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SEGA™

Parts

DIE HARD

Game Service Manual

Make copy

SEGA ENTERPRISES, INC., (USA)

Manual No. STVV-00593

Die Hard Arcade

ST-V Cartridge - Quick Setup

Should be done by Service Personnel only!

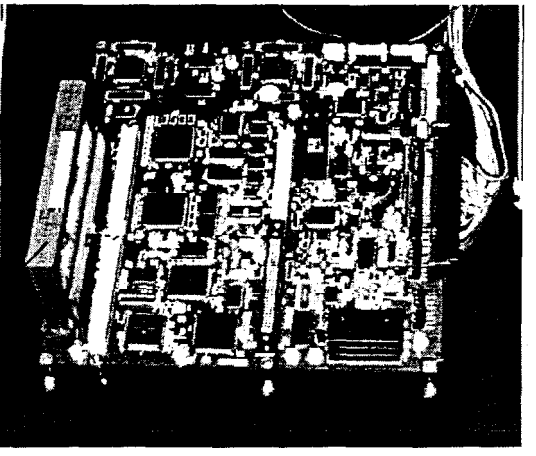
Die Hard arcade software is a modular game cartridge for the ST-V Titan Cabinet. You simply insert the cartridge onto the Game Board located behind the rear service door of the Titan Cabinet. For shipping purposes, the Cartridge is inside the cash box. Here are directions for installing the game:

1) Open the rear service door of the Titan Cabinet by removing the two shipping screws and using the key.

2) Turn the power OFF for the Cabinet.

3) Completely insert the Game Cartridge vertically onto the Game Board, with the back side facing away from the Board, as shown in the adjacent photo.

4) Close the back door of the Titan cabinet.



Die Hard Arcade Game Cartridge

5) Turn the Power ON for the Cabinet

6) You can adjust the coin settings (Coin Assignments Screens) and game play options (Each Game Test Screens) by using the Service and Test buttons. Open the Control Panel by unlocking the two locks located underneath it. Swing open the Control Panel and note the Service and Test buttons on the hinge of the Control Panel. Push the TEST button to have the ST-V Test Menu appear. Use the Service button to select a setting and Test button to enter the selection. Select Exit to finish.

7) Simply follow the prompts on the screen. Refer to the Die Hard Arcade Game Service Manual for further details.

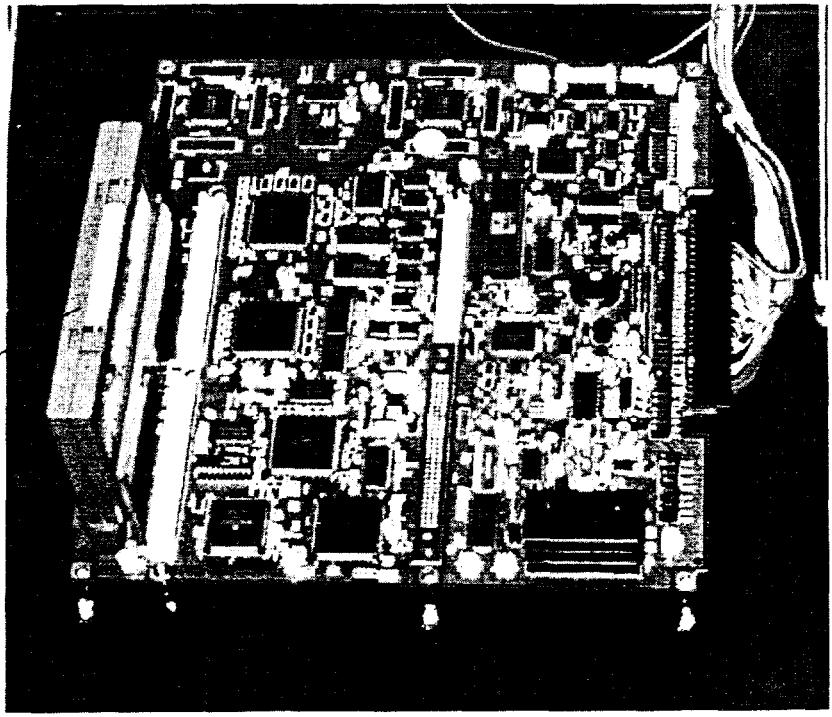
CAUTION The following procedures should be done by service personnel only.

Super Major League software is a modular game cartridge for the ST-V Titan Cabinet. You simply insert the cartridge onto the Game Board located behind the rear service door of the Titan Cabinet.Open the rear service door by removing the two shipping screws and using the key. For shipping purposes, the Cartridge is inside the cash box.

When installing /removing a Cartridge: ensure that the Cabinet's main power is OFF.

Completely insert the Game Cartridge vertically, with the back side facing away from the Board

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 Apply ing excessive force to the Board may cause damage such as soldering defects, etc.



DIE HARD arcade Game Cartridge

TEST MODE

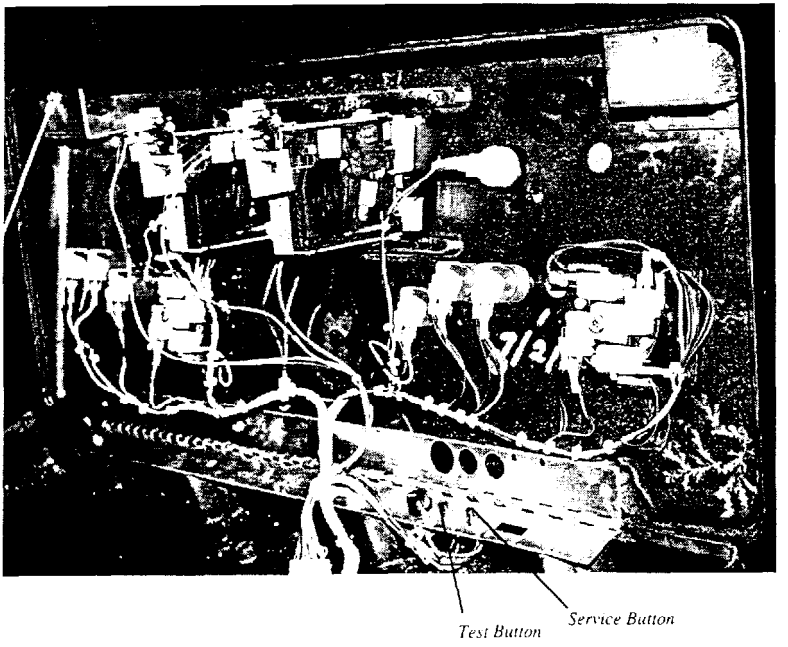
You can adjust the Coin Assignments, Systems Bookkeeping, and game play options (Each Game Test) by using the Service and Test buttons. Open the Control Panel by unlocking the two locks located underneath it. Swing open the Control Panel and note the Service and Test buttons on the hinge of the Control Panel. Push the Test button to have the ST-V Test Menu appear. Use the Service button to select a setting and Test button to enter the selection. Select Exit to finish.

```
ST-V TEST MENU

MEMORY TEST
C.R.T. TEST
INPUT TEST
CLOCK ADJUSTMENTS
SYSTEM ASSIGNMENTS
COIN ASSIGNMENTS
SYSTEM BOOKKEEPING
BACKUP DATA CLEAR
EACH GAME TEST
      [DIE HARD ARCADE
      [
      [
      [

---> EXIT

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
```



1. COIN ASSIGNMENTS

In this mode, the setting of credit increments, etc. as against coin insertions can be changed.

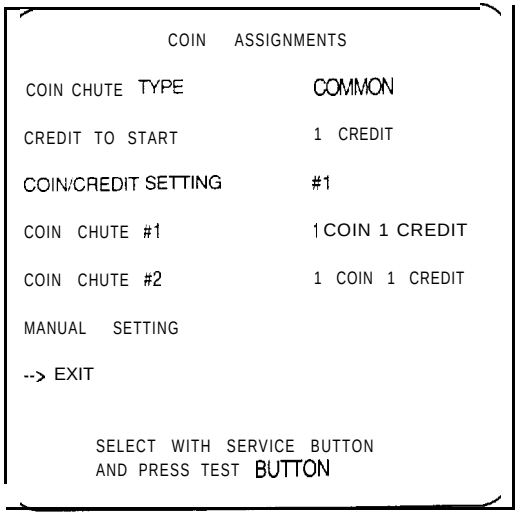
1) Press the Service button to bring the "—>" to the desired item.

2) Press the Test button to change the betting.

3) After the desired setting is finished, bring the "—>" to Exit and press the Test button.

CAUTION:

Changing the contents of Coin Assignments settings results in clearing the contents of System Bookkeeping and the Bookkeeping of each game.



Common

(A) Coin Chute Type (COMMON, INDIVIDUAL)

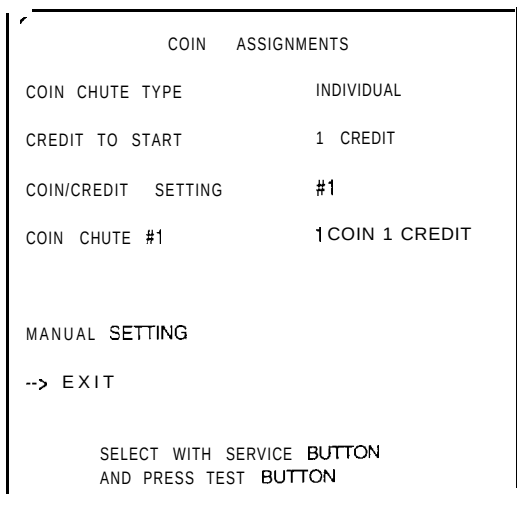
Set this in accordance with the Cabinet Coin Chute Specifications.

COMMON

Used for the type of the cabinet whose coin acceptance is a common type for multiple players. Regardless of the number of players, COIN 1 /COIN 2 ports are useful.

INDIVIDUAL

Used for the type of the cabinet which has a coin acceptance chute for each player. For the COIN SW port, refer to Control Panel on page 13.



Individual

(B) Credit to Start (1 CREDIT, 2 CREDITS)

Sets the number of credits required when starting the game (1 CREDIT, 2 CREDITS).

Note that in both settings, the number of credits required for CONTINUE is one.

C) Coin/Credit Setting (#1-#26)

Sets the CREDIT increase increment per coin insertion. There are 26 settings from #1 to #26, expressed in 00 credits as against 00 COINS inserted. #26 refers to FREE PLAY. For details, refer to Table 1 (COMMON) and Table 2 (INDIVIDUAL) on the next page.

(D) Manual Setting

The CREDIT'S incremental increase settings as against a coin insertion are shown in further details than in (C) above (refer to Table 3 on the next page). Also, note that u-hen this MANUAL setting is performed, the COIN/CREDIT setting becomes ineffective.

(E) Coin to Credit

Determines COIN /CREDIT setting.

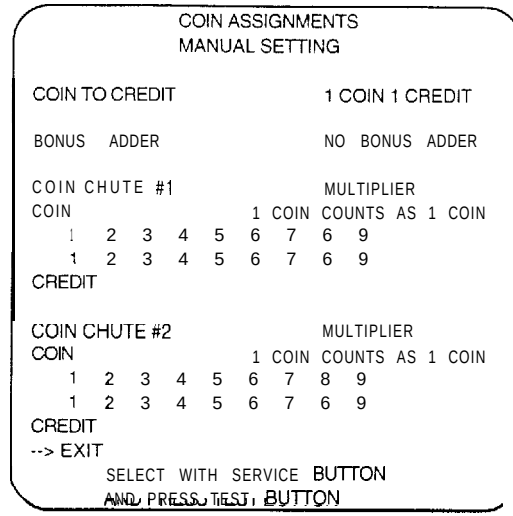
(F) Bonus Adder

This sets how many COINs should be inserted to obtain one SERVICE COIN.

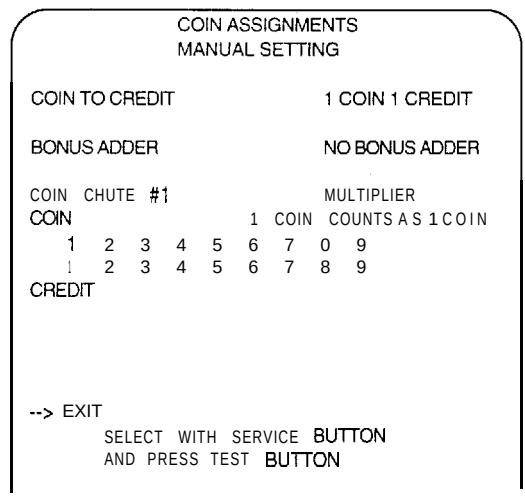
(G) Coin Chute #1/#2 Multiplier

This sets how many tokens one COIN represents.

MANUFACTURER'S RECOMMENDED SETTINGS FOR COIN ASSIGNMENTS AND NUMBER OF COINS
2 COINS, 1 CREDIT **(Setting #12)**



Manual Setting Screen- Common



Manual Setting Screen - Individual

NAME OF SETTING	COIN CHUTE 1	COIN CHUTE 2
SETTING #1	1 COIN 1 CREDIT	1 COIN 1 CREDIT
SETTING #2	1 COIN 1 CREDIT	1 COIN 2 CREDITS
SETTING #3	1 COIN 1 CREDIT	1 COIN 3 CREDITS
SETTING #4	1 COIN 1 CREDIT	1 COIN 4 CREDITS
SETTING #5	1 COIN 1 CREDIT	1 COIN 5 CREDITS
SETTING #6	1 COIN 2 CREDITS	1 COIN 2 CREDITS
SETTING #7	1 COIN 2 CREDITS	1 COIN 5CREDITS
SETTING #8	1 COIN 3 CREDITS	1 COIN 3CREDITS
SETTING #9	1 COIN 4 CREDITS	1 COIN 4 CREDITS
SETTING #10	1 COIN 5 CREDITS	1 COIN 5 CREDITS
SETTING #11	1 COIN 6 CREDITS	1 COIN 6 CRETIS
SETTING #12*	2 COINS 1 CREDIT	2 COINS 1 CREDIT
SETTING #13	2 COINS 1 CREDIT	1 COIN 1 CREDIT
SETTING 1114	2 COINS 1 CREDIT	1 COIN 2 CREDITS
'SETTING #15	1 COIN 1 CREDIT	1 COIN 1 CREDIT
	2 COINS 3 CREDITS	2 COINS 3 CREDITS
SETTING #16	1 COIN 1 CREDIT	1 COIN 3CREDITS
	2 COINS 3 CREDITS	
SETTING #17	3 COINS 1 CREDIT	3 COINS 1 CREDIT
SETTING #18	4 COINS 1 CREDIT	4 COINS 1 CREDIT
SETTING #19	1 COIN 1 CREDIT	1 COIN 1 CREDIT
	2 COINS 2 CREDITS	2 COINS 2 CREDITS
	3 COINS 3 CREDITS	3 COINS 3 CREDITS
	4 COINS 5 CREDITS	4 COINS 5 CREDITS
SETTING #20	1 COIN 1 CREDIT	1 COIN 5CREDITS
	2 COINS 2 CREDITS	
	3 COINS 3 CREDITS	
	4 COINS 5 CREDITS	
SETTING #21	3 COINS 1 CREDIT	1 COIN 2 CREDITS
	5 COINS 2 CREDITS	
SETTING #22	2 COINS 1 CREDIT	2 COINS 1 CREDIT
	4 COINS 2 CREDITS	4 COINS 2 CREDITS
	5 COINS 3 CREDITS	5 COINS 3 CREDITS
SETTING #23	2 COINS 1 CREDIT	1 COIN 3 CREDITS
	4 COINS 2 CREDITS	
	5 COINS 3 CREDITS	
SETTING #24	1 COIN 1 CREDIT	1 COIN 1 CREDIT
	2 COINS 2 CREDITS	2 COINS 2 CREDITS
	3 COINS 3 CREDITS	3 COINS 3 CREDITS
	4 COINS 4 CREDITS	4 COINS 4 CREDITS
	5 COINS 6 CREDITS	5 COINS 6 CREDITS
SETTING #25	1 COIN 1 CREDIT	1 COIN 6 CREDITS
	2 COINS 2 CREDITS	
	3 COINS 3 CREDITS	
	4 COINS 4 CREDITS	
	5 COINS 6 CREDITS	
SETTING #26	FREE PLAY	FREE PLAY

** MANUFACTURER'S RECOMMENDED SETTING*

TABLE 1: Coin/Credit Setting (Coin Chute Common Type)

NAME OF SETTING	EACH STATION'S COIN CHUTE
SETTING #1	COIN 1 CREDIT
SETTING #6	1 COIN 2 CREDITS
SETTING #8	1 COIN 3 CREDITS
SETTING #9	COIN 4 CREDITS
SETTING #10	1 COIN 5 CREDITS
SETTING #11	1 COIN 6 CREDITS
SETTING #12	2 COINS 1 CREDIT
SETTING #15	1 COIN 1 CREDIT
	2 COIN 3 CREDITS
SETTING #17	3 COINS 1 CREDIT
SETTING #18	4 COINS 1 CREDIT
SETTING #19	1 COIN 1 CREDIT
	2 COINS 2 CREDITS
	3 COIN 3 CREDITS
	4 COIN 5 CREDITS
SETTING #21	3 COINS 1 CREDIT
	5 COINS 2 CREDITS
SETTING #22	2 COINS 1 CREDIT
	4 COINS 2 CREDITS
	6 COINS 3 CREDITS
SETTING #24	1 COIN 1 CREDIT
	2 COIN 2 CREDITS
	3 COINS 3 CREDITS
	4 COINS 4 CREDITS
	5 COINS 5 CREDITS
SETTING #26	FREE PLAY

TABLE 2: Coin/Credit Setting (Coin Chute Individual Type)

COIN TO CREDIT	1 COIN 1 CREDIT
	2 COINS 1 CREDIT
	3 COINS 1 CREDIT
	4 COINS 1 CREDIT
	5 COINS 1 CREDIT
	6 COINS 1 CREDIT
	7 COINS 1 CREDIT
	8 COINS 1 CREDIT
	9 COINS 1 CREDIT

ADDITIONAL BONUS	NO ADDITIONAL BONUS
	2 COINS GIVE 1 EXTRA COIN
	3 COINS GIVE 1 EXTRA COIN
	4 COINS GIVE 1 EXTRA COIN
	5 COINS GIVE 1 EXTRA COIN
	6 COINS GIVE 1 EXTRA COIN
	7 COINS GIVE 1 EXTRA COIN
	8 COINS GIVE 1 EXTRA COIN
	9 COINS GIVE 1 EXTRA COIN

COIN CHUTE #1/#2 MULTIPLIER	1 COIN COUNTS AS 1 COIN
	1 COIN COUNTS AS 2 COINS
	1 COIN COUNTS AS 3 COINS
	1 COIN COUNTS AS 4 COINS
	1 COIN COUNTS AS 5 COINS
	1 COIN COUNTS AS 6 COINS
	1 COIN COUNTS AS 7 COINS
	1 COIN COUNTS AS 8 COINS
	1 COIN COUNTS AS 9 COINS

TABLE 3. Manual Setting

SYSTEM BOOKKEEPING

PAGE 1/2

COIN CHUTE #1	0
COIN CHUTE #2	0
COIN CHUTE #3	0
COIN CHUTE #4	0
TOTAL COINS	0
COIN CREDITS	0
SERVICE CREDITS	0
TOTAL CREDITS	0
NUMBER OF GAMES	0
TOTAL TIME	ODOOHOOMOOS
GAME PLAY TIME	ODOOHOOMOOS

SERVICE BUTTON TO OTHER PAGE
TEST BUTTON TO RETURN

SYSTEM BOOKKEEPING

PAGE 212

CART XI	[		-]	
CART X2	[		-]	
CART 83	[		-]	
CART #4	[		-]	
	CART #1	CART #2	CART #3	CART #4
NUMBER OF GAMES				
NEW GAME	0	0	0	0
CONTGAME	0	0	0	0
TOTAL GAME	0	0	0	0
GAME TIME				
AVERAGE	OMOOS	OMOOS	OMOOS	OMOOS
LONGEST	OMOOS	OMOOS	OMOOS	OMOOS
SHORTEST	OMOOS	OMOOS	OMOOS	OMOOS

SERVICE BUTTON TO OTHER PAGE
TEST BUTTON TO RETURN

Multi-Cartridge Mode

2. SYSTEM BOOKKEEPING

Allows for checking data such as number of coins inserted/number of credits/time/game frequency.

Depending on Cabinet Type setting and Coin Chute setting, the number of display items and meanings are different.

When the Coin Chute Type is COMMON

Regardless of the Cabinet Type setting, Items #1/#2 are displayed.

Displays the number of coins inserted per COIN 1 and COIN 2 are displayed.

(When the Coin Chute Type is INDIVIDUAL

Depending on the Cabinet Type setting (1P-4P), the number of items vary. Each value for #1-#4 represents the number of coins inserted by the corresponding 1P-4P Players. The display on page 2/2 varies depending on the cartridge mode. Press the SERVICE button to alternate page 1/2 and 2/2. Press the TEST button the have the MENU mode return to the screen.

SYSTEM BOOKKEEPING

PAGE 2/2

NUMBER OF GAMES	0
NEW GAME	0
CONT GAME	0
TOTAL GAME	0
GAME TIME	OMOOS
AVERAGE	OMOOS
LONGEST	OMOOS
SHORTEST	OMOOS

SERVICE BUTTON TO OTHER PAGE
TEST BUTTON TO RETURN

Stand Alone Mode

3. BACKUP DATA CLEAR

Clears the contents of BOOKKEEPING.

Press the SERVICE button to bring the "->" to the desired item and press the TEST button to execute the desired item as follows:

(A) System Data Clear

Clears the contents of SYSTEM BOOKKEEPING.

(B) All Data Clear

Clears each game's BOOKKEEPING in addition to clearing the SYSTEM BOOKKEEPING.

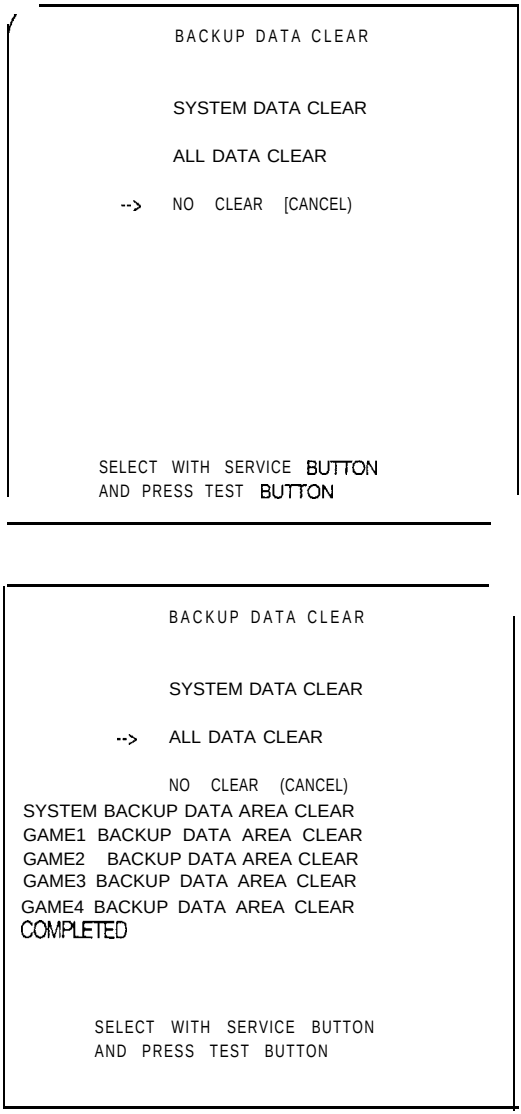
Each time a new game cartridge is installed in your Sega Titan cabinet, the back up data clear must be performed.

(C) No Clear (CANCEL)

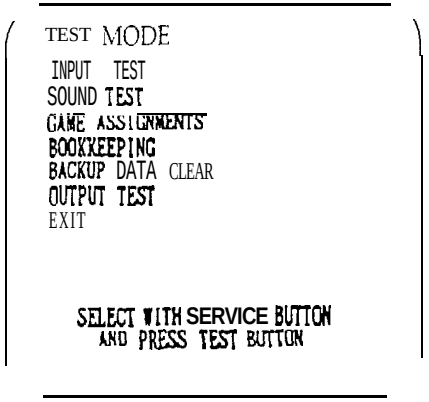
This does not execute clearing and causes the MENU mode to return to the screen.

CAUTION:

Apart from the above, the contents of BOOKKEEPING can be cleared as in (B) ALL DATA CLEAR above by changing the betting of CABINET TYPE or ALONE/MULTI of System Assignments (on page 18 in the Titan Cabinet Service Manual).



All Data Clear



4. EACH GAME TEST

Input Test

This test displays the state of each switch on the control panel.

Sound Test

This allows sound in the game to be tested.

Game Assignments

In this mode, game difficulty, levels, etc. can be changed (refer to screen below).

Bookkeeping

This allows for checking the selected frequency of each team as well as the frequencies of 1P play and Player vs. Player games.

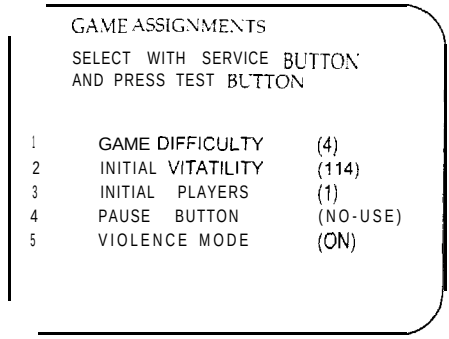
Backup Data Clear

Clears the contents of BOOKKEEPING.

Output Test

In this mode the lamps and 7-SEG display , which are incorporated into the marquee of theTitan Video Cabinet, are tested.

5. GAME ASSIGNMENTS



1. GAME DIFFICULTY
Range: 1-8 (hardest)

2. INITIAL VITALITY
Range:
64, 85, 93, 107, 114, 128, 146, 171
Determines the vitality (health) of the player's character at game start.

3. INITIAL PLAYERS
Range: 1-4
Number of players to start game.

4. PAUSE BUTTON
Range: USE- NO-USE
Must be set at NO-USE. This feature is not available on this game.

5. VIOLENCE MODE
Range: ON-OFF
Controls depiction of graphic violence during game play.

GAME FEATURES
Characters have over 1000 moves.
Over 30 characters.,
Multiple weapons, including: Hand Gun, Machine Gun, Missile Launcher, Anti-Tank rifle, Knife, Fire Axe, Broken bottle, Club, Iron Pipe, Pepper Spray, Hair Spray w/ lighter (Flamethrower)

Players operate characters to advance while attacking enemies with the punch and kick features and weapons.
Defeat all enemies in a stage to advance to the next stage.
It is possible to take weapons from the enemy and use them.
Game is over when life gauge reaches zero.
Players may join the game at any time during play.
Building map, is displayed between stages.

PIN ASSIGNMENTS

The hollowing < > refers to the Coin Setting set to "INDIVIDUAL."

(JAMMA)

COMPONENT SIDE			SOLDER SIDE
GND	1	A	GND
CND	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
(COIN LOCKOUT 1)	9	K	(COIN LOCKOUT 2)
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	(NUT USED)
<1P COIN> COIN 1	10	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
(NOT USED)	25	c	(NOT USED)
(GAME SELECT)	26	d	(PAUSE)
GND	27	e	GND
GND	28	f	GND

56P P=3.96mm

SW1 : Swing/Pitch
SW2 : Steal
SW3 : Bunt/Time out

Extension I/O Port (2L12B)

CN 21
JST 11P

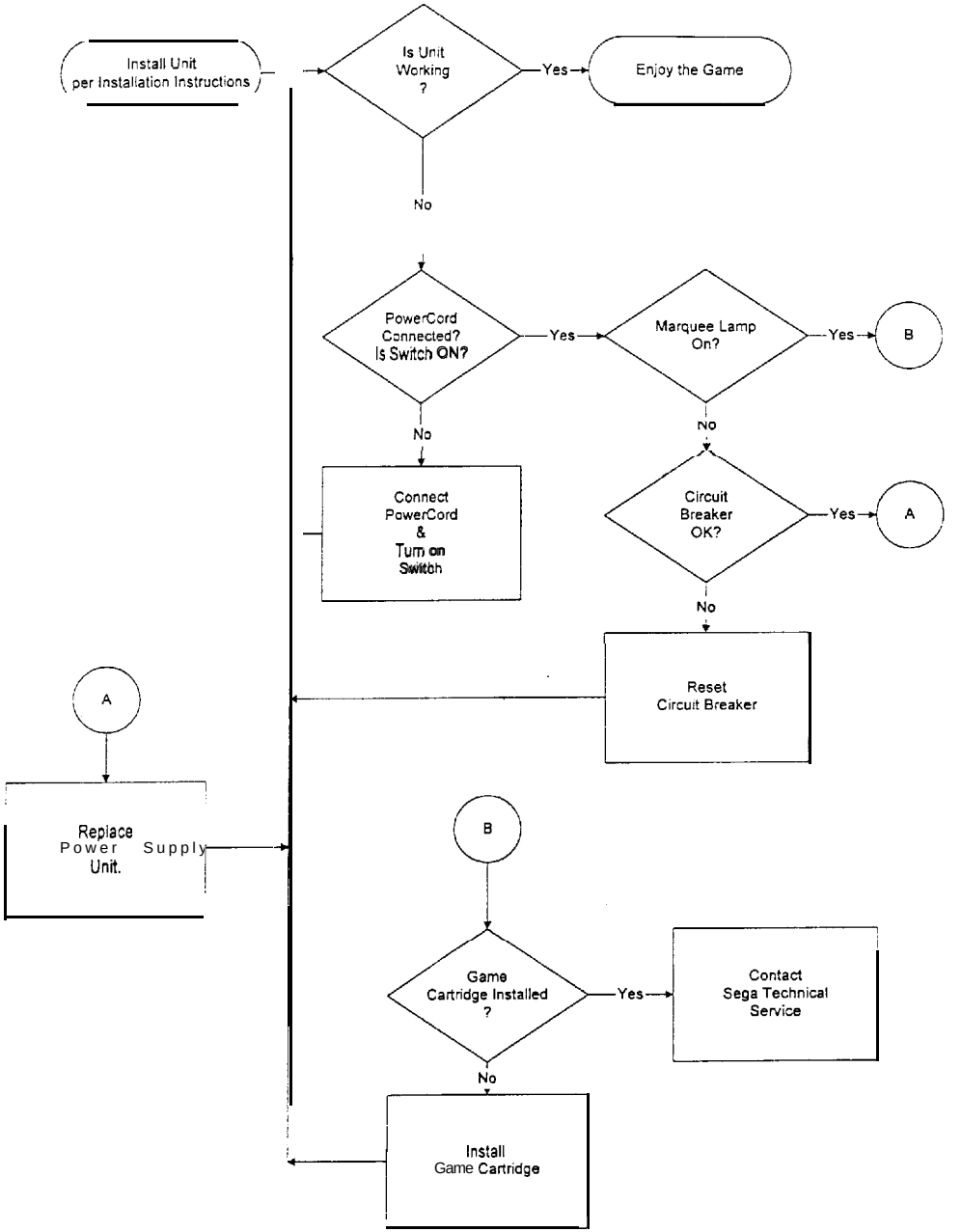
1	GND
2	GND
3	1P SW4
4	1P SW5
5	1P SW6
6	(1P SW7) NOT USED
7	2P SW4
8	2P SW5
9	2P SW6
10	(2P SW7) NOT USED
11	GND

CN 32
JST 8P

1	3P SW1
2	3P SW2
3	3P SW3
4	3P START
5	3P DOWN
6	3P UP
7	3P RIGHT
8	3P LEFT
9	GND

CN 21
JST 11P

1	GND
2	GND
3	4P SW1
4	4P SW2
5	4P SW3
6	4P START
7	4P DOWN
8	4P UP
9	4P RIGHT
10	4P LEFT
11	GND



TROUBLESHOOTING CHART

Marquee Graphic
STVV-00568
Upper Instruction Graphic
STVV-00565
Lower Instruction Graphic
STVV-00566
Control Panel Graphic
STVV-00567

PARTS LIST

There are two types of Die Hard Titan Kits. Determine if your kit is a cartridge kit, for standard Titan cabinets or a conversion kit for a Funky Head Boxer Titan Cabinet. The conversion kit contains materials to convert the control panel of the cabinet. Be sure you have requested the proper kit for your Titan cabinet prior to attempting installation.

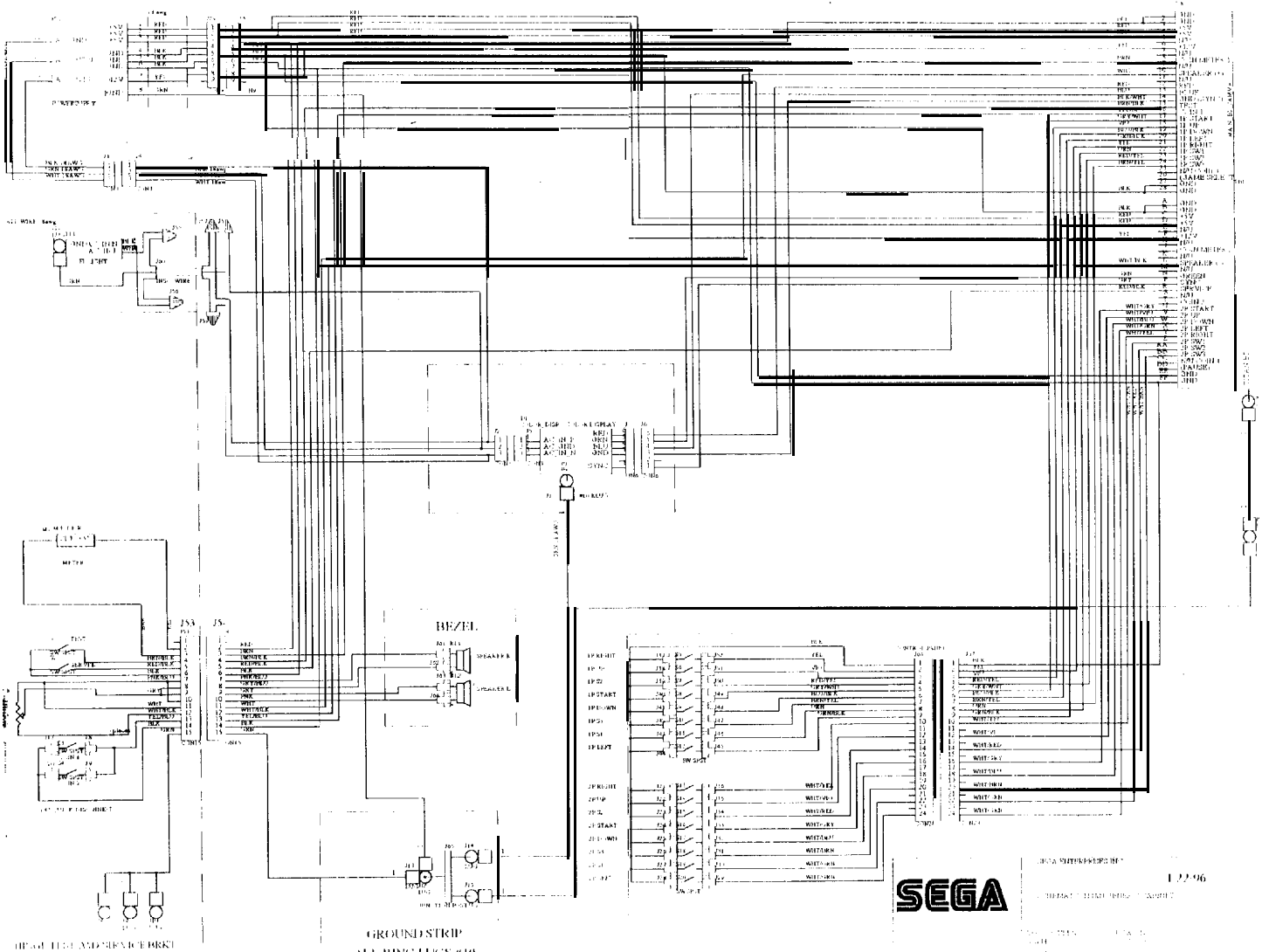
Die Hard Cartridge Kit
Super Major League or Virtua Fighter Remix Cabinets

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	STVV-00593	Service Manual
2	1	STVV-00594	Quick Start Card
3	1	610-0373-17	Die Hard Game Cartridge
4	1	STVV-00567	Control Panel Graphic
5	1	STVV-00588	Marquee Graphic
6	1	STVV-00565	Upper Instruction Graphic
7	1	STVV-00566	Lower Instruction Graphic

Die Hard Conversion Kit

Funky Head Boxer Cabinets Only

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	STVV-00593	Service Manual
2	1	STVV-00594	Quick Start Card
3	1	610-0373-17	Die Hard Game Cartridge
4	1	STVV-00567	Control Panel Graphic
5	1	STVV-00568	Marquee Graphic
6	1	STVV-00565	Upper Instruction Graphic
7	1	SI-VV-00566	Lower Instruction Graphic
8	1	STVV-00398	Insert, Control Panel Conversion
9	1	STVV-00052	Control Panel Top
10	1	STVV-00201	Joystick
11	3	STVV-00200	Red Button
12	1	STVV-00223	White Button
13	4	STVV-00235	Joystick Carriage Bolts
14	4	STVV-00236	Joystick Nuts


BEZEL
SPEAKER
SPEAKER
GROUND STRIP
ALL RING LUGS #10
SEGA
1.22.96

SUPER MAJOR LEAGUE COMMENTS

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 Super Major League manual, please write them below. detach, and deliver this page by FAX or mail to:

SEGA ENTERPRISES INC. (USA)
ATTN: Engineering Dept.
45 133 Industrial Drive
Fremont, CA 94538 USA
FAX: (415) 802-1754

Comments: _____

Optional Identification Information:

Name: _____

Company: _____

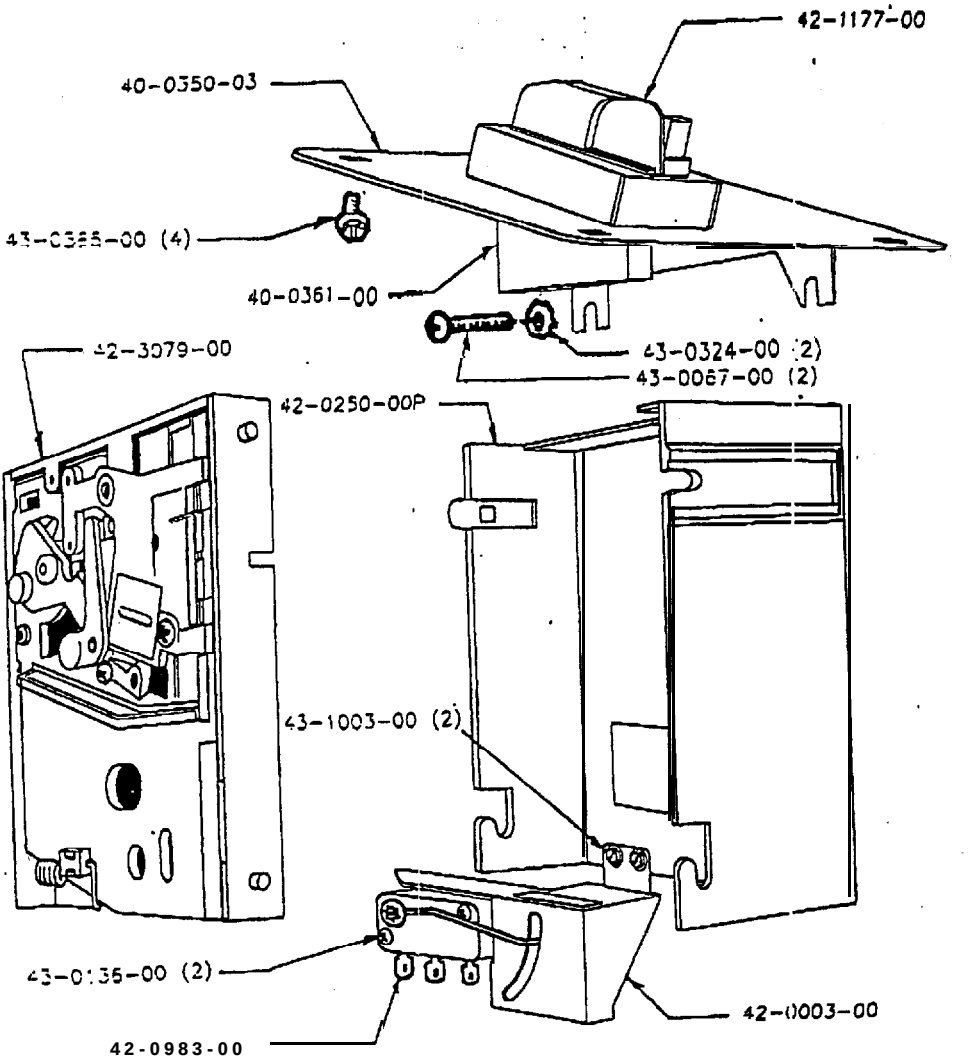
Address: _____

City, State, Zip: _____

Phone: _____

FAX: _____

Parts Department

40-0350-70
page 64 Catalog

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