Replace the fuse. There are 200mA (for the sensors) and 2A (for the solenoids) fuses.

FUSE4: 250V 2A 514-5086-2000 2P gun solenoid

FUSE3: 250V 200mA 514-5086-200 2P gun sensor

FUSE1: 250V 200mA 514-5086-200 1P gun sensor

FUSE2: 250V 2A 514-5086-2000 1P gun solenoid

PHOTO 13. 1 b



- If an error code is displayed, have a Location's Maintenance Man or Serviceman resolve it. If someone without specialized or technical knowledge attempts to rectify the problem, electric shock, short circuits or fire may result. If there is no store maintenance person or technician available, turn the power OFF immediately, and contact your retailer or the office listed in this manual.
- If problems other than those noted in this manual occur, or the countermeasures suggested result in no improvement, do not try to rectify the problem by other means. Turn the power OFF immediately, and contact your retailer or the office listed in this manual. Careless countermeasures can result in unexpected accidents.



IMPORTANT

- If error No. 20 is generated, the power must be turned OFF and ON again in order to clear it.
- When requesting replacement or repair of the Game Board or Media Board, put the board in the special purpose packing box specified in this manual for transportation.

LINDBERGH RED displays error messages on the screen to indicate various problems. If an error message is displayed, the game cannot be started. In this case, refer to the following section on causes and countermeasures.

Error 01
DISPLAY
CAUSE
COUNTERMEASURES

Game Program Not Found.
The key chip is not connected.
Check that the key chip is connected correctly. Check that the keychip is not inserted the wrong way or that the key chip from a different system is not inserted.

Error 02
DISPLAY
CAUSE
COUNTERMEASURES

Game Program Not Available.
The key chip is not supported.
Send the LINDBERGH board in for repair with the key chip still in place.

Error 05
DISPLAY
CAUSE
COUNTERMEASURES

Wrong Region.
The game is for a foreign region.
Use a domestic game.

Error 06
DISPLAY
CAUSE
COUNTERMEASURES

I/O Device Not Found.
The LINDBERGH board's I/O board cannot be found.
Send the LINDBERGH board in for repair with the key chip still in place.

Error 07
DISPLAY
CAUSE
COUNTERMEASURES

Graphic Card Not Found.
The LINDBERGH board's graphics card cannot be found.
Send the LINDBERGH board in for repair with the key chip still in place.

Error 08
DISPLAY
CAUSE
COUNTERMEASURES

Sound Card Not Found.
The LINDBERGH board's sound card cannot be found.
Send the LINDBERGH board in for repair with the key chip still in place.

Error 09
DISPLAY
CAUSE
COUNTERMEASURES

System Memory Not Enough.
The LINDBERGH board does not have enough memory.
Send the LINDBERGH board in for repair with the key chip still in place.

Error 10
DISPLAY
CAUSE
COUNTERMEASURES

Unexpected Game Program Failure.
The game program crashed due to an unexpected error.
Turn the power off and then restart.

<p>Error 11 DISPLAY CAUSE</p> <p>COUNTERMEASURES</p>	<p>JVS I/O board is not connected to main board. (1) The I/O board is not connected. (2) Unreliable connection between the main board and the I/O board.</p> <p>(1) Connect the I/O board to the main board. Verify that the power cable is connected to I/O board. (2) Reconnect or replace the JVS cable that connects the I/O board to the main board.</p>
<p>Error 12 DISPLAY CAUSE COUNTERMEASURES</p>	<p>JVS I/O board does not fulfill the game spec. The correct I/O board is not connected. Use an I/O board that provides the proper input/output for the game.</p>
<p>Error 14 DISPLAY CAUSE COUNTERMEASURES</p>	<p>Network firmware version does not fulfill the game spec. Required version XX.XX. The firmware version installed on either the network board or the DIMM Media board is older than the required version. Use a network board or DIMM Media board with firmware that meets or exceeds the required version.</p>
<p>Error 15 DISPLAY CAUSE COUNTERMEASURES</p>	<p>Game Program Not Found. The key chip is not connected. Check that the key chip is connected correctly. Check that the key chip is not inserted the wrong way or that the key chip from a different system is not inserted.</p>
<p>Error 21 DISPLAY CAUSE COUNTERMEASURES</p>	<p>Game Program Not Found on Game Disk. There is no program image on the game disk. Check that a game disk corresponding to the key chip is inserted into the drive.</p>
<p>Error 22 DISPLAY CAUSE COUNTERMEASURES</p>	<p>Game Program Not Found on Device. There is no game image on the game installer device. Perform a reinstall from the game disk.</p>
<p>Error 24 DISPLAY CAUSE COUNTERMEASURES</p>	<p>DVD Drive Not Found. The DVD drive cannot be found. Connect the DVD drive.</p>
<p>Error 25 DISPLAY CAUSE COUNTERMEASURES</p>	<p>Game Disk Not Found. The game disk cannot be found. Insert the game disk.</p>
<p>Error 26 DISPLAY CAUSE COUNTERMEASURES</p>	<p>Storage Device Not Found. The program installer device cannot be found. Send the LINDBERGH board in for repair with the key chip still in place.</p>
<p>Error 27 DISPLAY CAUSE COUNTERMEASURES</p>	<p>Storage Device is Not Acceptable. The program installer device does not have enough space. Send the LINDBERGH board in for repair with the key chip still in place.</p>

Error 32 Error 28 DISPLAY CAUSE COUNTERMEASURES	This Game Disk is Not Acceptable. The game disk cannot be read correctly. Exchange the game disk for a proper game disk. Check that the game disk is not scratched, damaged or dirty.
Error 29 DISPLAY CAUSE COUNTERMEASURES	Cannot Control DVD Drive. The DVD drive cannot be controlled. The DVD drive may be damaged.
Error 31 DISPLAY CAUSE COUNTERMEASURES	Storage Device Not Enough. The program installer device does not have enough space. Send the LINDBERGH board in for repair with the key chip still in place.
Error 32 DISPLAY CAUSE COUNTERMEASURES	Installing Game Program Failed. Transfer of the program failed. Check that the DVD drive is connected correctly. Check that the game disk is not scratched, damaged or dirty.
Error 33 DISPLAY CAUSE COUNTERMEASURES	Storage Device is Not Acceptable. The program installer device cannot be found. Send the LINDBERGH board in for repair with the key chip still in place.
Error 34 DISPLAY CAUSE COUNTERMEASURES	Storage Device Not Found. The program installer device cannot be found. Send the LINDBERGH board in for repair with the key chip still in place.
Error 35 DISPLAY CAUSE COUNTERMEASURES	Storage Device is Not Acceptable. The program installer device does not have enough space. Send the LINDBERGH board in for repair with the key chip still in place.
Error 36 DISPLAY CAUSE COUNTERMEASURES	Storage Device May be Broken. The program installer device is broken. Send the LINDBERGH board in for repair with the key chip still in place.

Error 37 DISPLAY CAUSE COUNTERMEASURES	Verifying Game Program Failed. The program image is unverified due to the program image not existing on the game disk or server. Check that the correct game disk is inserted.
Error 41 DISPLAY CAUSE COUNTERMEASURES	Server Not Respond. The server is not responding. Check the network settings. Set IP Address and other settings. Check that the network cable has not been pulled out.
Error 42 DISPLAY CAUSE COUNTERMEASURES	Server Mount Failed The server directory is could not be reached. Check the network settings. Set IP Address and other settings. Check that the network cable has not been pulled out.
Error 43 DISPLAY CAUSE COUNTERMEASURES	IP Address Not Assigned. An IP Address could not be obtained from the DHCP server. Check the network settings. Set IP Address and other settings. Check that the network cable has not been pulled out.
Error 44 DISPLAY CAUSE COUNTERMEASURES	Game Program Not Found on Server. No program image on the network server. Check that the game title, place on the network server, and the key chip correspond to each other.
Caution 51 DISPLAY CAUSE COUNTERMEASURES	Wrong Resolution Setting. The game does not support the current resolution settings. Change the DIP SW to the correct settings and restart.
Caution 52 DISPLAY CAUSE COUNTERMEASURES	Wrong Horizontal/Vertical Setting. The monitor horizontal/vertical settings are incorrect. Change the DIP SW to the correct settings and restart.

14. GAME BOARD



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not expose the Game BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.
- Do not use this product with connectors other than those that were connected and used with the Game Board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.



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

LINDBERGH RED (845-0001D-01 ASSY CASE LBJ L512MB USA)

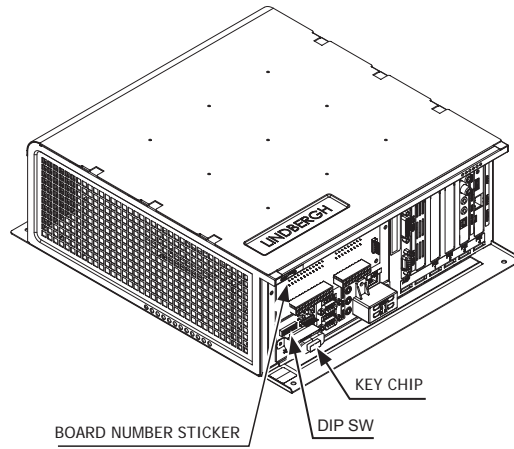


FIG. 14-1

DIP SW SETTING

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

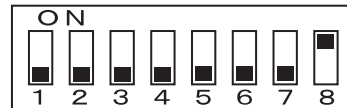


FIG. 14-2

15. DESIGN RELATED PARTS

50"DX



29"STD

15

DESIGN RELATED PARTS

534-30-100
MARQUEE, 29"CTF EVO

99-30-014 / 999-1430
EPILEPSY CAUTION STICKER

534-30-210
DECAL CONTROL APANEL
INSTRUCTION 29"CTF EVO

534-30-212
DECAL START BUTTON 29"CTF
EVO

534-30-201
DECAL RIGHT SIDE MONITOR 29"CTF EVO
534-30-200
DECAL LEFT SIDE MONITOR 29"CTF EVO
(Other side)

534-30-203
DECAL RIGHT SIDE MAIN CABINET 29"CTF EVO
534-30-202
DECAL LEFT SIDE MAIN CABINET 29"CTF EVO
(Other side)



16 PARTS LIST

50"DX

200-5788-31
50" PROJECTOR TV
MODEL: TOSHIBA P503SGF

F.L.LAMP, MARQUEE FOR
50"DX (36", F30T12, 30W)

534-60-450
PB SW W/LAMP CTF-EVO
(Green)



CTF-1321
CONTROLLER HOLDER R
CTF-1301
CONTROLLER HOLDER L
(Other side)

29"STD

998-0162
29" MONITOR (31K) SANWA 29E31S
TAMPARED MONITOR GLASS
SIZE: 24.781"(H) x 28.828"(W) x .188"(T)

F.L.LAMP, MARQUEE FOR
29"STD (24", F20T12CW, 20W)

JPT-1082 IR COVER (10)
838-13145R02 LED BD GUN SENSE HOD (10)

534-50-150
CONTROL PANEL VACUFORM 29"CTF EVO

999-1442
SPEAKER 4 OHM 15 WATT (2)

534-60-450
PB SW W/LAMP CTF-EVO
(Green)

999-1596
FAN 110/120VAC 17/15W
SINWA



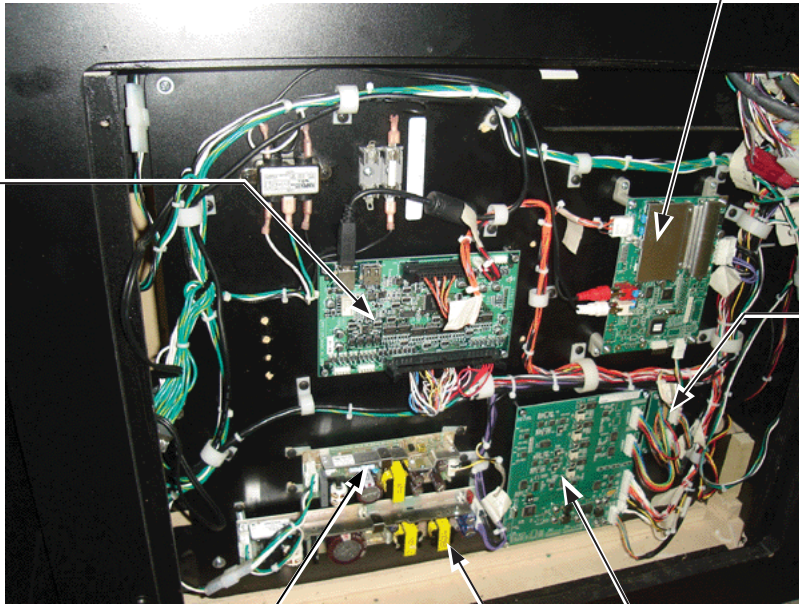
999-1659
PLASTIC PROTECT R HDT (2)
999-1660
PLASTIC PROTECT L HDT (2)
(Other side)
999-0167
LEG LEVELER 1/2-13-3" (4)
999-0169
CASTER (4)

INSIDE, 50"DX

LEFT SIDE

837-14505
I/O CONTROL BD FOR JVS

838-14515-A0191
SOUND AMP ANALOG IN



998-0165
TYPE II GUN PROTECT
CKT BD/HRN

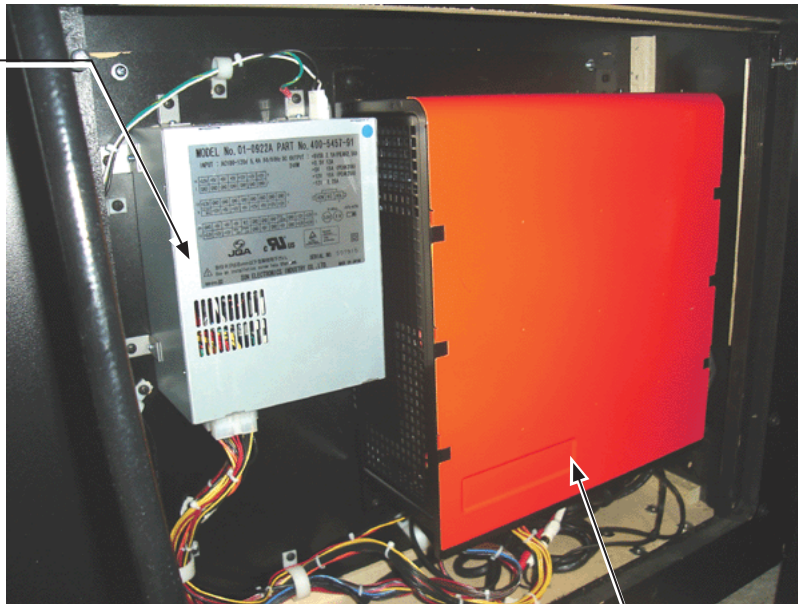
998-0247
PWR SUPPLY 12 GHOST SQUAD CTF

838-14465R
ICBD GUN SENSE NEW EDIT DX

998-0248
PWR SUPPLY 24 GHOST SQUAD CTF

RIGHT SIDE

400-5457-91
SW REGU ATX/JVS AUTO



845-0001D-01
ASSY CASE LBJ L512MB USA

INSIDE, 29"STD

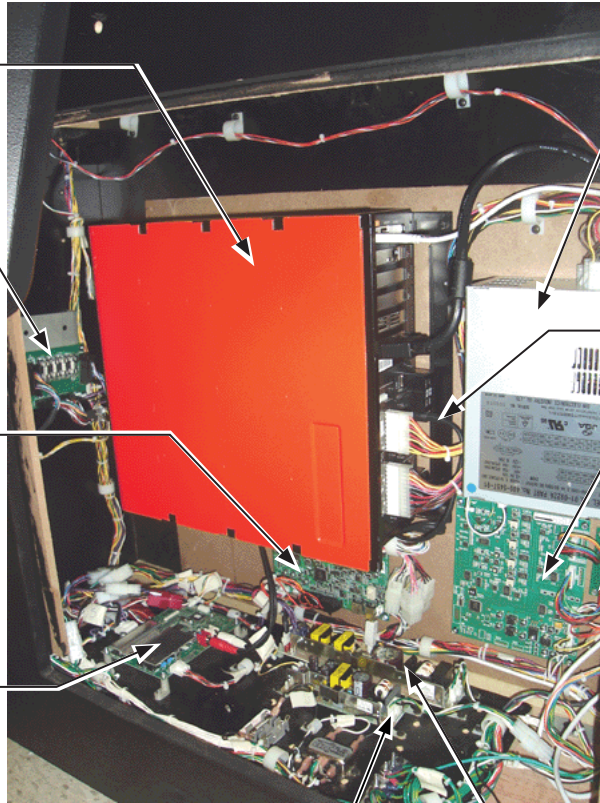
845-0001D-01
ASSY CASE LBJ L512MB USA

839-1243R
FUSE BD (GHOST SQUAD) CTF

837-14505
I/O CONTROL BD FOR JVS

838-14515-A0191
SOUND AMP ANALOG IN

998-0247
PWR SUPPLY 12 GHOST SQUAD CTF



400-5457-91
SW REGU ATX/JVS AUTO

600-7920-100
ASSY USB CA TYPE MINI AB 100CM

838-14465R
ICBD GUN SENSE NEW EDIT DX

998-0165
TYPE II GUN PROTECT
CKT BD/HRN

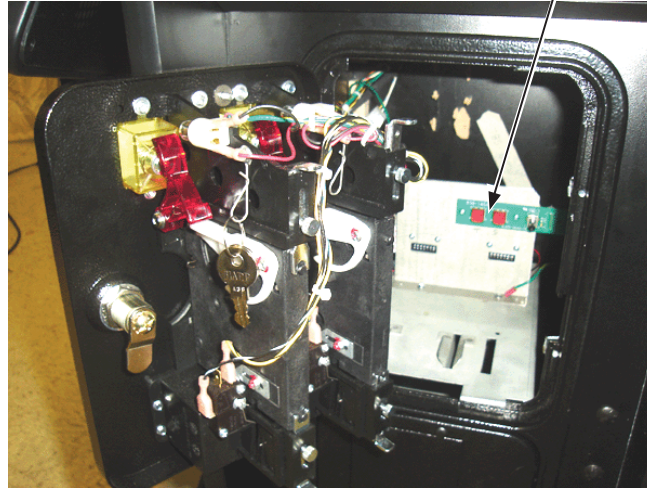
998-0248
PWR SUPPLY 24 GHOST SQUAD CTF

INSIDE, COIN DOOR

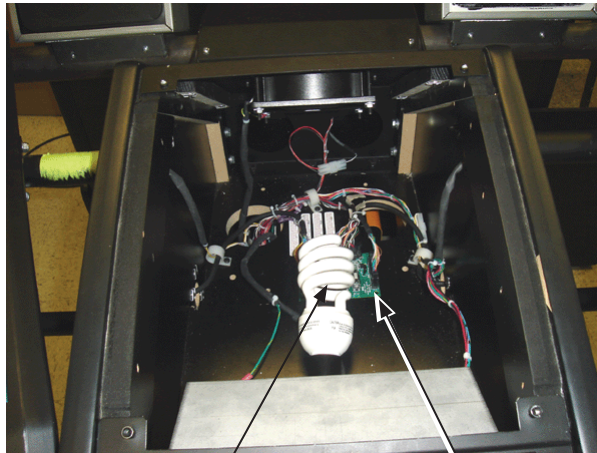
50"DX: 2 SLOTS W/DBA
READY (MOUNT UNDER
THE CASH BOX AREA)

29"STD: 1 SLOT W/DBA
READY

838-14548-02
SW & VOL BD



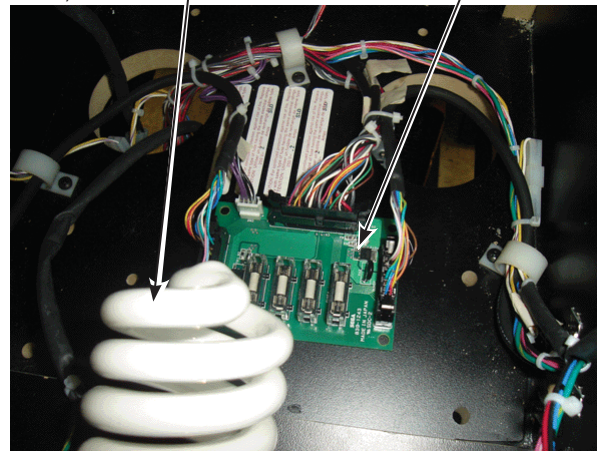
INSIDE OF INSTRUCTION PANEL (50"DX)



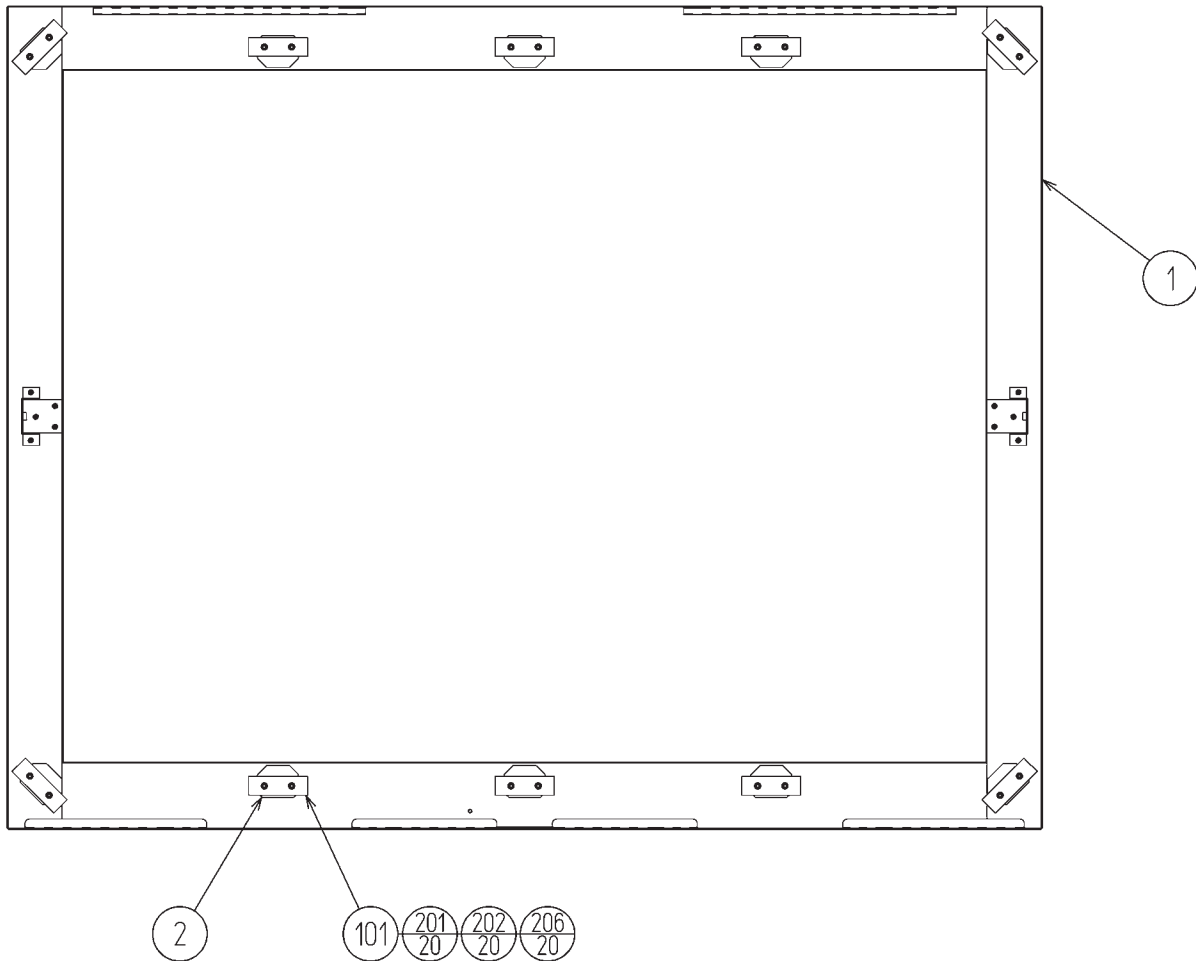
F.L.LAMP 26Watt Spiral fluorescent
(Screw in type base) or use GLOBE-SHAPED
FLUORESCENT LIGHT 13W (Part#: 390-6782)

839-1243R
FUSE BD (GHOST SQUAD) CTF

ZOOM UP VIEW

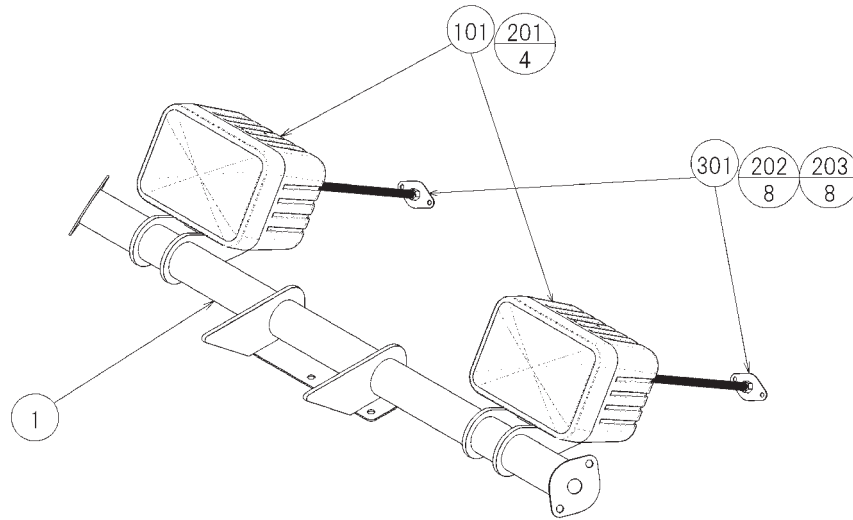


ASSY MASK (SPY-0530)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPY-0531	MASK BASE	
2	JPT-1082	IR COVER	
101	838-13145R02	LED BD GUN SENSE HOD	
103	280-5008	CORD CLAMP 15	
201	050-U00300	U NUT M3	
202	068-330808-PN	FLT WSHR PLASTIC 3.3-8x0.8	
203	050-H00400	HEX NUT M4	
204	060-F00400	FLT WSHR M4	
205	060-S00400	SPR WSHR M4	
206	069-000026	FLT WSHR 3.2-11x0.5	
301	SPY-60026	WH MASK INTO	
302	SPY-60024	WH MASK SHORT	
303	SPY-60025	WH MASK LONG	
304	HOD-60035	WIRE HARN E MASK01	

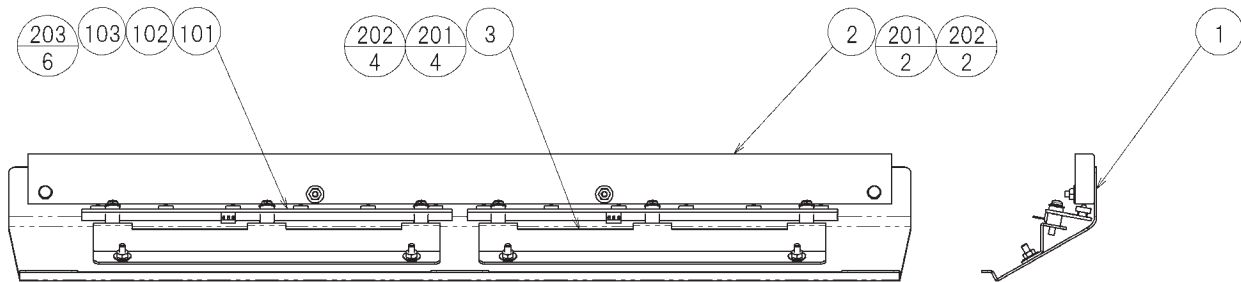
ASSY SPEAKER PIPE



Attach (101) so that the speakers are on the outside and the bass reflex ducts are on the inside.

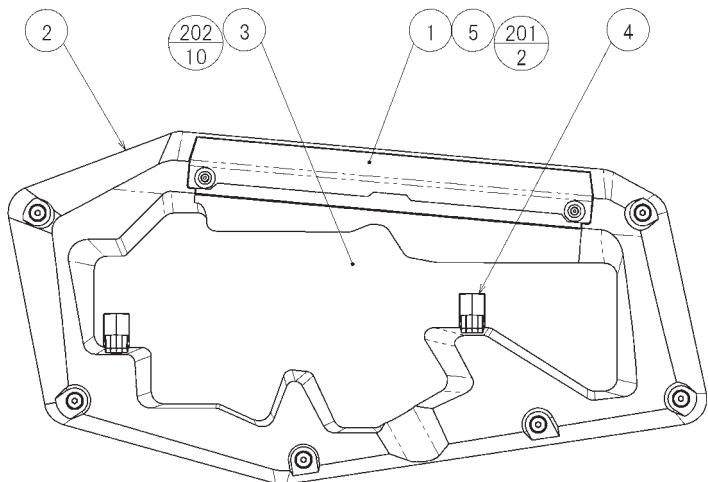
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	CTF-1201	JOINT PIPE REAR	
101	515-60-410	SPEAKER BOX 4OHM 40W	130-5228-01
102	280-5275-SR10	CORD CLAMP SR10	
201	000-P00512-WB	M SCR PH W/FS BLK M5x12	
202	012-P00512-0B	TAP SCR #2 PH BLK 5x12	
203	060-F00500-0B	FLT WSHR BLK M5	
301	CTF-60025	WH SPEAKER EXT	

ASSY HOLDER LIGHT (CTF-1340)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	CTF-1341	HOLDER LIGHT COVER	
2	CTF-1342	HOLDER LIGHT PLATE	
3	CTF-1343X	LED BD BRKT	
101	838-14463-01	LED BAR BD GREEN	
102	280-5247	ONE TOUCH BUSHING	
103	280-5248-5.7	ONE TOUCH COLLAR M3 L=5.7	
104	280-5275-SR10	CORD CLAMP SR10	
201	050-U00300	U NUT M3	
202	060-F00300	FLT WSHR M3	
203	000-P00316-W	M SCR PH W/FS M3x16	
301	CTF-60027	WH HOLDER LED	

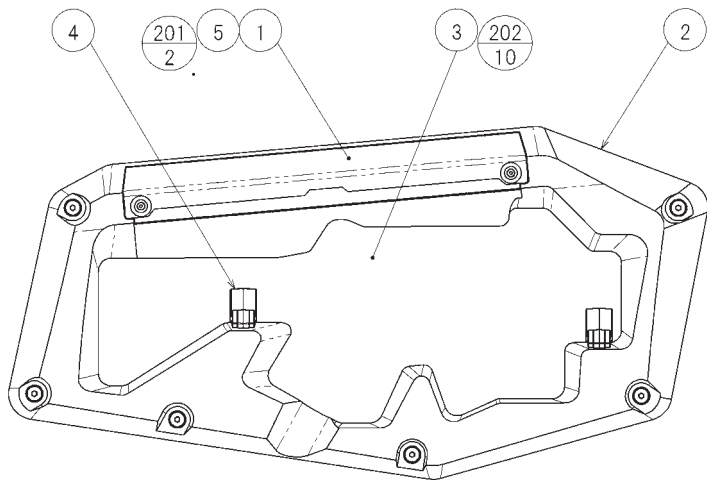
ASSY CONTROLLER HOLDER L (CTF-1300)



Fastening Torque:

201 : 1.4N·m(14kgf·cm)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	CTF-1340	ASSY HOLDER LIGHT	
2	CTF-1301	CONTROLLER HOLDER L	
3	CTF-1302	CONTROLLER HOLDER PLATE L	
4	CTF-1303	CONTROLLER HOOK	
5	CTF-1002	WASHER CTF	
201	FAS-290037	HEX SKT LH CAP SCR STN M5x20	
202	FAS-120031	TAP SCR P-TITE TH BLK 4x16	



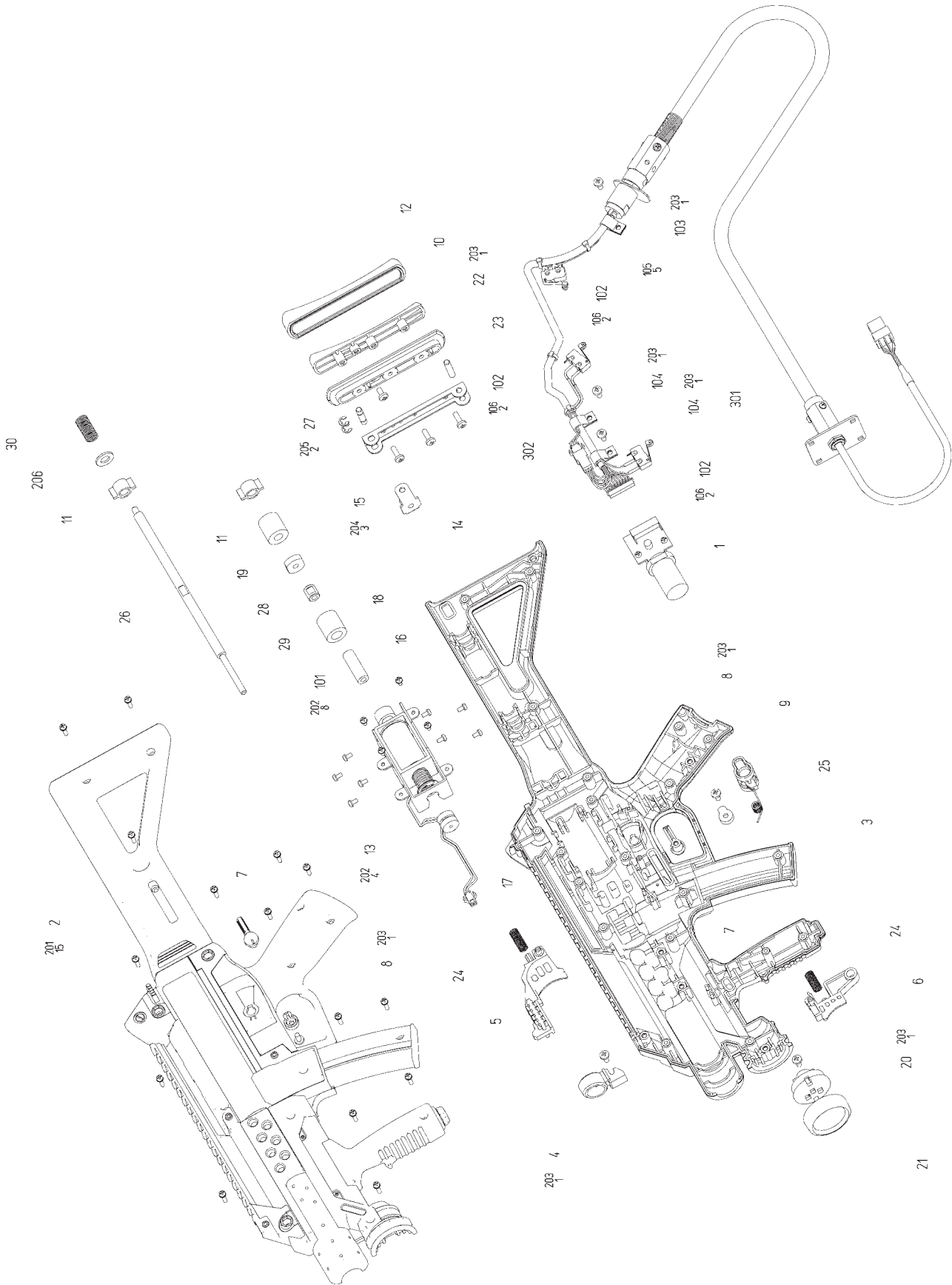
Fastening Torque:

201 : 1.4N·m(14kgf·cm)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	CTF-1340	ASSY HOLDER LIGHT	
2	CTF-1321	CONTROLLER HOLDER R	
3	CTF-1322	CONTROLLER HOLDER PLATE R	
4	CTF-1303	CONTROLLER HOOK	
5	CTF-1002	WASHER CTF	
201	FAS-290037	HEX SKT LH CAP SCR STN M5x20	
202	FAS-120031	TAP SCR P-TITE TH BLK 4x16	

CONTROL UNIT GREEN (CTF-2100-01)

16 PARTS LIST

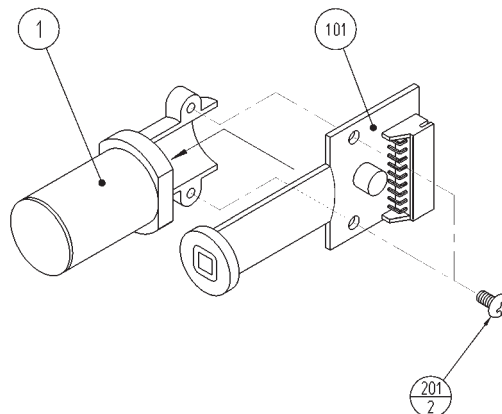


CONTROL UNIT (CTF-2100-01)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	JPT-2030	SENSOR UNIT	
2	CTF-2101	COVER L	
3	CTF-2102	COVER R	
4	CTF-2103	FRONT SIGHT	
5	CTF-2104	MAIN TRIGGER	
6	CTF-2105	SUB TRIGGER	
7	CTF-2106	SELECTOR	
8	CTF-2107	SELECTOR HOLDER	
9	CTF-2108	SELECTOR JOINT	
10	CTF-2109	PAD BASE	
11	CTF-2110	BEARING HOLDER	
12	CTF-2111	PAD	
13	CTF-2112	SOLENOID FRAME	
14	CTF-2113	SHAFT JOINT	
15	CTF-2114	PAD FRAME	
16	CTF-2115	RECOIL DAMPER	
17	CTF-2116	SOLENOID DAMPER	
18	CTF-2117	SHAFT DAMPER F	
19	CTF-2118	SHAFT DAMPER R	
20	CTF-2119	CAP BASE	
21	CTF-2120	LIGHT CAP	
22	CTF-2121	PAD BEZEL	
23	CTF-2122	PAD PIN	
24	CTF-2123	TRIGGER SPRING	
25	CTF-2124	SELECTOR SPRING	
26	CTF-2125	SHAFT	
27	CTF-2126	JOINT PIN	
28	CTF-2127	SHAFT STOPPER	
29	CTF-2128	DAMPER BASE	
30	CTF-2129	RETURN SPRING	
101	124-5097	SOLENOID	
102	509-5080	SW MICRO TYPE (SS-5GL2)	
103	280-5124-04	NYLON CLAMP NK04	
104	280-5124-05	NYLON CLAMP NK05	
105	601-0460	PLASTIC TIE BELT 100 M/M	
106	310-5029-D20	SUMITUBE F D 20MM	
201	FAS-000100	M SCR PH W/SMALL FS BLK M3x12	
202	000-P00306-S	M SCR PH W/S M3x6	
203	FAS-120029	TAP SCR P-TITE PH 4x8	
204	FAS-120030	TAP SCR P-TITE PH BLK 4x12	
205	065-E00400	E RING 4MM	
206	FAS-600020	FLT WSHR NORM A M8	
301	CTF-60032	WH CONTROLLER MAIN EXT	
302	CTF-60033	WH CONTROLLER SW EXT	

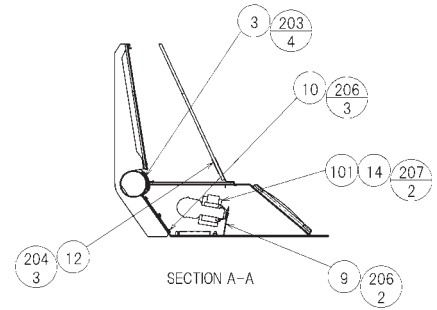
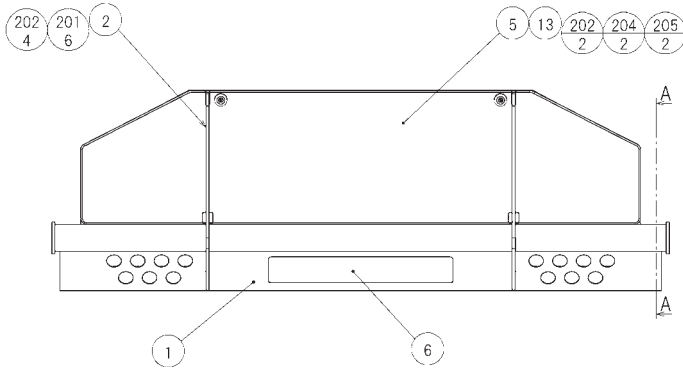
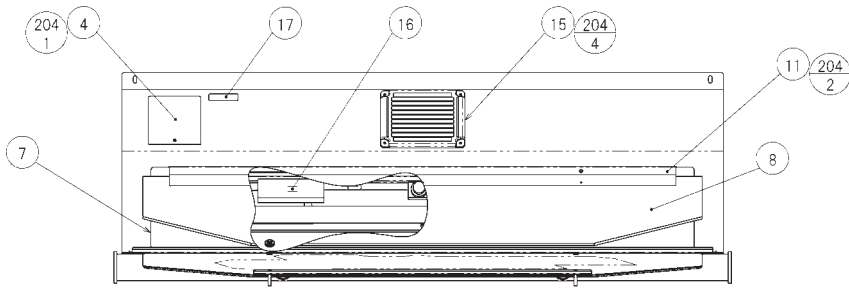
SENSOR UNIT (JPT-2030)

ITEM NO.	PART NO.	DESCRIPTION
1	JPT-2031	SENSOR HOLDER
101	838-13144	SENSOR BD GUN SENSE
201	012-P00306	TAP SCR #2 PH 3x6



ASSY BILLBOARD 50"DX CTF EVO

16 PARTS LIST



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	CTF-0551	BILLBOARD BOX	
2	CTF-0552	BILLBOARD STAY	
3	CTF-0553	BILLBOARD STAY HOLDER	
4	CTF-0554	CONNECTOR LID	
5	534-30-103	BILLBOARD PLATE 50"CTF EVO	
6	534-30-104	BILLBOARD FRONT PLATE 50"CTF EVO	
7	CTF-0557	BILLBOARD LID	
8	534-30-102	BILLBOARD POP 50"CTF EVO	
9	CTF-0559	BILLBOARD FL BRKT	
10	CTF-0560	FRONT PLATE SASH	
11	CTF-0561	POP BRKT	
12	CTF-0562	POP HOLDER	
13	CTF-1002	WASHER CTF	
14	253-5457	FL HOLDER	
15	253-5460-01	AIR VENT BLACK	
16	421-7501-18	STICKER FL32W	

17. WIRE COLOR CODE TABLE

THE WIRE COLOR CODE is as follow:

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

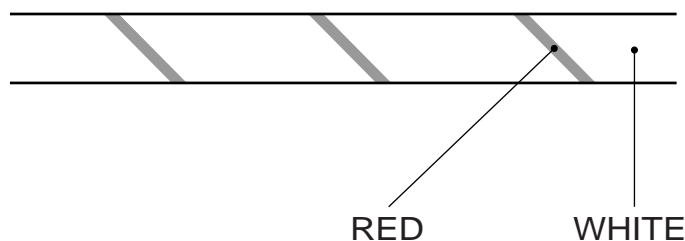
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

- 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

18. 50" PROJECTOR TV MANUAL

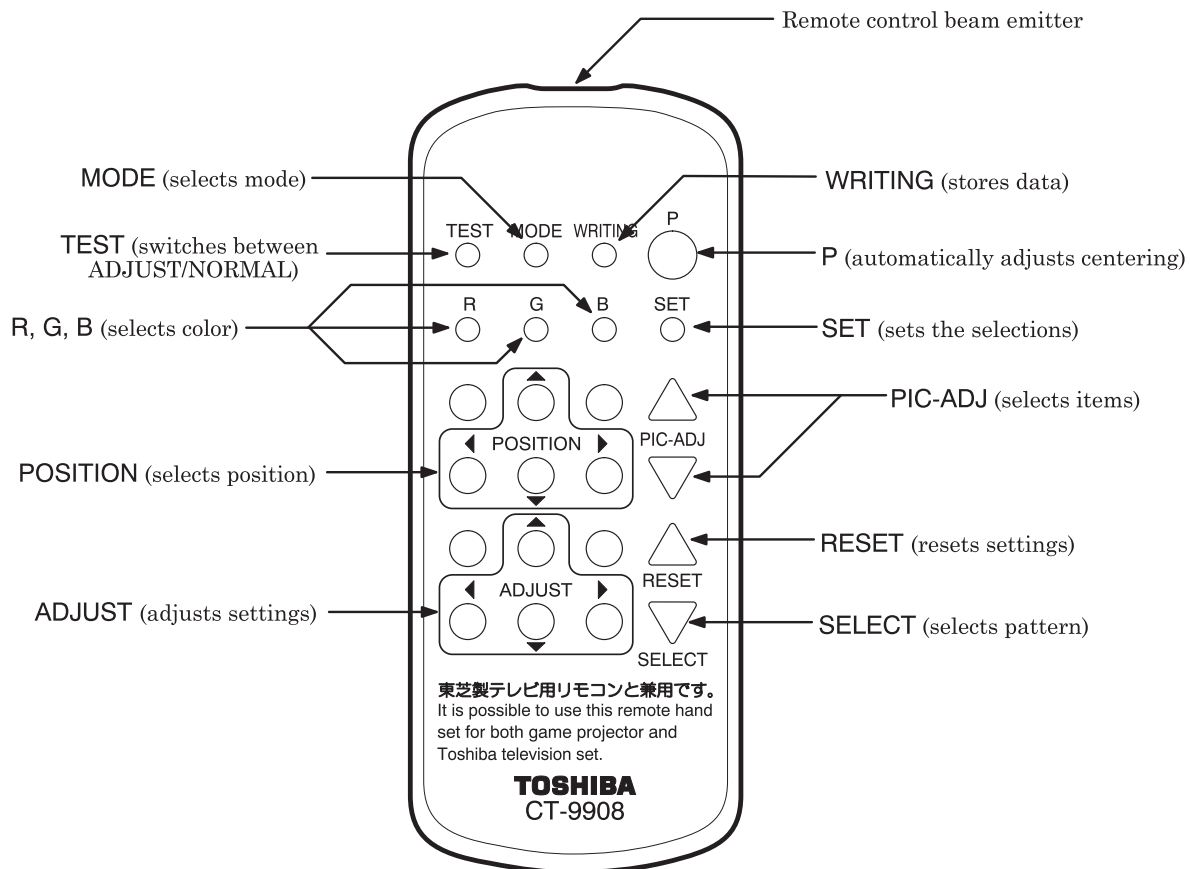
TOSHIBA 50"PTV (P503SGF) Monitor adjustment Manual

Remote Controller

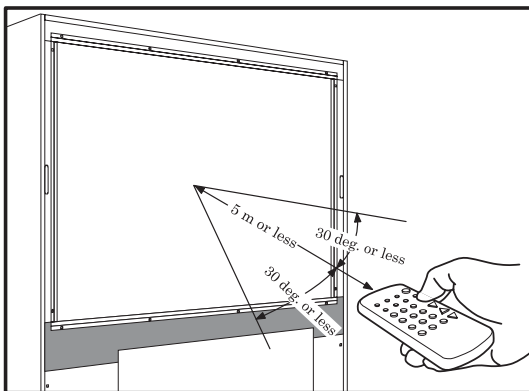
* This remote controller is used to make adjustments to the projector.

You cannot use this remote controller to turn the entire projector and game system on or off.

For detailed operating procedures, refer to the pages with the specific adjustment procedures.



* The remote controller should be used when facing the projector screen.



Notes on the remote controller:

- * Do not drop, shake, or subject the remote controller to shocks.
- * Do not expose the remote controller to water or place it on top of wet objects.
- * Do not take the remote controller apart.
- * Do not place the remote controller in places where the temperature becomes high or high-humidity places.

Remote Controller Functions

TEST Button

When in the normal image receiving mode, holding down the TEST button for three seconds will display "--- ADJUST MODE ---" to indicate that the projector is in adjustment mode. A green cross pattern appears on the screen. To return to image receiving mode, hold down the TEST button for three seconds again.

Note 1: Do not switch the input signals while the projector is in adjustment mode.

Note 2: If the adjustment status is disrupted by a spark from the CRT while the projector is in adjustment mode, turn off the power without saving the data or performing other operations.

MODE Button

- Repeatedly pressing the MODE button will cycle through these modes: (1) Static Convergence Adjustment Mode → (2) Line (Row) Adjustment Mode → (3) Point Adjustment Mode
- Repeatedly pressing the CENTER MODE button will cycle through these modes: (1) Static Convergence Adjustment Mode → (2) Line (Row) Adjustment Mode → (3) Point Adjustment Mode → (4) Sensor Adjustment Mode.

WRITING Button

Press this button to store the adjustment status (adjustment data). When this button is pressed, "WRITING" is displayed on the screen, and the projector automatically returns to image receiving mode after saving the data. If you return to image receiving mode before saving the data or the power is turned off, the projector will be in the status before adjustment or the status when the last button was pressed. If you do not want to store the data, return to image receiving mode without pressing this button.

G Button

This button is used for turning off and adjusting green.

Pressing this button when green is displayed will turn off green.

When green is off, pressing this button will display green, allowing you to adjust green with the Adjust button.

When the blank pattern appears in CENTER MODE, the projector is in Sensor Adjustment mode and only a green single-color display is shown.

R Button

This button is used for turning off and adjusting red.

Pressing this button when red is displayed will turn off red.

When red is off, pressing this button will display red, allowing you to adjust red with the Adjust button.

When the blank pattern appears in CENTER MODE, the projector is in Sensor Adjustment mode and only a red single-color display is shown.

B Button

This button is used for turning off and adjusting blue.

Pressing this button when blue is displayed will turn off blue.

When blue is off, pressing this button will display blue, allowing you to adjust blue with the Adjust button.

When the blank pattern appears in CENTER MODE, the projector is in Sensor Adjustment mode and only a blue single-color display is shown.

POSITION Buttons ▲▼◀▶

These buttons are used when moving the adjustment position (point cursor or line cursor). The cursor moves in the direction of the arrow shown on the buttons.

ADJUST Buttons ▲▼◀▶

These buttons are used to adjust the selected mode.

- In Convergence Adjustment mode, the four buttons ▲▼◀▶ can be used to move the cursor in the direction of the arrow shown.
- In other adjustment modes, the two buttons ◀▶ can be used. The ◀ button will reduce the data value, and the ▶ button will increase the data value.

RESET Button

In ADJUST MODE, holding down this button for three seconds when in Static Convergence Adjustment mode will display "RESET" and return the Static Convergence Adjustment data to the default values.

In CENTER MODE, holding down this button for three seconds when in Static Convergence Adjustment mode will display "RESET" and return the Static Convergence and all the Auto-centering data (TILT, CENT) to the default values.

SELECT Button

Press this button when you want to view the test pattern and input signal image while in ADJUST MODE. Repeatedly pressing this button will switch between (1) test pattern → (2) test pattern + input signal. Pressing this button allows adjustment while viewing the input signal image.

PIC-ADJ Buttons

In normal mode, these buttons are used when selecting the user adjustment items.

Pressing these buttons display the menu items shown below. The selected adjustment item is highlighted in violet (other items are displayed in light blue). Press the buttons to highlight the desired item for selection.

CONTRAS	.....	Contrast adjustment
BRIGHTNESS	.....	Brightness adjustment
H. POSI	.....	Horizontal phase adjustment
V. POSI	.....	Vertical phase adjustment
H. SIZE	.....	Horizontal amplitude adjustment
V. SIZE	.....	Vertical amplitude adjustment
EXIT	.....	Cancels mode

In ADJUST MODE, these buttons are used when selecting the secondary adjustment items.

Pressing these buttons displays the menu items shown below. The selected adjustment item is highlighted in violet (other items are displayed in light blue). Press the buttons to highlight the desired item for selection.

SUB H. SIZE	.....	Secondary horizontal amplitude adjustment
SUB V. SIZE	.....	Secondary vertical amplitude adjustment
SUB BRIGHT	.....	Secondary brightness adjustment
EXIT	.....	Cancels mode

SET Button

This button is used when entering the user adjustment mode and secondary adjustment mode.

After the item is selected with the PIC-ADJ buttons, pressing the SET button will show the scale bar display and send you to the mode for adjusting the item. However, if this button is pressed in EXIT mode, the screen display will be closed and the mode will be canceled.

P Button

Holding down this button for three seconds in the normal image receiving mode will send you to the auto-centering mode. In this mode, the screen will automatically change to the green, red, and blue cross patterns, in that order. When the operation is completed, the projector will return to image receiving mode.

If operations cannot be properly performed when returning to image receiving mode, the error messages shown below will appear.

* When an error occurs for the first time:

The message "TRY AGAIN" is shown in red indicating that the geomagnetism adjustment should be performed again.

* When an error occurs two or more times:

The message "PLEASE ADJ" is shown in red indicating that the sensor sensitivity and centering adjustment should be performed again.

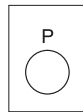
- When in the ADJUST MODE, holding down the P button for three seconds will display "--- CENTER MODE ---" to indicate that the projector is in the mode for adjusting the sensor sensitivity and centering. A green cross pattern appears on the screen.

OPERATION AND ADJUSTMENT PROCEDURES

Automatic Centering Adjustment

Raster misalignment may occur in the projector due to the influence of ground magnetism.

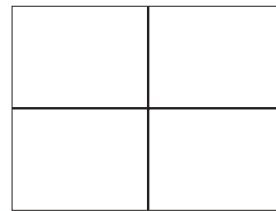
To prevent this, perform automatic centering adjustment when first installing the projector or after changing the installation location or direction.



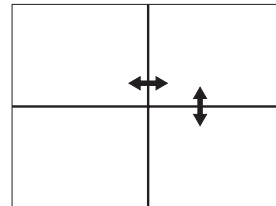
1 Hold down the P button for about three seconds.

The following operations are then performed automatically.

The projector enters correction mode for raster misalignment, and a green cross-pattern appears on the screen.

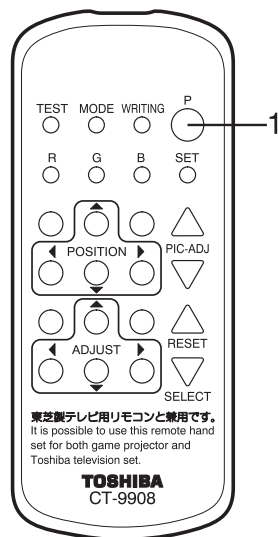


The cross-pattern moves vertically and horizontally to detect the correct screen position and inclination.



After the operation, the green cross-pattern changes to red, and then changes to blue. The projector performs the same detection operation for each color.

When the green, red, and blue detection operations are completed, the projector returns to the game screen. Any color misalignment has been corrected.



- Operation and Adjustment Procedures Sunlight from the outside, strong lighting, or other sources of light hitting the projector screen can prevent the projector from operating properly.

If this happens, the error message "TRY AGAIN" is shown in red on the projector screen.

When this message is shown, hold down the P button again for about three seconds.

If the error message continues to occur after repeating this procedure, the projector screen changes to the "PLEASE ADJ" message.

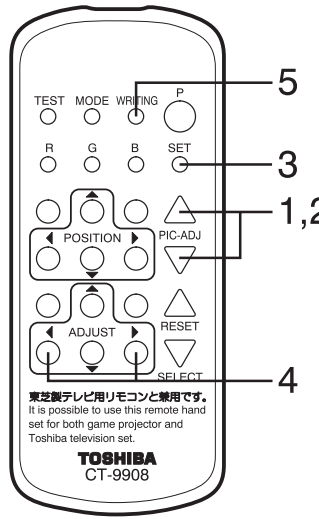
When this message is shown, adjust the screen so that light does not directly hit it, and then hold down the P button for about three seconds.

- If an error occurs in the automatic centering, the color alignment can be performed manually.

For more information on manual color alignment, see the convergence adjustment procedure starting on page 16.

Adjusting the Contrast

The images contrast has been adjusted to standard settings at the factory. However, you can also adjust to your own settings.



1 Press either the PIC-ADJ ▲ or ▼ button.

In this screen, the highlighted menu item is displayed in violet, while the other six menu items are displayed in light blue.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
  
```

2 Use the PIC-ADJ ▲ or ▼ buttons to select CONTRAST.

Move the cursor so that CONTRAST is highlighted in violet. However, since the default setting is already at CONTRAST, this operation is unnecessary in this case.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
  
```

3 Press the SET button. (This sets the selection.)

This sends you to the CONTRAST adjustment mode. The CONTRAST adjustment scale bar appears on the screen.

```

CONTRAST      230
●.....●.....●
  
```

4 Use the ADJUST ◀ and ▶ buttons to adjust the setting.

The adjustment data values change as the cursor moves. Adjust the screen contrast to the desired setting.

```

CONTRAST      156
●.....●.....●
  
```

5 Press the WRITING button. (This stores the data and completes the adjustment operation.)

The message "WRITING" appears, and the adjustment data is stored.

```

WRITING
  
```

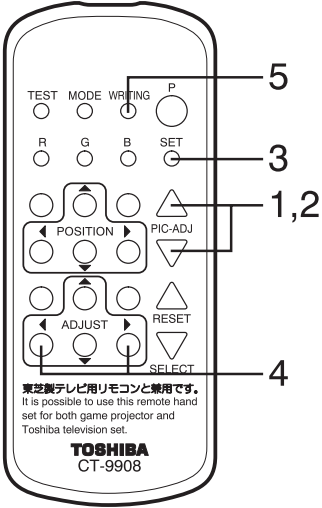
Skip to Step 3

東芝電子テレビ用リモコンと兼用です。
It is possible to use this remote hand set for both game projector and Toshiba television set.
TOSHIBA
CT-9908

- *1. To exit the adjustment procedure, select EXIT in Step 2, and then press the SET button.
- *2. To make the settings for other items in the menu, repeat Steps 2 to 4.
- *3. If you do not store the new adjustment data, it will be erased when the projector is turned off. Then, when you turn on the projector the next time, the projector will have the previous settings.

Adjusting the Brightness

The image brightness has been adjusted to standard settings at the factory. However, you can also adjust to your own settings.



1 Press either the PIC-ADJ ▲ or ▼ button.

In this screen, the highlighted menu item is displayed in violet, while the other six menu items are displayed in light blue.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
  
```

2 Use the PIC-ADJ ▲ or ▼ buttons to select BRIGHTNESS.

Move the cursor that BRIGHTNESS is highlighted in violet.

```

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
  
```

3 Press the SET button. (This sets the selection.)

This sends you to the BRIGHTNESS adjustment mode. The BRIGHTNESS adjustment scale bar appears on the screen.

```

BRIGHTNESS 128
●●●●●●●●●●●●●●●●
  
```

4 Use the ADJUST ◀ and ▶ buttons to adjust the setting.

The adjustment data values change as the cursor moves. Adjust the screen brightness to the desired setting.

```

BRIGHTNESS 156
●●●●●●●●●●●●●●●●
  
```

5 Press the WRITING button. (This stores the data and completes the adjustment operation.)

The message "WRITING" appears, and the adjustment data is stored.

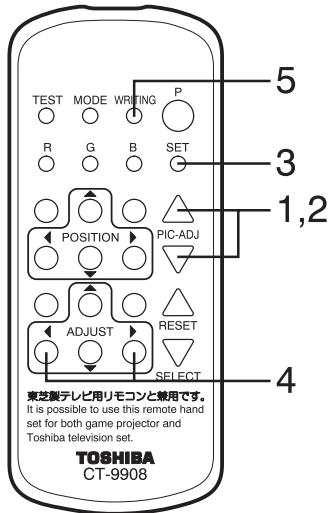
```

WRITING
  
```

- *1. To exit the adjustment procedure, select EXIT in Step 2, and then press the SET button.
- *2. To make the settings for other items in the menu, repeat Steps 2 to 4.
- *3. If you do not store the new adjustment data, it will be erased when the projector is turned off. Then, when you turn on the projector the next time, the projector will have the previous settings.

Adjusting the image display Position

The image display position (H.POSI, V.POSI) on the screen has been adjusted to standard settings at the factory. However, you can also adjust to your own settings. You may have to adjust the screen position when changing game software.



1 Press either the PIC-ADJ ▲ or ▼ button.



In this screen, the highlighted menu item is displayed in violet, while the other six menu items are displayed in light blue.



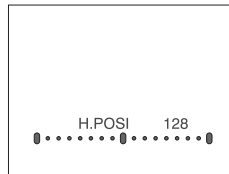
2 Use the PIC-ADJ ▲ or ▼ buttons to select H.POSI (horizontal position) or V.POSI (vertical position).



Move the cursor so that H.POSI or V.POSI is highlighted in violet. The figure shows the case when H.POSI is selected.

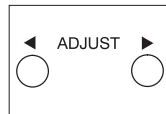


3 Press the SET button. (This sets the selection.)

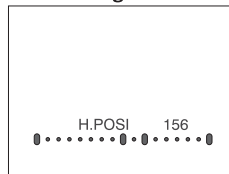


This sends you to the H.POSI or V.POSI adjustment mode. The H.POSI or V.POSI adjustment scale bar appears on the screen.

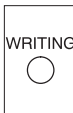
The ◀ and ▶ buttons are also used when adjusting the vertical direction.



4 Use the ADJUST ◀ and ▶ buttons to adjust the setting.



The adjustment data values change as the cursor moves. Adjust the screen display position to the desired setting.



5 Press the WRITING button. (This stores the data and completes the adjustment operation.)

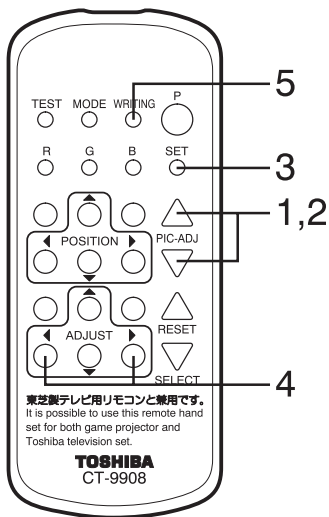


The message "WRITING" appears, and the adjustment data is stored.

- *1. To exit the adjustment procedure, select EXIT in Step 2, and then press the SET button.
- *2. To make the settings for other items in the menu, repeat Steps 2 to 4.
- *3. If you do not store the new adjustment data, it will be erased when the projector is turned off. Then, when you turn on the projector the next time, the projector will have the previous settings.

Adjusting the Image Size

The image size (H.SIZE, V.SIZE) on the screen has been adjusted to standard settings at the factory. However, you can also adjust to your own settings. You may have to adjust the image size when changing game software.



1 Press either the PIC-ADJ ▲ or ▼ button.



In this screen, the highlighted menu item is displayed in violet, while the other six menu items are displayed in light blue.



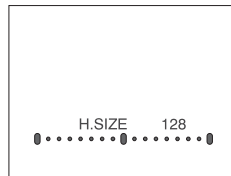
2 Use the PIC-ADJ ▲ or ▼ buttons to select H.SIZE (horizontal size) or V.SIZE (vertical size).



Move the cursor so that H.SIZE or V.SIZE is highlighted in violet. The figure shows the case when H.SIZE is selected.

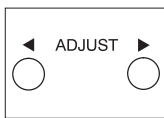


3 Press the SET button. (This sets the selection.)

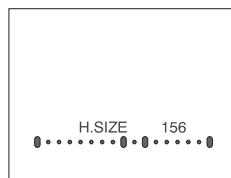


This sends you to the H.SIZE or V.SIZE adjustment mode. The H.SIZE or V.SIZE adjustment scale bar appears on the screen.

The ◀ and ▶ buttons are also used when adjusting the vertical direction.



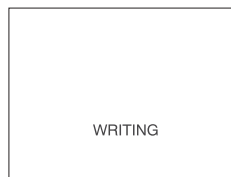
4 Use the ADJUST ◀ and ▶ buttons to adjust the setting.



The adjustment data values change as the cursor moves. Adjust the screen size to the desired setting.



5 Press the WRITING button. (This stores the data and completes the adjustment operation.)



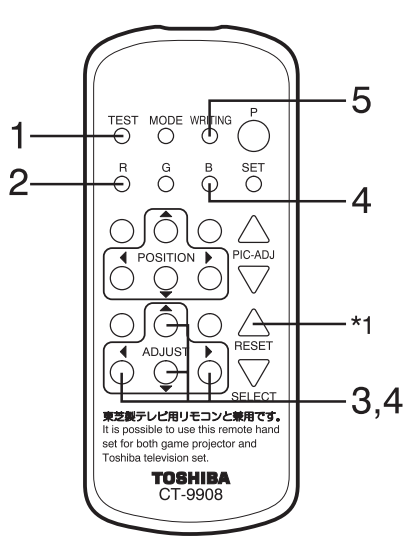
The message "WRITING" appears, and the adjustment data is stored.

- *1. To exit the adjustment procedure, select EXIT in Step 2, and then press the SET button.
- *2. To make the settings for other items in the menu, repeat Steps 2 to 4.
- *3. If you do not store the new adjustment data, it will be erased when the projector is turned off. Then, when you turn on the projector the next time, the projector will have the previous settings.

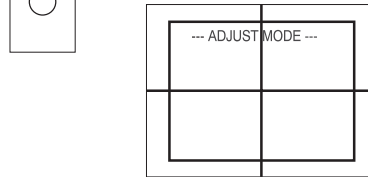
Adjusting the Static Convergence

* Static convergence is an adjustment operation where a red and a blue image are each moved so that the entire color overlaps with a green image. Perform this adjustment procedure when the satisfactory color cannot be produced with the automatic color adjustment function.

* Before starting this adjustment procedure, perform the automatic centering adjustment operation once.

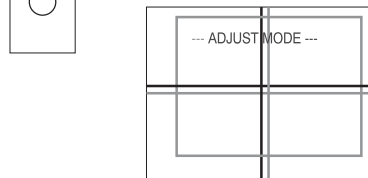


1 Hold down the TEST button for approximately three seconds.



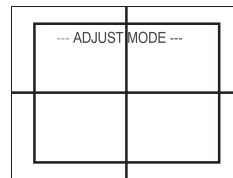
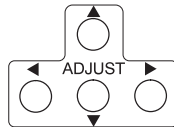
The projector enters ADJUST MODE.
A green test pattern appears on the screen.

2 Press the R button to enter red adjustment mode.



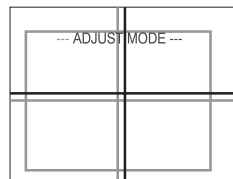
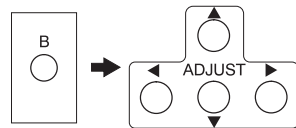
The red test pattern is added to the screen.
The color of the frame changes to red to indicate that red can be adjusted.

3 Use the ADJUST ▲, ▼, ◀ and ▶ buttons to adjust.



Perform the adjustment by moving the red pattern so that it overlaps with the green pattern.
When red overlaps with green, the pattern appears as yellow.

4 Press the B button to select blue, and then adjust.

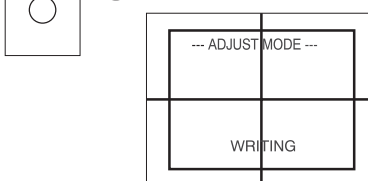


Perform the adjustment for the blue pattern in the same way as the red pattern.
When red, green, and blue overlap, the pattern appears as white.

If the color to be adjusted disappears from the screen after pressing a color selection button (R, B), then press the button again to perform adjustment again.

(For example, to perform adjustment for red again in Step 4, the R button must be pressed twice.)

5 Press the WRITING button. (This stores the data and completes the adjustment operation.)



The message "WRITING" appears, and the adjustment data is stored.

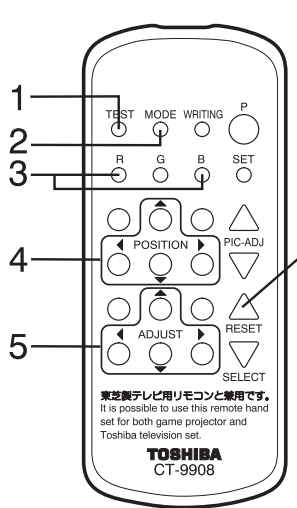
*1. Do not press the RESET button.

*2. To cancel the adjustments, hold down the TEST button for approximately three seconds before Step 5.

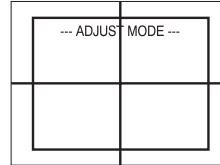
*3. If the screen malfunctions due to static electricity or other electrical noise, turn the power off without storing the adjustment data.

Adjusting the Point Convergence

- * Point convergence is an adjustment operation where red, green, and blue images are partially moved to align the colors. Adjustment may be necessary when changing game software or changing the screen size.
- * Before starting this adjustment procedure, perform the automatic centering adjustment operation once.



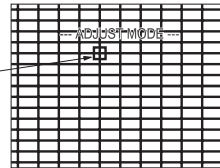
1 Hold down the TEST button for approximately three seconds.



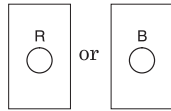
The projector enters ADJUST MODE. A green test pattern appears on the screen.



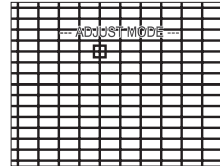
2 Press the MODE button twice to enter point adjustment mode.*



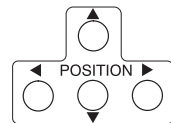
A grid test pattern appears, and a marker is displayed on the grid indicating the adjustment point.



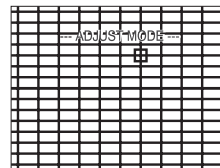
3 Use the R button or B button to select the color (red or blue) to be adjusted.** (G is also possible.)



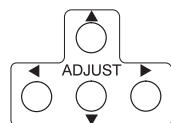
The selected color is displayed overlapped with green. The marker is shown in the selected color.



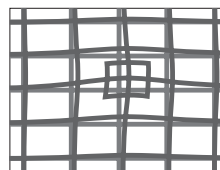
4 Move the marker to the adjustment position using the POSITION ▲, ▼, ◀ and ▶ buttons.



The marker moves in the direction of the arrow button. However, the points where the marker can be moved are predetermined.



5 Use the ADJUST ▲, ▼, ◀ and ▶ buttons to adjust.



Although the area near the marker center moves the most, perform adjustment while also paying attention to the surrounding area. The figure shows an enlarged view of the area near the marker.

* Repeatedly pressing the MODE button will cycle through the adjustment modes as shown below.

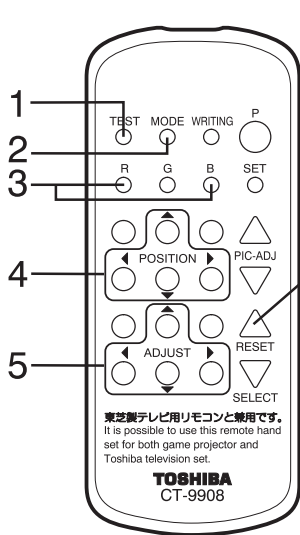
Static Adjustment Mode
↓
Line Adjustment Mode
↓
Point Adjustment Mode

** If the color to be adjusted disappears from the screen after pressing a color selection button (R, G, B), then press the button again to perform adjustment again.

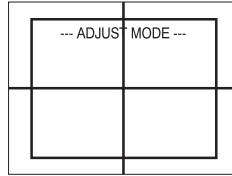
The procedure continues on the next page.

Adjusting the Point Convergence

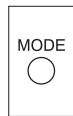
- * Point convergence is an adjustment operation where red, green, and blue images are partially moved to align the colors. Adjustment may be necessary when changing game software or changing the screen size.
- * Before starting this adjustment procedure, perform the automatic centering adjustment operation once.



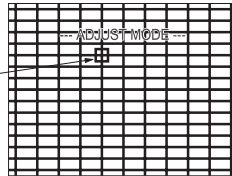
1 Hold down the TEST button for approximately three seconds.



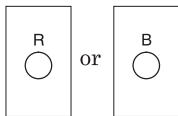
The projector enters ADJUST MODE. A green test pattern appears on the screen.



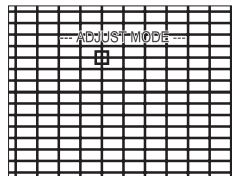
2 Press the MODE button twice to enter point adjustment mode.*



A grid test pattern appears, and a marker is displayed on the grid indicating the adjustment point.



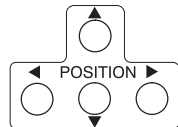
3 Use the R button or B button to select the color (red or blue) to be adjusted.** (G is also possible.)



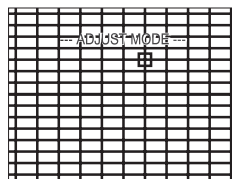
The selected color is displayed overlapped with green. The marker is shown in the selected color.

* Repeatedly pressing the MODE button will cycle through the adjustment modes as shown below.

Static Adjustment Mode
↓
Line Adjustment Mode
↓
Point Adjustment Mode

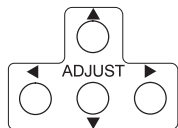


4 Move the marker to the adjustment position using the POSITION ▲, ▼, ◀ and ▶ buttons.

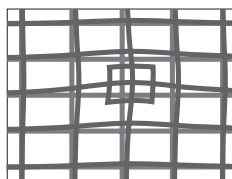


The marker moves in the direction of the arrow button. However, the points where the marker can be moved are predetermined.

** If the color to be adjusted disappears from the screen after pressing a color selection button (R, G, B), then press the button again to perform adjustment again.



5 Use the ADJUST ▲, ▼, ◀ and ▶ buttons to adjust.

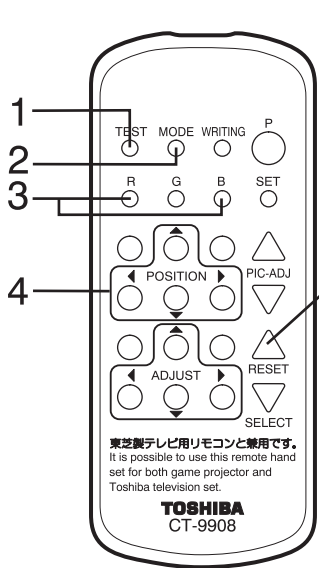


Although the area near the marker center moves the most, perform adjustment while also paying attention to the surrounding area. The figure shows an enlarged view of the area near the marker.

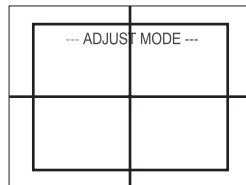
The procedure continues on the next page.

Adjusting the Line Convergence

Line convergence is an adjustment operation which moves a vertical row or horizontal row of adjustment points in a single operation. This adjustment is useful when the rows show a uniform color misalignment.



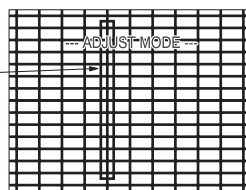
1 Hold down the TEST button for approximately three seconds.



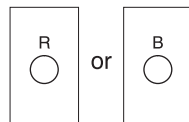
The projector enters ADJUST MODE. A green test pattern appears on the screen.



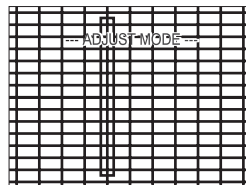
2 Press the MODE button once to enter line adjustment mode.*



A grid test pattern appears, and a vertical line marker is displayed on the grid.



3 Use the R button or B button to select the color (red or blue) to be adjusted.** (Be careful not to press G.)



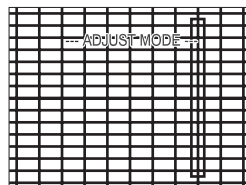
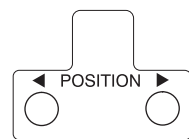
The selected color is displayed overlapped with green. The marker is shown in the selected color.

* Repeatedly pressing the MODE button will cycle through the adjustment modes as shown below.

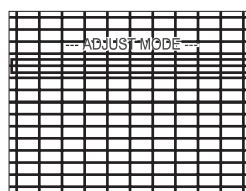
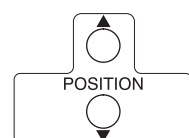
```

    Static Adjustment Mode
    ↓
    Line Adjustment Mode
    ↓
    Point Adjustment Mode
    
```

4 Move the marker to the adjustment position using the POSITION ▲, ▼, ◀ and ▶ buttons.



Pressing the ◀ or ▶ button will select vertical row adjustment. The marker moves to the right or left according to the buttons. However, the points where the marker can be moved are predetermined.

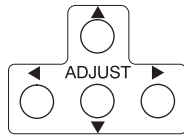
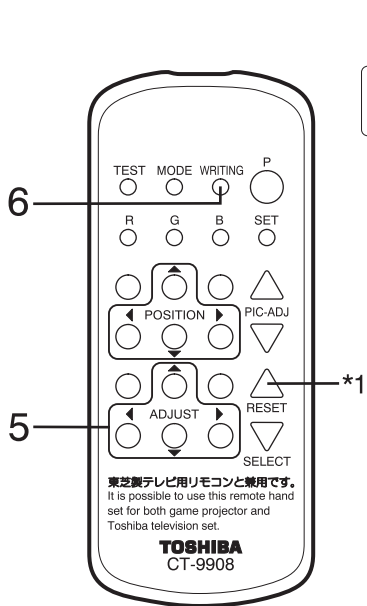


Pressing the ▲ or ▼ button will select horizontal row adjustment. The marker moves up or down according to the buttons. However, the points where the marker can be moved are predetermined.

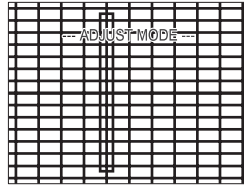
** If the color to be adjusted disappears from the screen after pressing a color selection button (R, G, B), then press the button again to perform adjustment again.

The procedure continues on the next page.

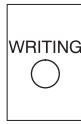
Adjusting the Line Convergence -- Continued



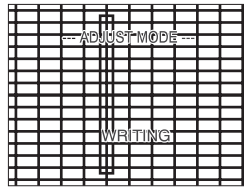
5 Use the ADJUST ▲, ▼, ◀ and ▶ buttons to adjust.



You can use these buttons to move the selected vertical row or horizontal row (the example in the figure shows a vertical row) in the horizontal and vertical direction as required.



6 Press the WRITING button when all the adjustments are completed. (This stores the data and completes the adjustment operation.)



The message "WRITING" appears, and the adjustment data is stored. After storing the data, the screen returns to the game screen.

*1. Do not press the RESET button.

*2. To cancel the adjustments, hold down the TEST button for approximately three seconds before Step 7.

*3. If the screen malfunctions due to static electricity or other electrical noise, turn the power off without storing the adjustment data.



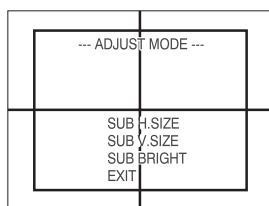
CAUTION

Do not under any circumstances use the convergence adjustment function (particularly line convergence adjustment) while changing the size of the screen.

The increase in power load may cause the circuits to break down.

Once the new convergence adjustment data is stored, there is no way to retrieve the original adjustment data. Also, do not perform line convergence adjustment for the green pattern, because this could gradually change the screen size over time as a result of convergence adjustment.

Other Remote Control Adjustments



When the projector is in convergence adjust mode, pressing the PIC-ADJ ▲ or ▼ button will display the adjustment menu shown in the figure at left.

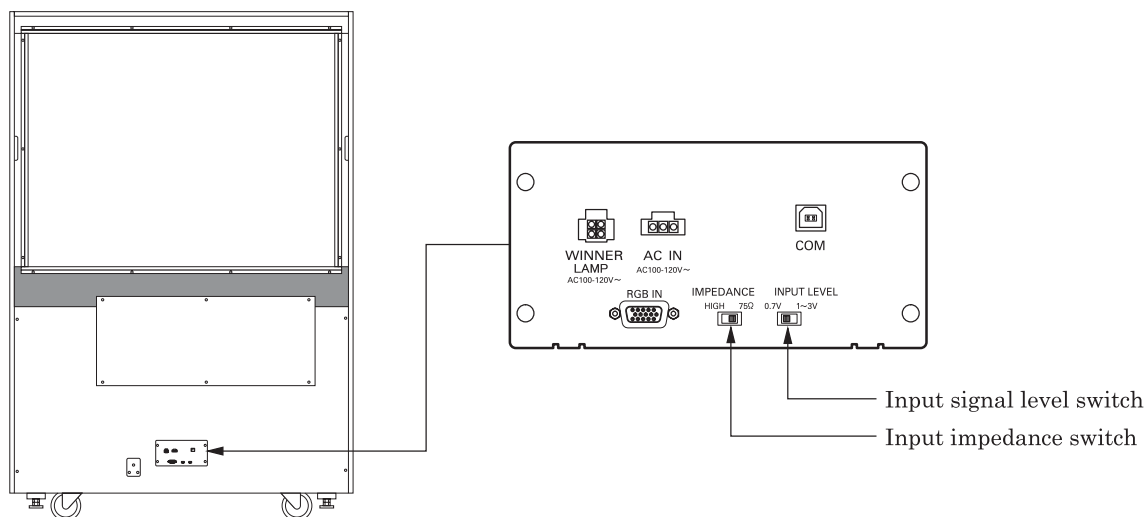
When the specified game signal is being input, this adjustment menu is used for adjusting to the specified image size and darkness level when the user adjustment menu H.SIZE, V.SIZE, and BRIGHTNESS adjustment data has been set to 128. (The user does not adjust this menu.)

- If this adjustment menu appears unintentionally when operating the remote control, select EXIT with the PIC-ADJ ▲ or ▼ buttons, and then press the SET button to exit the menu.
- When the projector was repaired, the items in these menus need to be checked and adjusted (See page 35 and 37).

Game System Interface Settings

The setting panel for the signal interface connecting the game system and projector is on the front of the projector. The settings for the input level and input impedance in the projector are made according to the output level and output impedance of the image signal from the game system. If the proper settings are not made, the image contrast will not be able to be adjusted properly, and the image quality will be reduced.

* The synchronizing signal is compatible only with the negative polarity TTL level and cannot be changed.



The factory settings are INPUT LEVEL: 0.7V, IMPEDANCE: 75Ω. However, these settings can be changed if necessary such as when replacing the game system or game software.

After changing the settings, input a half-tone signal or other test pattern from the game system in order to re-adjust the contrast to the optimum state.

The figure above shows the projector before it is installed in the game system. If performing work on the projector when it is installed in the game system, remove the front cover according to the servicing documents issued by the game manufacturer.

WARRANTIES

GAME WARRANTY POLICY

Your new SEGA PRODUCT is covered for a period of ninety (90) days from the date of the shipment. This certifies that all Printed Circuit boards, power supplies and monitors 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 problem was caused by accident, misuse, neglect, alteration, improper repair, installation or testing, the warranty offered will be null and void.

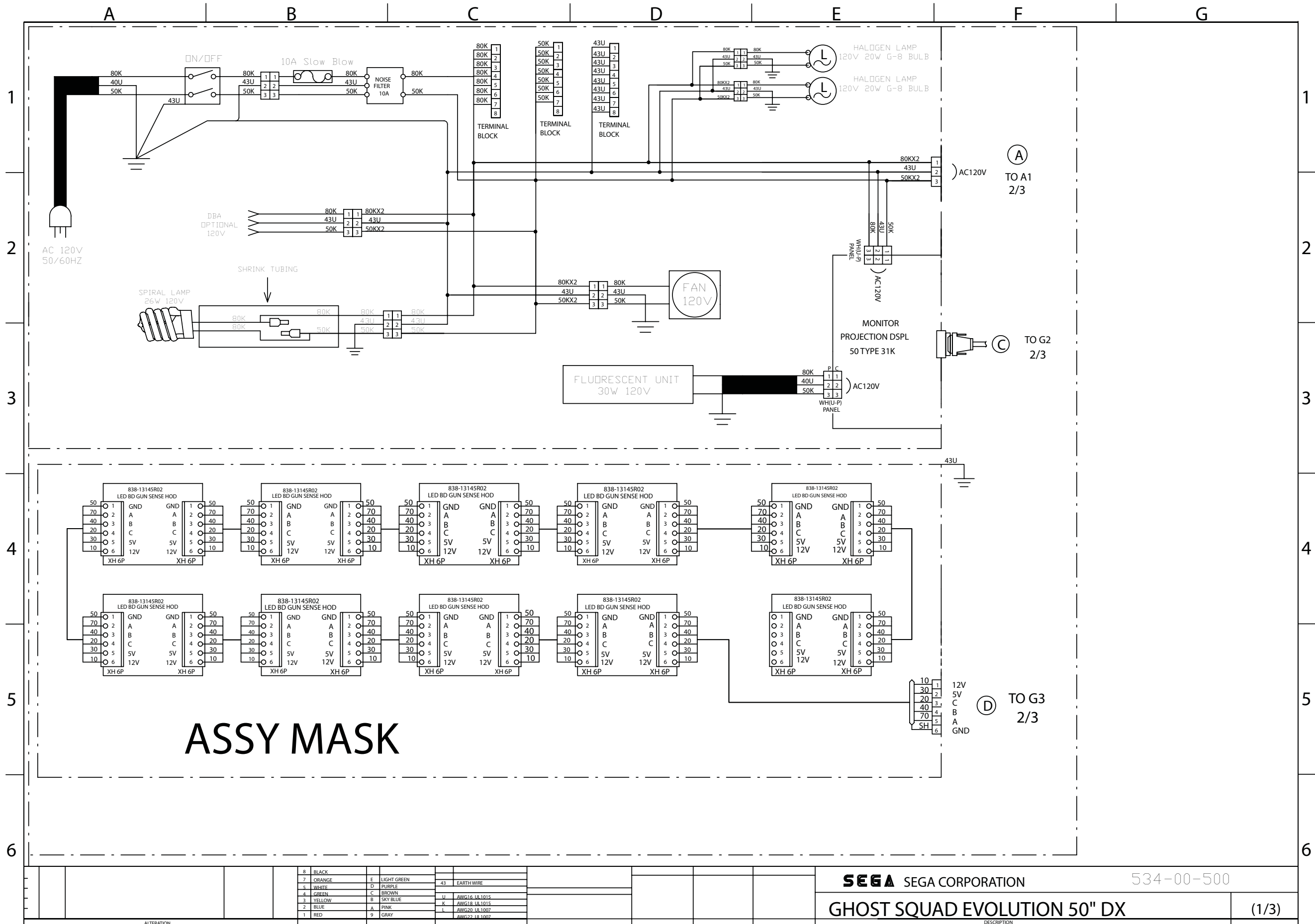
Under no circumstances is the seller responsible for any loss of profits, loss of use, or other damages. This shall be the exclusive written Warranty of the original purchaser expressed in lieu of all other warranties expressed or implied. Under no circumstances shall it extend beyond the period of time listed above.

PARTS WARRANTY POLICY

Sega Amusements USA, Inc. warrants all parts to be free from defective materials and workmanship for a period of thirty (30) days from Sega Amusements USA, Inc. invoice date unless otherwise specified in writing by Sega Amusements USA, Inc.

This limited warranty is invalid for any part that upon examination, is deemed to have been subject to misuse, improper repair or installation, neglect or violation of specification or other instructions published by Sega Amusements USA, Inc. There are no additional warranties described above.

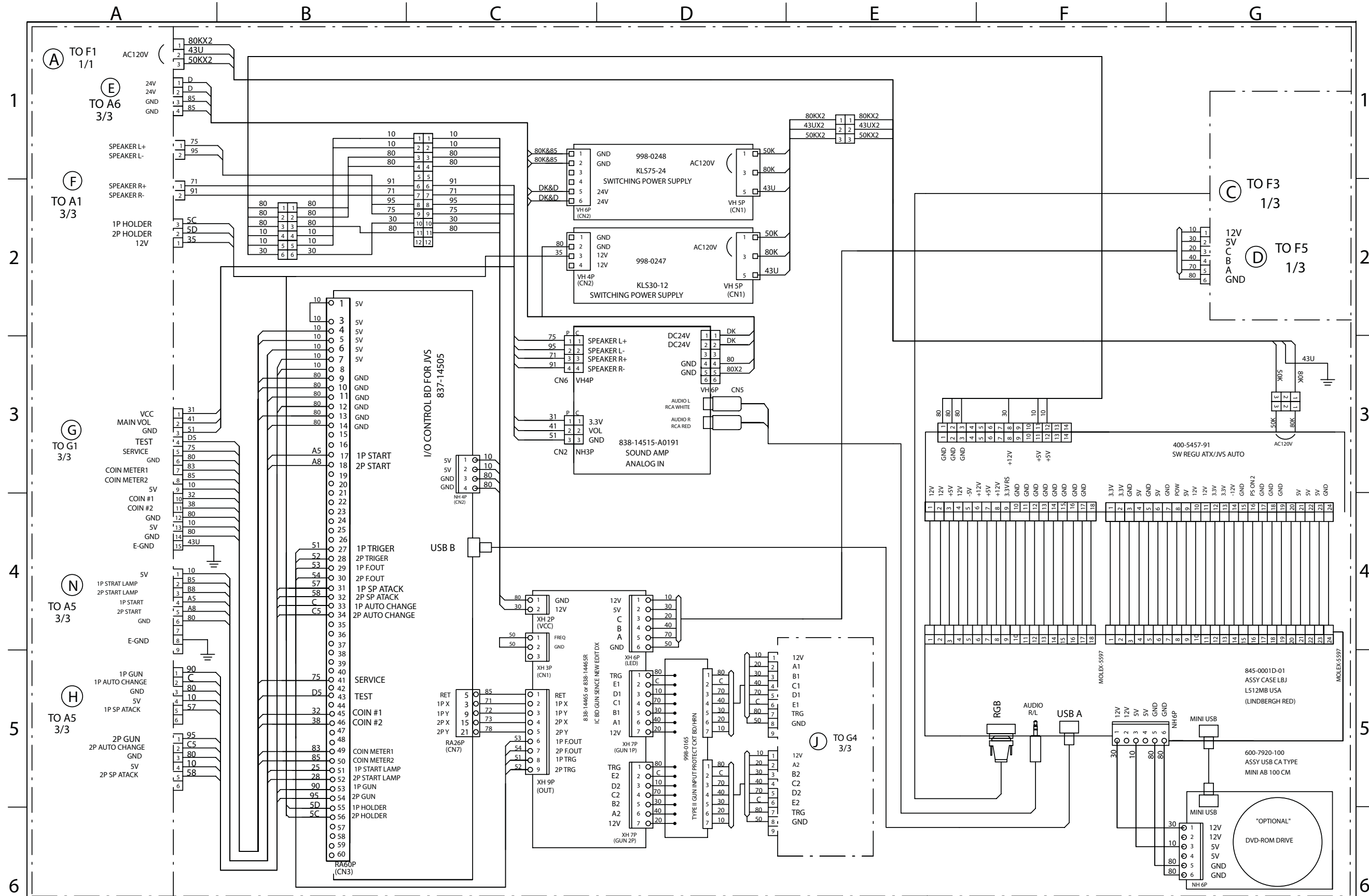
The limited warranties described above shall be in lieu of any other warranty, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose.



ASSY MASK

8	BLACK	E	LIGHT GREEN		
7	ORANGE	D	PURPLE	43	EARTH WIRE
5	WHITE	C	BROWN		
4	GREEN	B	SKY BLUE	U	AWG16, 18, 1015
3	YELLOW	A	PINK	K	AWG18, 18, 1015
2	BLUE		GRAY	L	AWG20, 18, 1007
1	RED	9			AWG22, 18, 1007

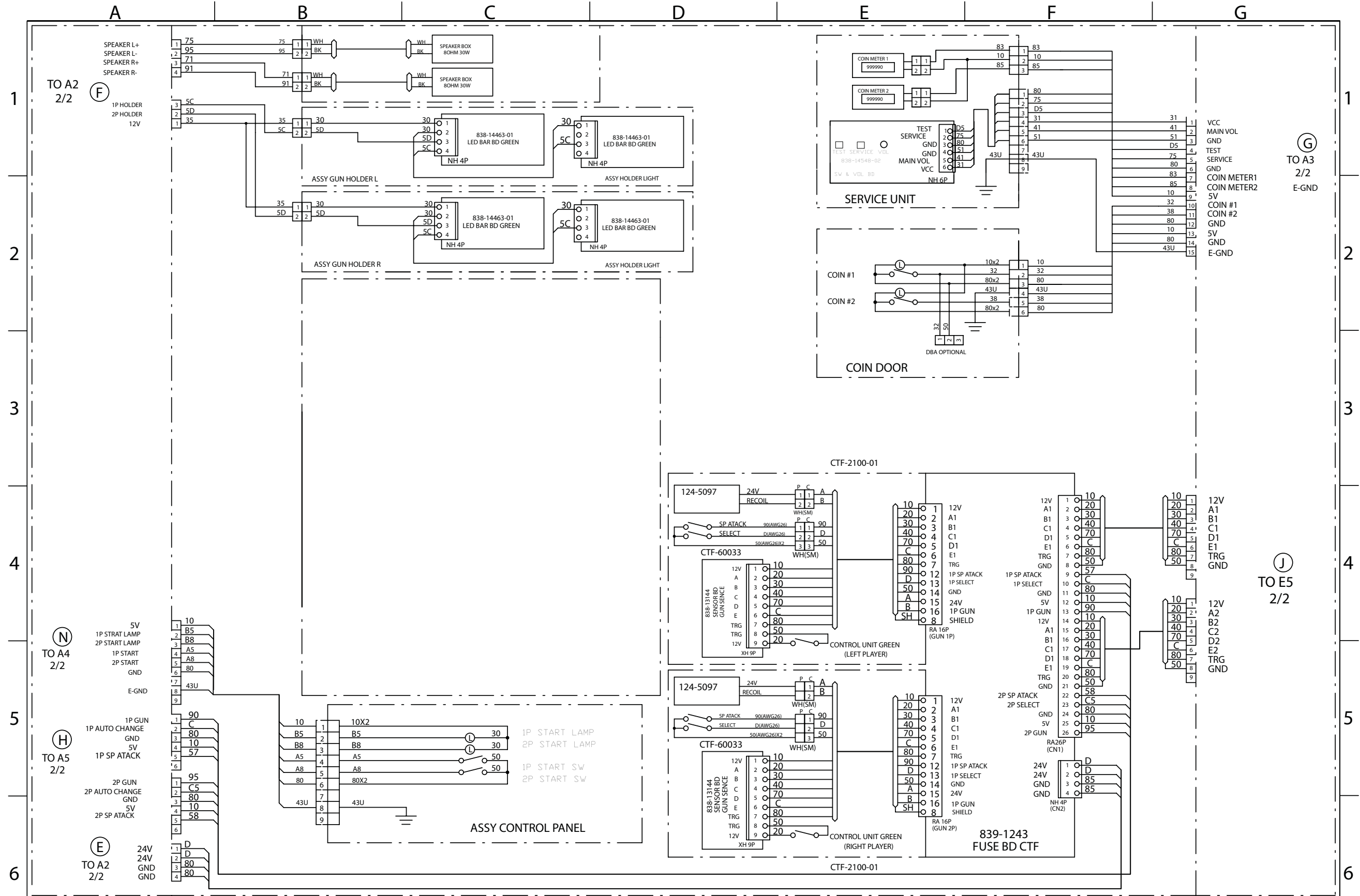
SEGA SEGA CORPORATION 534-00-500
GHOST SQUAD EVOLUTION 50" DX (1/3)



8	BLACK	E	LIGHT GREEN		
7	ORANGE	D	PURPLE	43	EARTH WIRE
5	WHITE	C	BROWN		
4	GREEN	B	SKY BLUE	U	AWG16 UL1015
3	YELLOW	A	PINK	K	AWG18 UL1015
2	BLUE			L	AWG20 UL1007
1	RED	9	GRAY		AWG22 UL1007

SEGA SEGA CORPORATION 534-00-500

GHOST SQUAD EVOLUTION 50" DX (2/3)

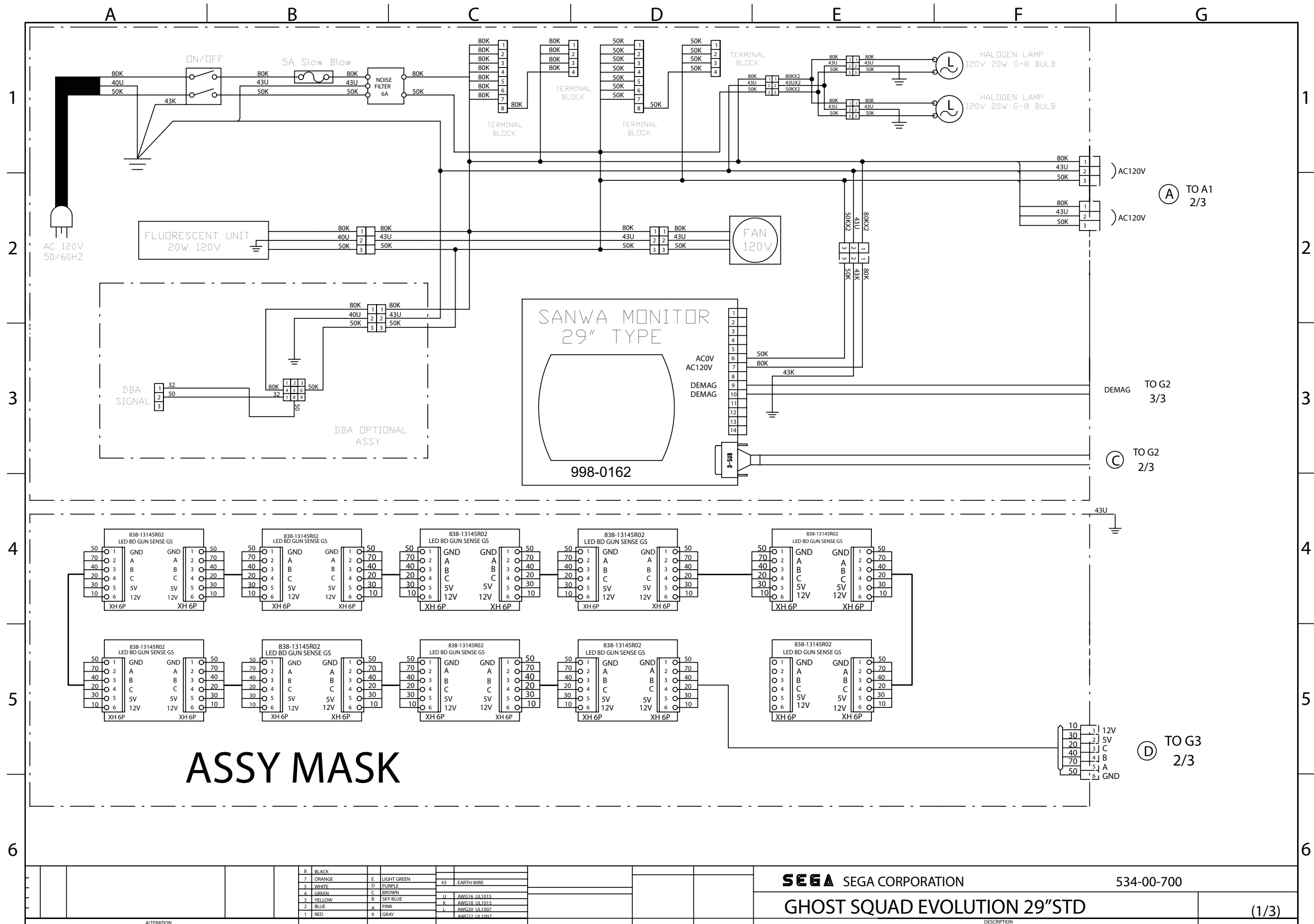


8	BLACK	E	LIGHT GREEN	43	EARTH WIRE
7	ORANGE	D	PURPLE		
6	WHITE	C	BROWN	U	AWG16 UL1015
5	GREEN	B	SKY BLUE	V	AWG18 UL1015
4	YELLOW	A	PINK	W	AWG20 UL1007
3	BLUE			X	AWG22 UL1007
2	RED	9	GRAY		

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GHOST SQUAD EVOLUTION 50" DX

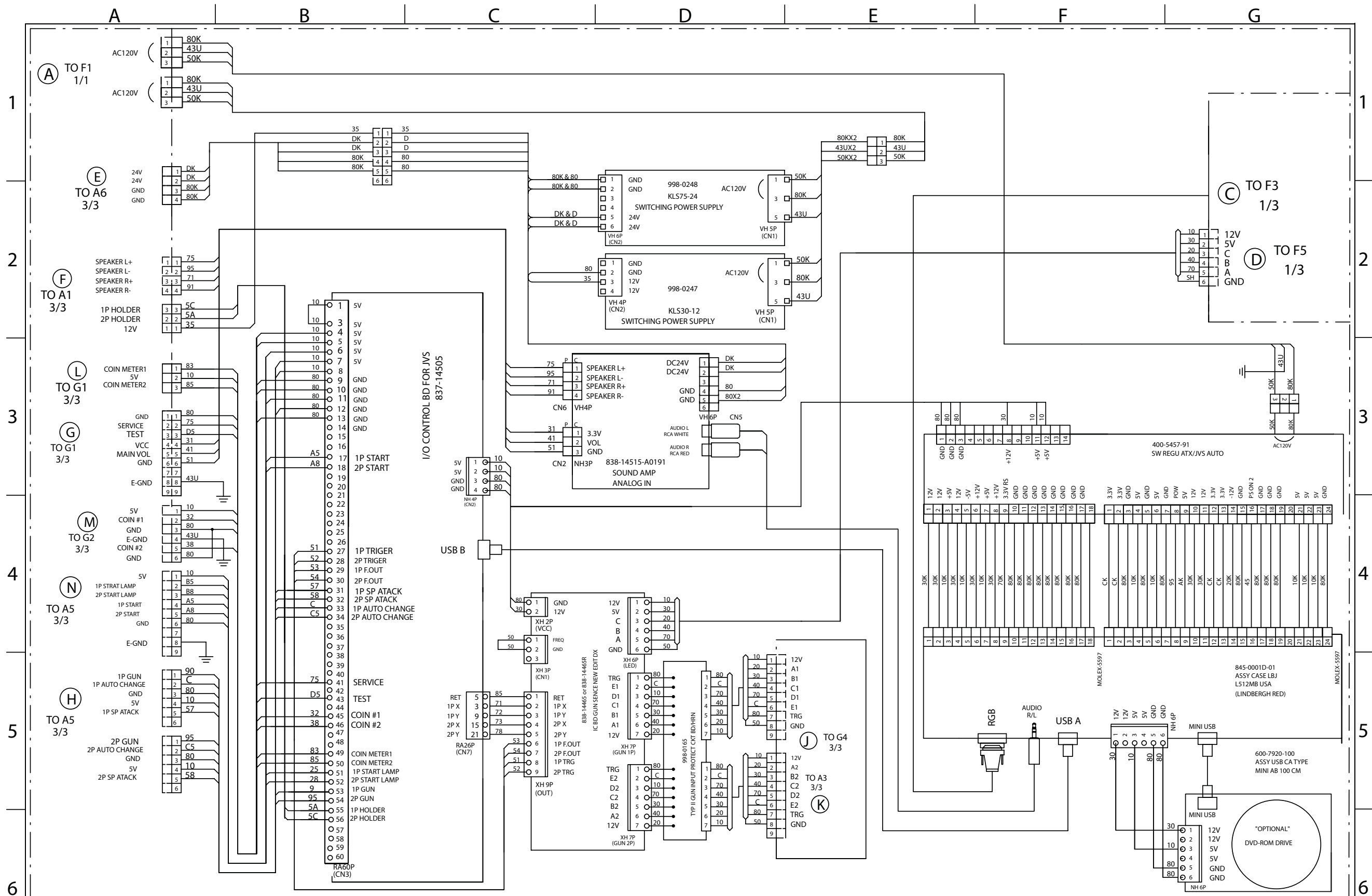
(3/3)



ASSY MASK

8	BLACK	E	LIGHT GREEN		
7	ORANGE	D	PURPLE	43	EARTH WIRE
5	WHITE				
4	GREEN	C	BROWN	U	AWG16 UL 1015
3	YELLOW	B	SKY BLUE	K	AWG18 UL 1015
2	BLUE	A	PINK	L	AWG20 UL 1007
1	RED	9	GRAY		AWG22 UL 1007

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GHOST SQUAD EVOLUTION 29"STD (1/3)

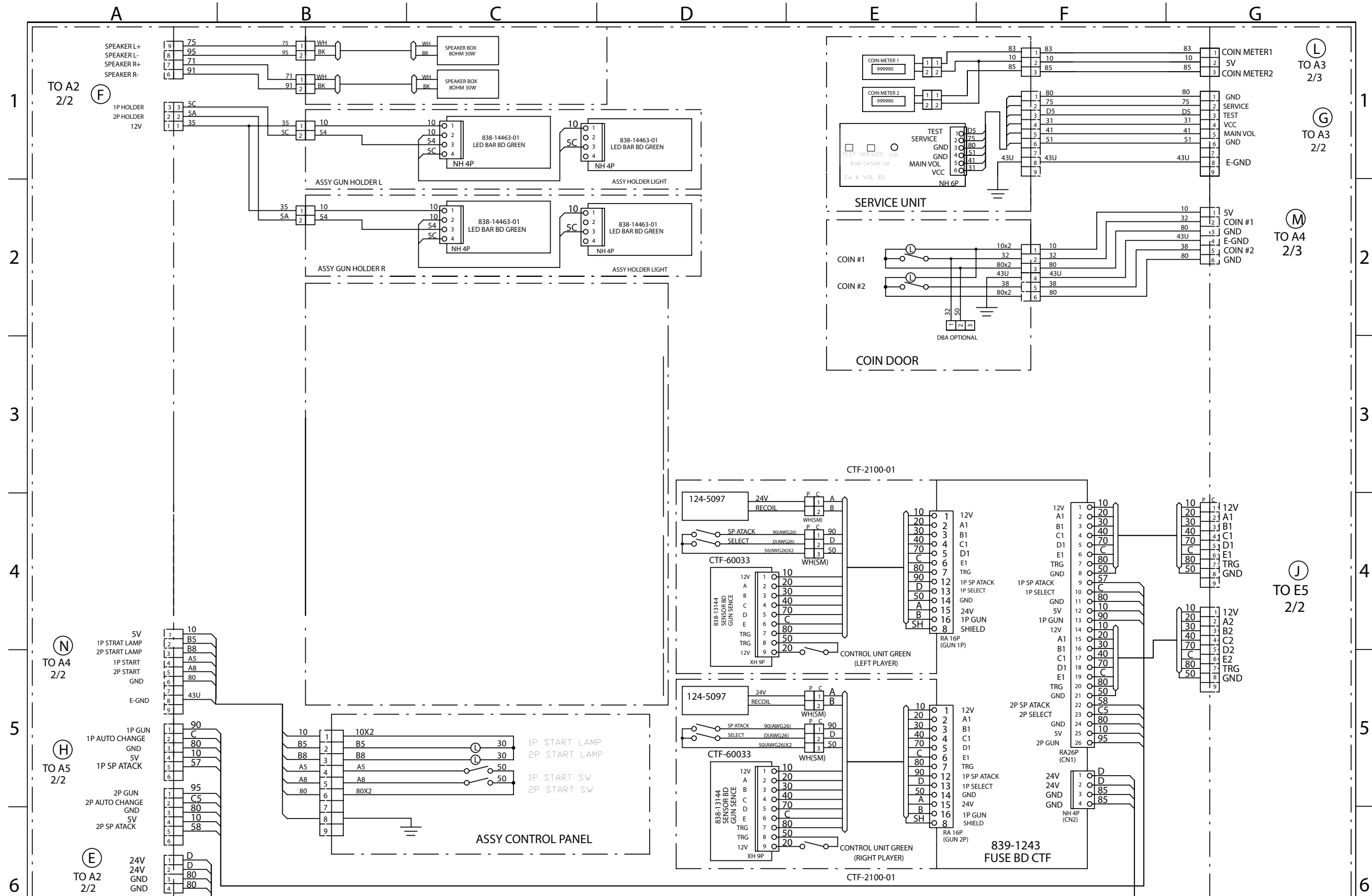


8	BLACK	E	LIGHT GREEN	43	EARTH WIRE
7	ORANGE	D	PURPLE		
5	WHITE	C	BROWN		
4	GREEN	B	SKY BLUE	U	AWG16, 18, 1015
3	YELLOW	A	PINK	X	AWG18, 18, 1015
2	BLUE			L	AWG20, 18, 1007
1	RED	9	GRAY	I	AWG22, 18, 1007

SEGA SEGA CORPORATION 534-00-700

GHOST SQUAD EVOLUTION 29"STD (2/3)

CABINET WIRING DIAGRAM



8	BLACK	E	LIGHT GREEN		
7	ORANGE	D	PURPLE	43	EARTH WIRE
5	WHITE	C	BROWN		
4	GREEN	B	SKY BLUE	U	AWG16, UL1015
3	YELLOW	A	PINK	K	AWG18, UL1015
2	BLUE			L	AWG20, UL1007
1	RED	9	GRAY		AWG22, UL1007

SEGA SEGA CORPORATION 534-00-700

GHOST SQUAD EVOLUTION 29"STD (3/3)

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SEGA AMUSEMENTS U.S.A., INC.
800 ARTHUR AVENUE
ELK GROVE VILLAGE, IL 60007-5215
PHONE: 888-877-2669
FAX: 847-427-1065
WEB: WWW.SAU.SEGA.COM

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