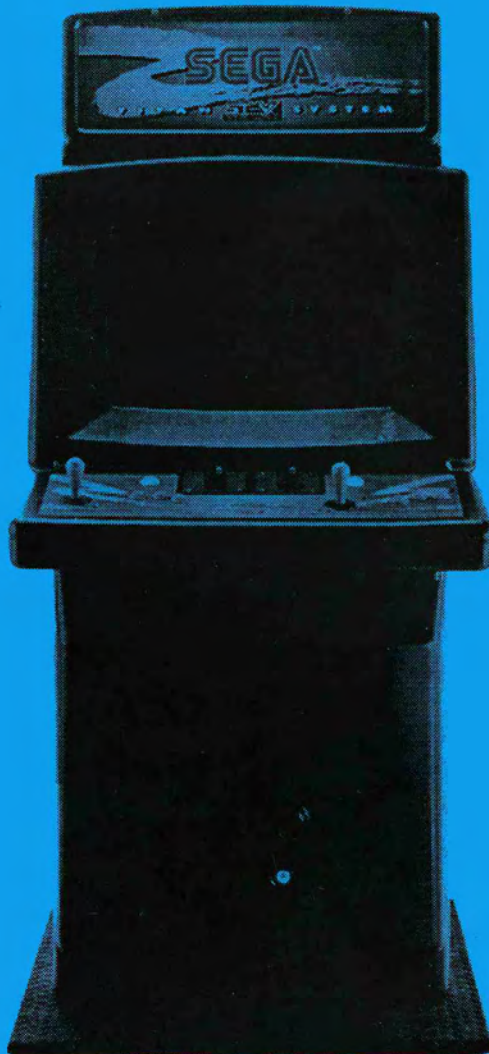




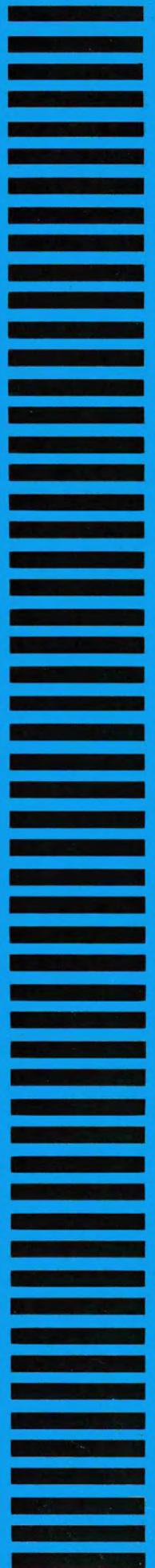
**SEGA TITAN STANDARD RESOLUTION
VIDEO GAME CABINET**

CABINET SERVICE MANUAL



SEGA ENTERPRISES, INC.

MANUAL NO. STVV-00069
Revised August 7, 1996



SEGA ENTERPRISES, LTD. , supported by its high electronic technology of LSIs, microprocessors, etc. and a wealth of experience, has for more than 30 years been supplying various innovative and popular game machines to the world market. This Service Manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards ST-V, the SEGA Titan Video Games System.

This manual is intended for those who have knowledge of electricity and technical expertise especially in ICs, CRTs, microprocessors, etc. Carefully read this manual to acquire sufficient knowledge before working on the machine. Should there be a malfunction, nontechnical personnel should under no circumstances touch the interior system. Should such a case arise, contact our Main Office or the closest branch office as follows:

SEGA ENTERPRISES, INC. (U.S.A)/CUSTOMER SERVICE

45133 Industrial Drive, Fremont, California 94538 USA

Phone: (415) 802-1750 FAX: (415) 802-1754

Monday- Friday, 7:30 am to 4:00 pm, Pacific Time

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INTRODUCTION

The SEGA Titan Video Game System (ST-V) represents a new generation of video arcade machines for the 21st Century. The ST-V System has been developed in response to feedback from commercial gaming operations.

ST-V's design has been driven by your need for a faster return on investments:

- Your cost of ownership for maintenance will be lower due to equipment longevity and reliability.
- The modular parts can be easily exchanged and upgraded for various game configurations.
- Tampering is reduced because of improved security features.
- There is easier access for repairs and servicing of the equipment, resulting in less down time.

Security features

The ST-V front panel is molded so that the coin vault is an integral part of the front panel. This panel is then secured to the back and bottom panels with trilobular screws, to prevent unauthorized removal. These precautions ensure that the only access to the cash box is through the front cash box door. Also, there is an exclusive key for the front cash box door that doesn't fit any other locks on the ST-V unit.

Easy access for service and maintenance

All servicing of the ST-V unit is accessed through the hinged control panel. There you can find buttons for monitor adjustments, volume control, credits and servicing procedures. Coin jams can also be cleared by opening the control panel. It is only necessary to open the back access door when changing the game cartridge or for occasional vacuuming.

It is easy to clean the exterior of the ST-V unit. Simply use water and mild detergent. Please do not use any other cleansing products, since they might affect the surface of the cabinet.

Convenient layout for game player

The layout of the control panel includes a top coin entry for the customer's ease of inserting coins. In addition, the 25" monitor appears to be larger due to the monitor bezel; it appears to be more like a 30-33" monitor.

GENERAL PRECAUTIONS

Follow Instructions- All operating and use instructions should be followed.

Attachments- Do not use attachments not recommended by the product manufacturer as they may cause hazards.

Accessories- Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

Moving the Product- This product should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product to overturn.

Ventilation- Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating; and these openings must not be blocked or covered. The openings should never be blocked by placing the product in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturers instructions have been adhered to.

Power Sources- This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your location, consult your local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

Grounding or Polarization- This product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

Power Cord Protection- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

Overloading- Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

Object and Liquid Entry- Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

Servicing- Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Damage Requiring Service- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a) When the power-supply cord or plug is damaged.
- b) If liquid has been spilled, or objects have fallen into the product.
- c) If the product has been exposed to rain or water.
- d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. An improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- e) If the product has been dropped or damaged in any way.
- f) When the product exhibits a distinct change in performance; this indicates a need for service.

Replacement Parts- When replacement parts are required, be sure the service technician has used replacements parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitu-

tions may result in fire, electric shock, or other hazards.

Safety Check- Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

Heat- The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Monitor Frequency- The applicable frequency for the monitor compatible with the ST-V Board is 15 kHz. The ST-V Board can not be used for a cabinet which employs a monitor or projection display which has 24 kHz frequency.

Cleaning- When cleaning the monitor glass, use a soft cloth. Do not apply chemicals such as benzine, thinner, etc.

Lithium Battery- Dispose of batteries only in accordance with the battery manufacturer's recommendations. Do not dispose in an open flame condition, since the battery may explode.

Base Plate- The diamond tread base plate must be attached to the cabinet at all times. The stability of the cabinet

depends on this base plate.

Location Precautions

The ST-V system is an indoor game machine, DO NOT install it outside. To ensure proper usage, avoid installing indoors in the places mentioned below:

- Places subject to rain/water leakage, or condensation due to humidity.
- In close proximity to a potential wet area.
- Locations receiving direct sunlight.
- Places close to heating units or hot air.
- In the vicinity of highly inflammable/volatile chemicals or hazardous matter.
- Sloped surfaces.
- In the vicinity of anti-disaster facilities such as fire exits and fire extinguishers
- Places subject to any type of violent impact.
- Dusty places.

Installation Precautions

- Verify the amperage of the branch circuit outlet before plugging in the power plug. Do not overload the circuit.
- Avoid using an extension cord. If one is required, use an extension cord of type SJT, 16/3 AWG rated min. 120 Vac, 7A.
- Moving this unit requires a minimum clearance (of doors, etc.) of 32" (W) by 77" (H).
- For the operation of this machine, secure a minimum area of 32" (W) by 42" (D).

SPECIFICATIONS

DIMENSIONS	SHIPPING	NET
WIDTH	36"	32"
DEPTH	42"	40.6"
HEIGHT	79"	76.54"
WEIGHT	220 lbs.	
POWER, MAXIMUM CURRENT	360 Watts	
ELECTRICAL RATINGS	120VAC, 60Hz, 3A, 360 W	
MONITOR	25"	
BASE PLATE		31.25 (W) x 34.5 (D)

Regulatory Approvals

This game has been tested and found to comply with the Federal Communications Commission.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This game has been tested and listed by Underwriters Laboratories, Inc., to ANSI/UL22.

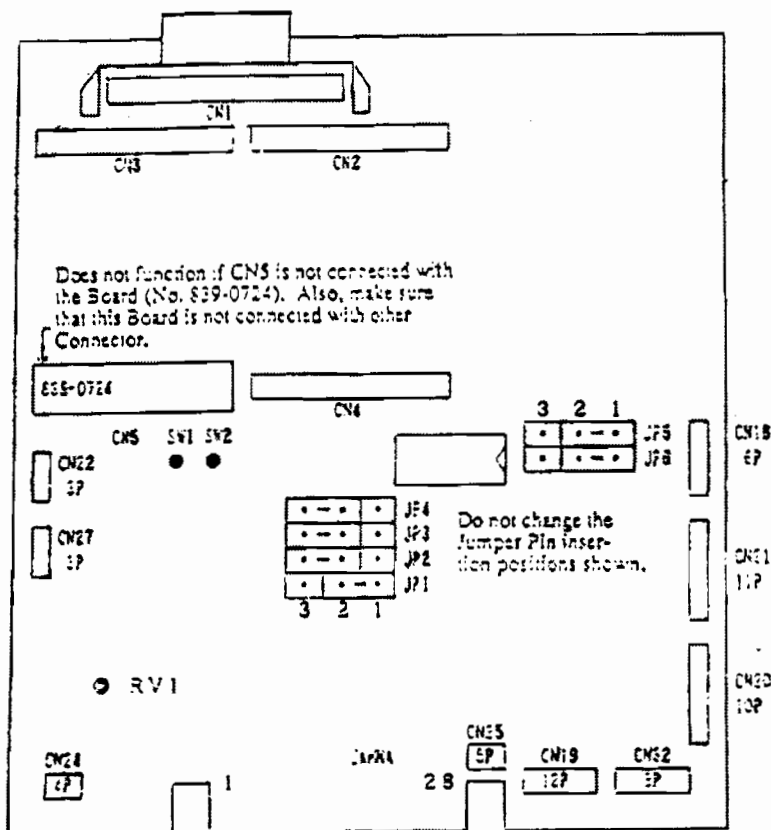
Accessories

When transporting the machine, make sure that the parts listed in this Table are supplied.

PART NUMBER	QTY.	DESCRIPTION
	2	Key- Coin vault door
	4	Key- Control Panel
	2	Key- Rear Service Door
	1	Service Manual

(1) Name and Position of On-Board Connectors, Switches, Etc.

- In the case where the cabinet has neither the Test button nor Service button, utilize the Push SW which is on the Main Board (SW1: Test button SW2: Service button).
- For adjusting the sound volume, use the volume control in the control panel or use the on-board RV-1.



JAMMA (56P, P=3.96 mm)

CN22 (JST NH 3P) LIGHT GUN TRIGGER
 CN24 (JST NH 4P) AUDIO LINK OUTPUT

CN25 (JST NH 5P) RESERVED OUTPUT 4bit
 CN19 (JST NH 12P) A/D INPUT 8 ch.
 CN 32 (JST NH 9P) EXTENSION I/O 8bit
 CN18 (JST NH 6P) SERIAL COMMUNICATION
 CN21 (JST NH 11P) EXTENSION I/O 8bit
 CN20 (JST NH 10P) EXTENSION INPUT 8 bit

CAUTION

Although a connector similar to the one used for SEGA's SYSTEM 32 is used for the ST-V BD CN24 audio output, the pin assignments are different. When using the ST-V Board for the MEGALO 50 DX, SD3, and SUPER MEGALO 2 Cabinets, make sure that the AUDIO OUT ON/OFF Switch is OFF. Also, do not connect the 4P Connectors from the Cabinet to CN24. Otherwise, ST-V or the cabinet may be damaged.

(2) Monitor Direction, Horizontal Frequency



HORIZONTAL FREQUENCY 15.7 kHz

(3) Coin Assignments and Coin Port

Setting the Coin Chute Type (COMMON, INDIVIDUAL)

COMMON (Initialization)

Use for the type of Cabinet whose coin acceptance is a common type for multiple players. Coins inserted by each player are handled as common credits. In spite of Cabinet Type setting (or the number of players) COIN1 and COIN 2 coin ports are used, which respectively correspond to NO. 16, 56P Connector and NO. T, 56P Connector.

COIN/CREDIT setting can be set for COIN 1 port and COIN 2 port separately.

INDIVIDUAL

Used for the type of cabinet which has a coin chute for each player, with each coin chute being able to accept coins. Coins inserted by each player are handled as that player's credits. The relationship between the cabinet type setting and the coin port is shown in the following table. Note that the COIN/CREDIT setting applies in common to each port.

CABINET TYPE	PLAYER	ST-V COIN PORT	SYSTEM 32 COIN PORT
1P	1P	COIN 1 (56P,16)	COIN 1
2P	1P	COIN 1 (56P, 16)	COIN 2
	2P	COIN 2 (56P,T)	COIN 1
3P	1P	COIN 1 (56P,16)	COIN 3
	2P	COIN 2 (56P,T)	COIN 2
	3P	COIN 3 (56P,25)	COIN 1
4P	1P	COIN 1 (56P,16)	COIN 4
	2P	COIN 2 (56P, T)	COIN 3
	3P	COIN 3 (56P, 25)	COIN 2
	4P	COIN 4 (56P, c)	COIN 1

For example, neither COIN 3 port nor COIN 4 port can be used for the 2P cabinet type. The <3P COIN> and <4 COIN> of the ST-V Board respectively correspond to NO. 25 and NO. c of the 56P Connector. Connect them as applicable. Should any button on the Control Panel be wired, be sure to remove the wiring.

Cabinet Type and Coin Chute Type setting changes can be made in the TEST mode. Refer to 5. System Assignments (page 18).

(4) Control Panel and Board I/O

a) 56P Connector (JAMMA)

The following < > refers to the Coin Setting set to "INDIVIDUAL"

**PIN ASSIGNMENT
(JAMMA)**

<u>COMPONENT SIDE</u>			<u>SOLDER SIDE</u>
GND	1	A	GND
GND	2	B	GND
+5V	3	C	+5V
+5V	4	D	+5V
(NOT USED)	5	E	(NOT USED)
+12V	6	F	+12V
(NOT USED)	7	H	(NOT USED)
COIN METER 1	8	J	COIN METER 2
(NOT USED)	9	K	(NOT USED)
SPEAKER (+)	10	L	SPEAKER (-)
(NOT USED)	11	M	(NOT USED)
RED	12	N	GREEN
BLUE	13	P	SYNC.
GND (SYNC.)	14	R	SERVICE
TEST	15	S	(NOT USED)
<1P COIN> COIN 1	16	T	COIN 2 <2P COIN>
1P START	17	U	2P START
1P UP	18	V	2P UP
1P DOWN	19	W	2P DOWN
1P LEFT	20	X	2P LEFT
1P RIGHT	21	Y	2P RIGHT
1P SW1	22	Z	2P SW1
1P SW2	23	a	2P SW2
1P SW3	24	b	2P SW3
<3P COIN> (NOT USED)	25	c	(NOT USED) <4P COIN>
(GAME SELECT)	26	d	(PAUSE)
GND	27	e	GND
GND	28	f	GND

56P P=3.96 mm

- GAME SELECT (Pin NO. 26, 56P connector) Only the Multi-Cartridge mode is used. In the case where the cabinet has a button which allows the player to select the desired game, wire NO. 26 pin. When using SELECT button, change the setting in the TEST mode accordingly.
- PAUSE (PIN NO. d, 56P connector) used for photographing on-screen image. Connect up GRD and Pin NO. d to have a PAUSE function. Normally, these should not be wired.

INSTALLING & REMOVING THE CARTRIDGE, INSTALLING THE BOARD

When installing and removing a Cartridge, or installing the ST-V Board, ensure that the Cabinet's main power is OFF. Completely insert the Game Cartridge vertically, with the back side facing away from the Board.

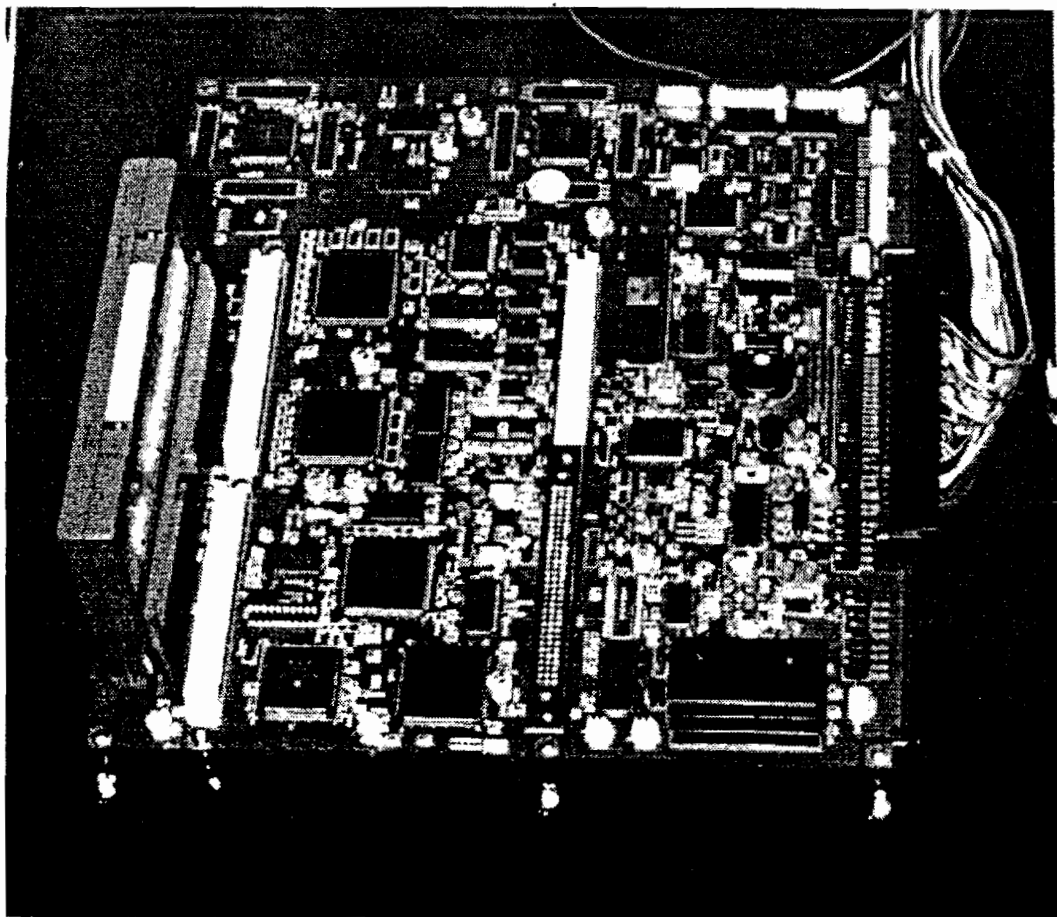
CAUTION The following procedures should be done by service personnel only

When removing the Cartridge: do not try to pull it up with the Holder still remaining in a secured status. Slightly incline the Holder, and bend the catch toward the outside. Applying excessive force to the Board may cause damage such as soldering defects, etc.

When installing the Board in the Cabinet: secure all the "L" LOCKS on the outer portions of the board and the Board Brackets on the periphery of the Cartridge Holder to the wood base by using the wood screws which come with the Kit.

When changing the Marquee graphics: (1) remove the mirror clips and lift out glass (2) Peel off the old graphics. (3) Position the new graphics behind the glass and secure with transparent tape. (4) Reinstall marquee glass using mirror clips.

When changing the Control Panel overlay: (1) Open control panel. (2) Remove buttons and joystick. (3) Peel off old overlay. (4) replace with new overlay. (5) Reinstall buttons and joystick. (6) Close control panel.



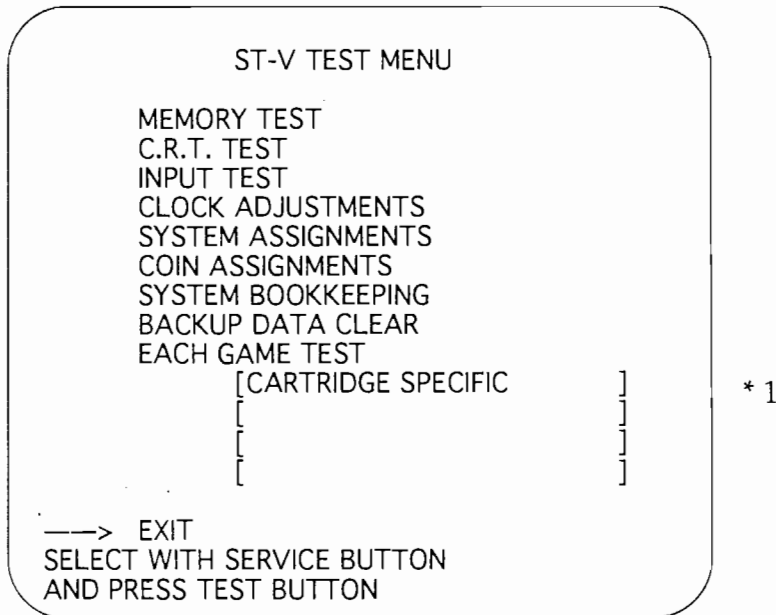
TEST MODE

A) Normal Test Mode

This operation checks to see that the functioning of the game board is accurate, makes monitor color adjustments, and allows for COIN ASSIGNMENTS/GAME ASSIGNMENTS setting adjustments.

Selection of Test Items

1) After the power is turned ON, push the TEST button to have the following TEST TEM MENU appear on the screen.



2) By pushing the SERVICE button, bring the arrow mark “—>” to the desired item and press the TEST button.

3) When the test has been completed, bring “—>” to EXIT and press the TEST button to have the game mode return to the screen.

*1: [] Below EACH GAME TEST displays the name of each game which is connected to the Board.

CAUTION

The SYSTEM ASSIGNMENTS and COIN ASSIGNMENTS settings are implemented only after you have EXITed the menu mode. Therefore, if the power is turned OFF before EXITING, the settings made are ineffective.

MEMORY TEST

PAGE 1/2

*** ROM ***

IC8 GOOD

*** RAM ***

IC9 GOOD

IC10 GOOD

IC11 GOOD

IC24 GOOD

IC25 GOOD

IC27 GOOD

IC29 GOOD

IC30 GOOD

IC33 GOOD

IC34 GOOD

IC37 GOOD

PRESS TEST BUTTON TO NEXT

1. MEMORY TEST

First, check if MEMORY IC functioning on the Main Board is accurate. If the IC is in good operating condition, "GOOD" will be indicated. If there exists any malfunctioning of the ICs, "BAD" will be indicated.

After the test has been completed, press the TEST button to cause the Cartridge MEMORY TEST to be performed.

MEMORY TEST

PAGE 2/2

*** CARTRIDGE ROM CHECK***

CART #1

IC1 GOOD IC2 GOOD IC3 GOOD IC4 GOOD

IC5 GOOD IC6 GOOD IC13 GOOD

CART#2

IC1 GOOD IC2 GOOD IC3 GOOD IC4 GOOD

IC5 GOOD IC6 GOOD IC13 GOOD

CART #3

IC1 GOOD IC2 GOOD IC3 GOOD IC4 GOOD

IC5 GOOD IC6 GOOD IC13 GOOD

CART#4

IC1 GOOD IC2 GOOD IC3 GOOD IC4 GOOD

IC5 GOOD IC6 GOOD IC13 GOOD

PRESS TEST BUTTON TO EXIT

The following shows this display when four Cartridges are inserted in the Board.

Note that the display of the slot in which the Cartridge is not inserted will be omitted.

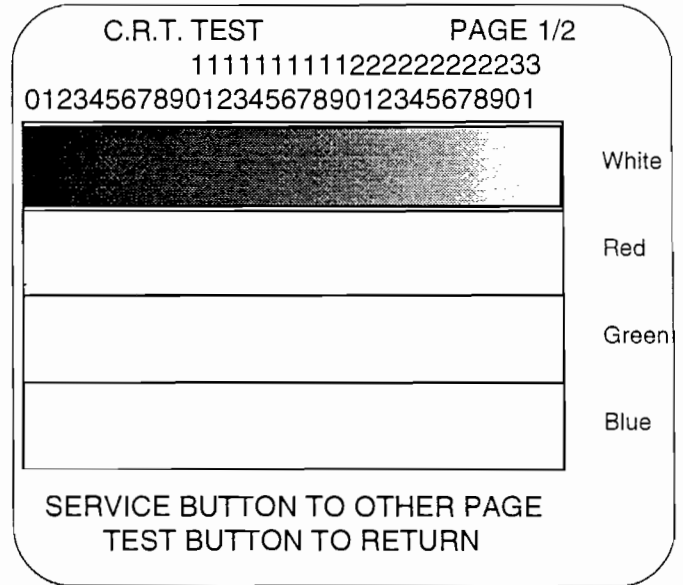
After the test has been completed, press the Test button to return to the Menu mode.

2. C.R.T. TEST

A) RGB Color Adjustment Screen

This page allows for checking the monitor color adjustment.

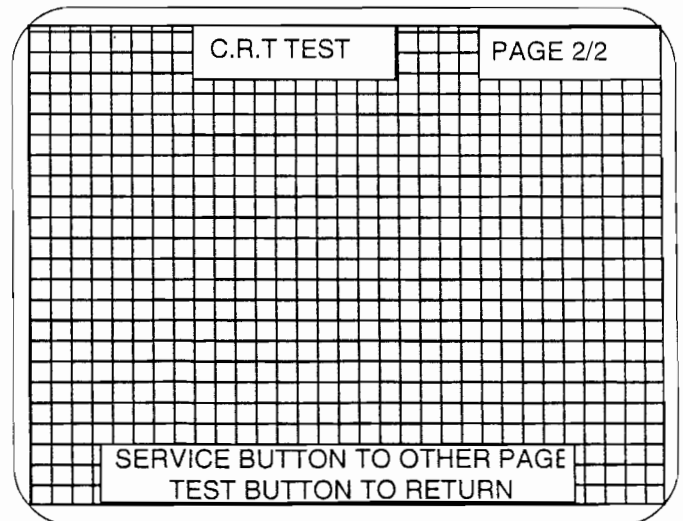
Each of the R (red) G (green) B (Blue) colors is darkest at the left-hand end and becomes brighter in 31 gradations towards the right-hand end. The monitor brightness is satisfactory if the white color bar is black at the left-hand end and white at the right-hand end.



B) Monitor Size Adjustment Screen

This page allows for monitor size to be checked.

Make adjustments in a manner so that the checkered portions for checking do not go beyond the screen. Press the TEST button to proceed to the next page.



INPUT TEST		
START	1P OFF	2P OFF
COIN CHUTE	#1-OFF	#2-OFF
	TEST-OFF	SERVICE-OFF
PRESS TEST BUTTON TO EXIT		

INPUT TEST				
START	1P OFF	2P OFF	3P OFF	4P OFF
COIN	OFF	OFF	OFF	OFF
	TEST-OFF		SERVICE-OFF	
SELECT-OFF				
PRESS TEST BUTTON TO EXIT				

Each time the SERVICE button is pressed, the above color bar screen (1/2) and checked screen (2/2) alternate. Press the TEST button to have MENU return to the screen.

3. INPUT TEST

This test displays the state of the START button, COIN SW, TEST button, SERVICE button, etc., which are used in common for each game. Depending on the contents of Cabinet setting, the screen display varies somewhat (refer to examples below). If the switch/button goes ON (from OFF) when activated, it is satisfactory.

EXAMPLE 1)

CABINET TYPE	2
GAME SELECT	NO
COIN CHUTE TYPE	Common

EXAMPLE 2)

CABINET TYPE	4P
GAME SELECT	YES
COIN CHUTE TYPE	Individual

Note that the INPUT TEST except for START (Joystick, push button, etc.) should be performed in the EACH GAME TEST mode.

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

4. CLOCK ADJUSTMENT

This allows for setting the date (day/month/year) and time on the Main Board.

1) Each time the SERVICE button is pressed, the setting position moves sequentially in order of TIME set by the user (day/month/year/day of the week/hour/minute, SET and EXIT. Seconds are fixed at 00. Press the TEST button at the desired position to set the time.

2) Bring the arrow to SET and press the TEST button to apply the time set by the user on the On-BD present time.

3) After the time setting is finished, bring the arrow to EXIT and press the TEST button to have the MENU mode return to the screen.

28 / FEB / 1995 (TUE)
day month year (day of week)

10:00:00
H M S

NOTE

When setting the date, it is possible to set Feb. 30 or Feb. 31. In these cases, however, accurate functioning would not be maintained thereafter. Therefore, be very careful of this point.

CLOCK ADJUSTMENTS

01/JAN/1995 (SUN)	
23:59:59	<i>On-BD present time</i>
28/FEB/1995 (TUE)	
10:00:00	<i>Time set by user</i>
SET	<i>Applies the time set by the user to on-BD present time</i>
--> EXIT	<i>Return to MENU mode</i>

SELECT WITH SERVICE BUTTON
AND PRESS WITH TEST BUTTON

SYSTEM ASSIGNMENTS	
CABINET TYPE	2P
SELECT BUTTON	NO
ADVERTISE SELECT	CN
GAME SELECT TIME	10 [SEC]
ST-V LOGO	OFF
ADVERTISE SOUND	CN
ALONE/MULTI	MULTI
--> EXIT	
SELECT WITH SERVICE BUTTON AND PRESS WITH TEST BUTTON	

Multi-Cartridge Mode

SYSTEM ASSIGNMENTS	
CABINET TYPE	2P
ADVERTISE SOUND	CN
ALONE/MULTI	ALONE
--> EXIT	
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON	

Stand Alone Mode

5. SYSTEM ASSIGNMENTS

In this mode, various cabinet and board settings can be changed.

- 1) Press the SERVICE button to the arrow "—>" and bring it to the desired item.
- 2) Press the TEST button to change the setting.
- 3) After the setting is finished, bring "—>" to EXIT and press the TEST button.

(A) Cabinet Type (1P, 2P, 3P, 4P)

Set to the applicable one from the 4 types.

(B) Select Button (NO, YES)

Set to YES or NO depending on whether the cabinet has the SELECT button.

YES Set to this if the cabinet has the SELECT button. For wiring, refer to **Control Panel and Board I/O** on Page 11.

NO Set to this if the cabinet does not have the SELECT button. Buttons on the CONTROL PANEL (except for the START button) can be utilized in lieu of the SELECT button.

(C) Advertise Select (ON, OFF)

Determines whether ADVERTISE (during advertise) can be skipped with the SELECT button.

ON Set to this when skipping ADVERTISE (during advertise) to proceed to a desired game.

OFF The game is selected when credits to start are available.

(D) ST-V Logo (ON, OFF)

This determines whether the ST-V LOGO is displayed or not during ADVERTISE in the Multi-Cartridge mode.

(E) Advertise Sound (ON, OFF)

Determines whether ADVERTISE SOUND is to be emitted or not.

(F) Alone/Multi (ALONE/MULTI)

This allows STAND ALONE (ALONE) mode or MULTI-CARTRIDGE (MULTI) mode to be set. In the STAND ALONE mode, items regarding MULTI-CARTRIDGE made are not displayed (refer to screen shots on the preceding page).

CAUTION 1:

Depending on the contents of SYSTEM ASSIGNMENTS settings, the game may not start up. Refer to the applicable Game Service Manual.

CAUTION 2:

Changing the contents of (A) CABINET TYPE or (G) ALONE/MULTI results in clearing the contents of SYSTEM BOOKKEEPING and the BOOKKEEPING of each game.

Game settings such as difficulty levels, etc. are performed in EACH GAME TEST, please refer to the individual Game Service Manuals

B) Factory Test Mode

This mode is intended for the development of games which employ the ST-V Board, and for Factory Hardware Check. Unless instructions are specifically given in an applicable Manual elsewhere, do not use this mode. When so required, however, enter the mode by turning the power on while keeping the TEST button pressed down. If the mode is used without specific instructions, normal operations can not be guaranteed. (During test the COIN METER may suddenly function sometimes).

```
BOOTROM                ver 1.10
ST-V TEST MENU (in Factory)
```

```
--> CONTINUOUS HARDWARE TEST
```

```
MEMORY                CHECK
C.R.T                 CHECK
VDP1/VDP2            CHECK
I/O (IOGA)           CHECK
I/O (SMPC)           CHECK
SOUND                CHECK
EEPROM               CHECK
DUAL - CPU           CHECK
CLK-CHANGE           CHECK
```

```
SIMM                  CHECK
RS-232C              CHECK
SCSI-2               CHECK
SYSTEM CONFIGURATION
```

```
IF YOU WANT TO EXIT
PLEASE POWER ON AGAIN
```

System Configuration

This allows for environmental setting at the development stage. For initialization, refer to the following:

SYSTEM CONFIGURATION

```
DEVELOP - MODE                NO
SCSI - ID                     0
SIMM - ALLOCATE                CART - AREA
SCSI                          UNUSE
SCSI - BOOT                   NON-BOOT
HOST - TYPE                   PC
ST-V LOGO                     OFF
ALONE/MULTI                   ALONE
```

```
--> EXIT
```

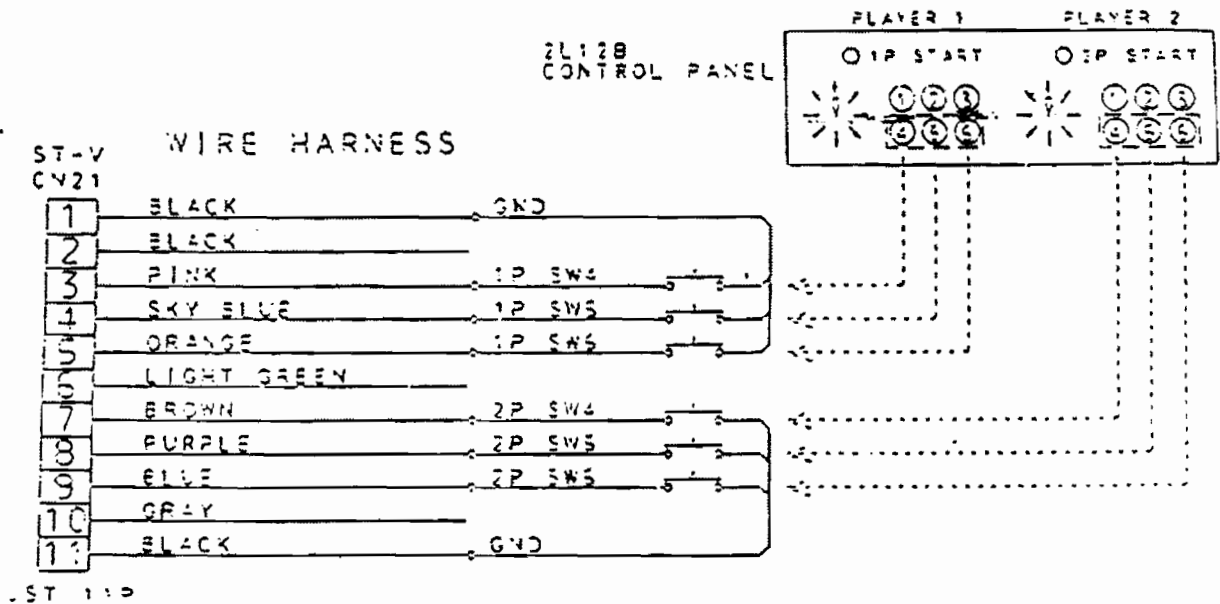
```
SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```

WIRING FOR THE BOARD

A) 2-PLAYER SIMULTANEOUS PLAY, 6-BUTTON SPECIFICATIONS (2L12B)

WIRE HARNESS used: WIRE HARNESS ST-V EXT8B (PART No. 600-6558-05)

The GND wire of this wire harness is black, so be careful of this point. SW1-3 correspond to JAMMA connector. Wire SW4, SW5 and SW6. No wiring is required for yellow and gray wires which come from Pin Nos. 6 & 10.

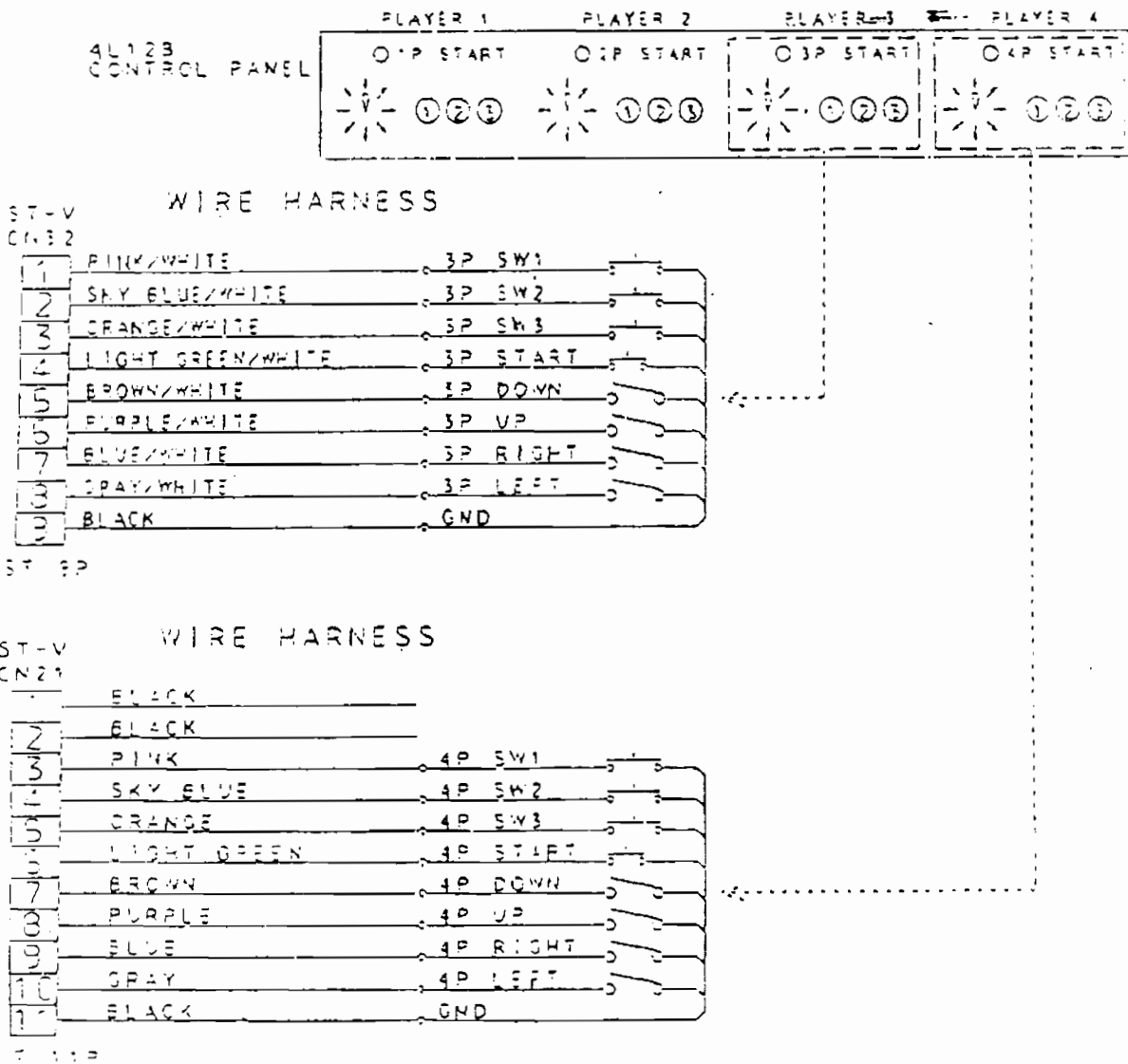


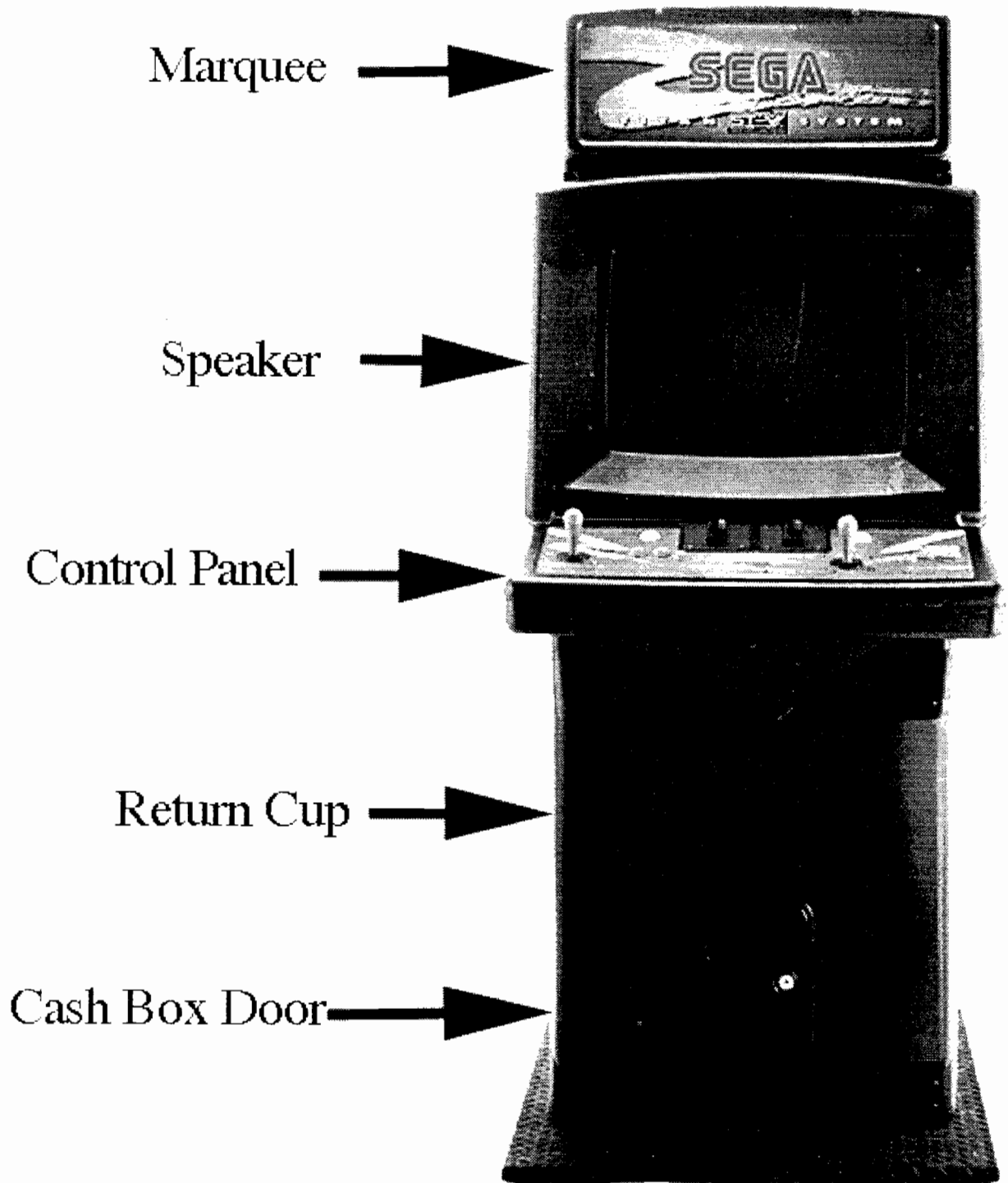
**B) 3-4 PLAYER SIMULTANEOUS PLAY,
3-BUTTON SPECIFICATIONS (3L9B, 4L12B)**

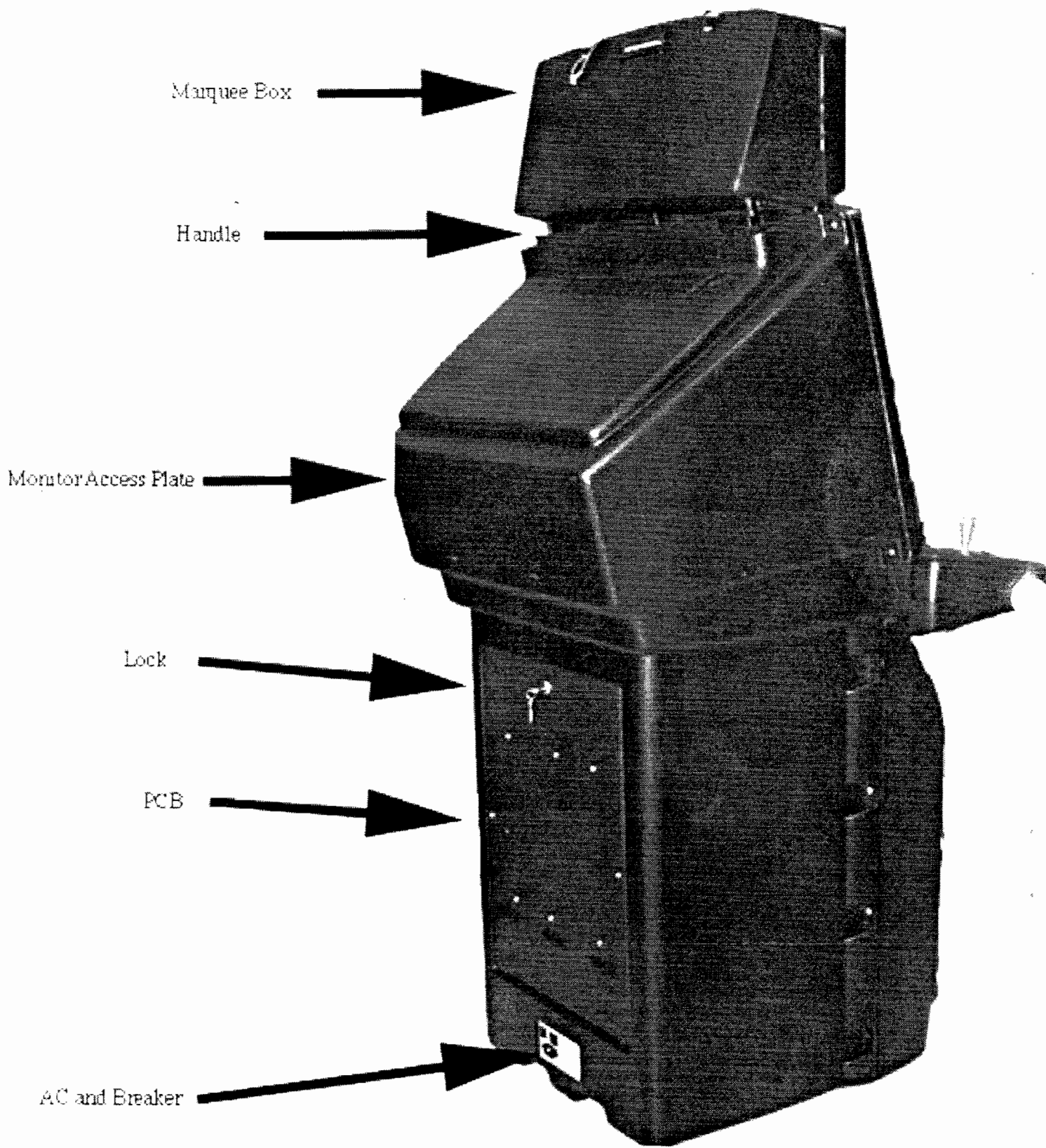
WIRE HARNESS used: 3 PLAYER; WIRE HARNESS ST-V EXT3P
(PART No. 600-6558-07)

4 PLAYER; WIRE HARNESS ST-V EXT 8B
(PART No. 600-6558-05)

The GND wire of this WIRE HARNESS is black, so be careful of this point.
1P and 2P correspond to JAMMA Connector. Wire for 3P and 4P.







Marquee Box

Handle

Monitor Access Plate

Lock

PCB

AC and Breaker

COIN MECHANISM

The Titan Cabinet is equipped with a top-mounted control panel coin mechanism. The top-mount mechanism is preferred by players, for the drop-in convenience and faster coin acceptance for uninterrupted game play.

REPLACING THE COIN MECHANISM

The top-mounted coin mechanism holds a standard coin acceptor. The mechanism is replaced by unlocking the two locks beneath the control panel, and opening the control panel top. The mechanism is removed in the same way as in a standard over-under coin door.

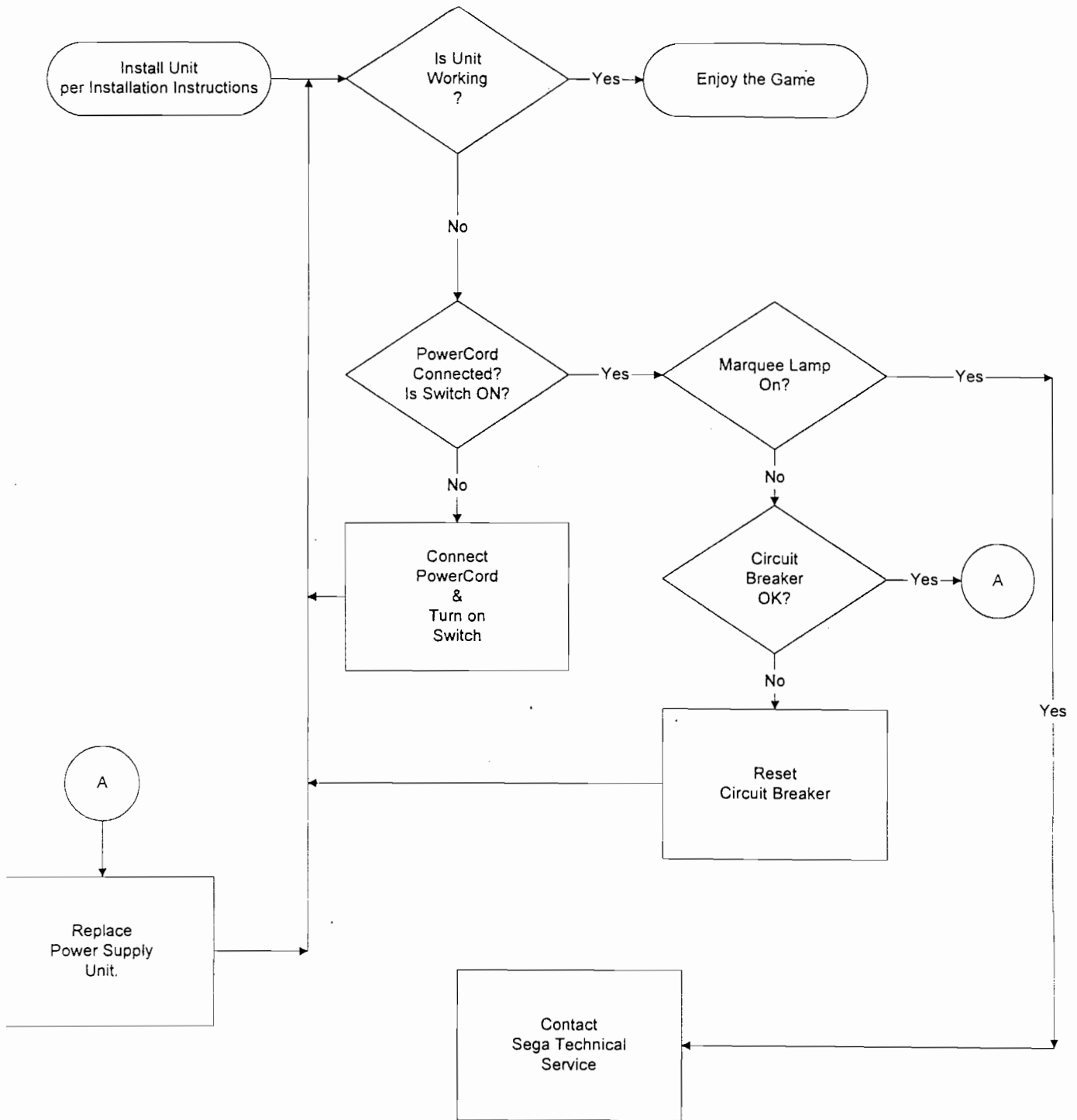
To speed replacement of malfunctioning coin mechs, new coin acceptors should be pre-tested at the technicians bench, and swapped out with the defective piece. Pre-testing all coin mechanisms is recommended to minimize game down-time.

COIN METER

The coin meter is located on the switch unit, in the right side of the control panel. Release the control panel locks, located in the rear corners of the control panel underside, and open the control panel top to view the coin meter. Use the TEST button to perform bookkeeping functions at the time of coin collection and meter checks.

COIN COLLECTION

Coin collection is performed by opening the lower mini-door on the cabinet to access the cash box. Perform bookkeeping functions by accessing the switch unit in the control panel at this time.



TROUBLESHOOTING CHART

PARTS LIST

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	STVV-00010	Titan,Generic
2		STVV-00256	Schematic
3	1	STVV-00420	Assembly Carton
4	1	STVV-00421	Carton Sleeve
5		STVV-00330	Artwork Sleeve
6	1	STVV-00423	Top Tray for Carton
7	1	STVV-00424	Bottom Tray for Carton
8	1	STVV-00422	Carton, Die Cut insert
9	1	STVV-00333	Front Insert for Carton
10	1	STVV-00334	Back Insert for Carton
11	1	STVV-00066	Game Bag
12	1	STVV-00067	Manual Bag
13	1	STVV-00068	Shipping Envelope
14	1	STVV-00081	FCC/UL Label
15	1	STVV-00082	Serial Number Label
16	1	STVV-00011	Titan Kit Top Assembly
17	1	STVV-00012	Cabinet Assembly
18	1	STVV-00013	Monitor Cabinet Body
19	1	STVV-00014	Coin Door Cabinet Panel
20	1	STVV-00252	Spacer 4'x4'
21	1	STVV-00064	Steel Tread Plate
22	1	STVV-00015	Cabinet Bezel
23	2	STVV-00085	4" Shielded Speaker
24	2	STVV-00016	Speaker Grille
25	2	STVV-00070	MainHarness
26	1	STVV-00018	Coin Chute
27	1	STVV-00019	Cabinet Kickplate
28	1	STVV-00086	25" Color Monitor, Std. Resolution
29	1	STVV-00087	Black Fiberglass Screen
30	1	STVV-00020	Marquee Bracket

ITEM NO.	QTY.	PART NO.	DESCRIPTION
31	1	STVV-00022	Upper Monitor Mounting Bracket
32	1	STVV-00023	Lower Monitor Mounting Bracket
33	6	STVV-00059	Monitor Mounting Bushing
34	3	STVV-00060	Monitor Mounting Collar
35	12	STVV-00061	Monitor Mounting Spacer
36	1	STVV-00072	Ground Harness
37	1	STVV-00078	AC Harness
38	1	STVV-00254	Control Panel Harness
39	1	STVV-00255	Hinge Harness
40	30	STVV-00323	1" Tie Wrap Pad
41	30	STVV-00324	6" White Tie Wrap
42	1	STVV-00030	Home Ground Sheetmetal Bracket
43	1	STVV-00088	Coin Box Door
44	1	STVV-00089	Coin Box
45	1	STVV-00031	System Label
46	1	STVV-00032	Marquee Housing Subassembly
47	1	STVV-00033	Marquee Housing
48	1	STVV-00257	Fluorescent Lamp Fixture
49	1	STVV-00258	18" Fluorescent Lamp, 15W
50	2	STVV-00259	Lamp Stay
51	1	STVV-00253	Fluorescent Fixture Harness
52	1	STVV-00090	Grommet
53	3	STVV-00091	Orange Wire Nut
54	1	STVV-00035	Control Housing Subassembly
55	1	STVV-00036	Bottom Control Housing
56	1	STVV-00057	Control Panel Service Hinge
57	2	STVV-00038	Control Lock Catch
58	2	STVV-00092	Switch, PB, 28VDC, .5A w/ nut and washer
59	1	STVV-00095	Volume Control, 100 Ohm w/ nut & washer
60	1	STVV-00098	Volume Control Knob

ITEM NO.	QTY.	PART NO.	DESCRIPTION
60	1	STVV-00297	Coin Meter, 5 Volt
61	1	STVV-00290	Test Label
62	1	STVV-00291	Service Label
63	1	STVV-00292	Volume Label
64	1	STVV-00293	Coinage Label
65	3	STVV-00298	Straight Cam Assembly Lock & Key
66	1	STVV-00244	Control Panel Lanyard
67	1	STVV-00041	Cabinet Door Assembly
68	1	STVV-00042	Cabinet Back Door
69	2	STVV-00044	Panel Support Lanyard
70	1	STVV-00045	Power Supply Assembly
71	1	STVV-00046	Marquee Bezel Subassembly
72	1	STVV-00047	Marquee Bezel
73	1	STVV-00048	Tempered Glass Marquee
74	4	STVV-00099	Mirror Clip

HARDWARE and FASTENERS

ITEM NO.	DESCRIPTION	LOCATION
80	Allen Wrench	Back Door
81	Carriage Bolt, 10-24 x 1", Black Zinc	Joystick to Top Control Panel
82	Kep Nut, 10-24, Clear Zinc	Joystick to Top Control Panel
83	Carriage Bolt, 1/4-20 x 1-1/2", Clear	Bottom Control Housing to Cabinet Panel Coin Door
84	Kep Nut, 1/4-20, Clear Zinc	Bottom Control Housing to Cabinet Panel Coin Door
85	Type 'A' Screw, #6-32 x 3/8", Slf-tpg. Button Head Allen, Black Nickel	Speaker Grille to Monitor Body Cabinet
86	Type 'A' Screw, #10-24 x 1/2, Slf-tpg. Pan Head Phillips, Clear Zinc	Control Panel Hinge to Bottom Control Housing and Top Control Panel
87	Type 'A' Screw, #1/4-20 x 3/4, Slf-tpg, Pan Head Phillips, Clear Zinc	Monitor Body Cabinet to Marquee Housing
88	Type 'A' Screw, #1/4-20 x 3/4, Slf-tpg, Pan Head Phillips, Black Nickel	Marquee Bracket to Monitor Body Cabinet
89	Type 'A' Screw, #10-24 x 1/2, Slf-tpg, Pan Head Phillips, Clear Zinc	Coin Chute to Cabinet Panel Coin Door
90	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Panel Support Lanyard to Monitor Body Cabinet
91	Glt Washer, #10-24, Clear Zinc	Panel Support Lanyard to Monitor Body Cabinet
92	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Fluorescent Lamp & Lamp Fixture to Marquee Housing
93	Type 'A' Screw, #6-32 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Lamp Ground Screw
94	Type 'A' Screw, 1/4-20 x 1, Slf-tpg., Pan Head Phillips, Clear Zinc	Upper Monitor Mounting Bracket (27) & Lower Monitor Mounting Bracket to Monitor Body Cabinet
95	Type 'A' Screw, 1/4-20 x 3/4, Slf-tpg., Button Head Allen, Black Nickel	Monitor Body Cabinet to Cabinet Panel Coin Door
96	Flat Washer, #10, Clear Zinc	Panel Support Lanyard to Cabinet Door
97	Machine Screw, #1/4-20 x 1/2 BH Head Allen, Black Zinc	Cabinet Kickplate to Monitor Body Cabinet
98	Type 'A' Screw, #8-32 x 3/4, Slf-tpg., Pan Head Phillips, Clear Zinc	Tempered Glass Marquee to Marquee Bezel
99	Machine Screw, #10-24 x 3/4, Button Head Allen, Black Nickel	Marquee Bezel to Marquee Housing
100	Type 'A' Screw, #10-24 x 3/4", Slf-tpg., Ms Allen, Black Nickel	Cabinet Bezel to Monitor Body Cabinet
101	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Clear Zinc	4" Shielded Speaker to Cabinet Bezel

ITEM NO.	DESCRIPTION	LOCATION
102	Screw, #6-32 x 1/2, Small Head Phillips, Clear Zinc	Titan PCB Assembly to Particle Board
103	Carriage Screw, #10-24 x 1-1/4", Black Zinc	Cabinet Door to Particle Board
104	Keq Nut, #1/4-20, Clear Zinc	Upper Monitor Mounting Bracket & Lower Monitor Mounting Bracket to 25" Color Monitor, Standard Res.
105	Carriage Bolt, 1/2-13 x 2-1/2, Clr Zinc	Base to Cabinet Bottom
106	Fender Washer, 1/2", Clear Zinc	Base to Cabinet Bottom
107	Lock Washer, 1/2", Clear Zinc	Base to Cabinet Bottom
108	Nut, 1/2-13, Clear Zinc	Base to Cabinet Bottom
109	Screw, #10-32 x 1-1/2, MS, AH, BK, BH	Back Door to Cabinet
110	Hex Insert, #10-32	Back Door Insert
111	Hex Insert, 1/4-20	Kick Panel Insert
112	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Power Supply to Cabinet Base
113	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Hinge to Upper Control Panel
114	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Hinge to Lower Control Panel
115	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Ground Strip to Cabinet
116	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Lanyard to Upper Control Panel
117	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Lanyard to Lower Control Panel
118	Type 'A' Screw, #6-32 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Monitor Remote to Control Panel
119	Type 'A' Screw, #10-24 x 1/2, Slf-tpg., Pan Head Phillips, Clear Zinc	Control Panel Lock Catch
120	Carriage Bolt, #10-24 x 1", Black Zinc	Coin Mechanism to Control Panel
121	Keq Nut, #10-24, Clear Zinc	Coin Mechanism to Control Panel
122	Flat Washer, #10, Clear Zinc	Coin Mechanism to Control Panel
123	Keq Nut, #8-32, Clear Zinc	Ground Strip
124	Screw, #4-40, Flat Head Phillips, Clr Zinc	Coin Meter to Test Service Bracket
125	Flat Washer, #10, Clear Zinc	Back Door to Ground Harness
126	Lock Washer, #10, Clear Zinc	Back Door to Ground Harness
127	Keq Nut, #10-24, Clear Zinc	Back Door to Wooden Plate
128	Hex Insert, #10-32	Lower Control Panel

SEGA has made every effort to ensure that this manual is accurate. If you find any errors or omissions, or have other comments on the **ST-V** manual, please write them below, detach, and deliver this page by FAX or mail to:

SEGA ENTERPRISES INC. (USA)
ATTN: Engineering Dept.
45133 Industrial Drive
Fremont, CA 94538 USA
FAX: (415) 802-1754

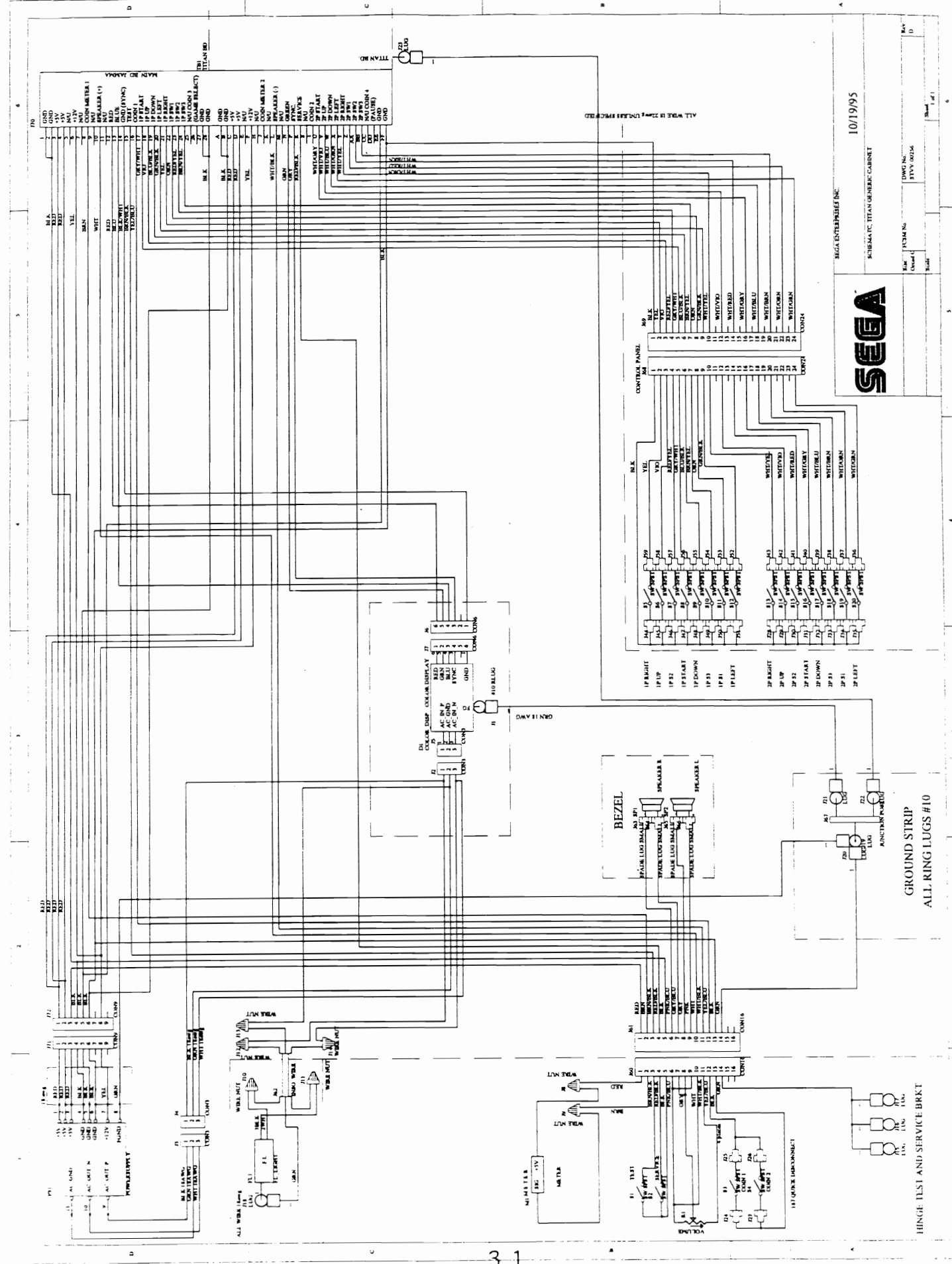
Comments: _____

Optional Identification Information:

Name: _____
Company: _____
Address: _____
City, State, Zip: _____
Phone: _____
FAX: _____



Rev: 0
 DWG No: 3114 0026
 Title: Titan
 Scale: 1:1



GROUND STRIP
 ALL RING LUGS #10

HINGE TEST AND SERVICE BRKT

SEGATM

Sega Enterprises, Inc. (USA)

45133 Industrial Drive
Fremont, CA 94538
415-802-1750 phone
415-802-1754 fax