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1. SPECIFICATIONS

Power Source .................. Single-phase 50/60Hz A.C. 240, 220, 117, 110 or 100V
(all within ±10%)
Wattage ....................... 120W (at 100V)
Coin Operate ................... 1 to 6 games per 1 coin; 1 to 4 coins for 1 game
Coin Capacitance ............... 3,000 coins (¥100 coin)
Dimensions;
  Width ......................... 620 mm
  Depth ......................... 800 mm
  Height ......................... 1,700 mm
CRT monitor ................... 20” color CRT with smoke mask
Power Cord ..................... Triple captyre/ 3 m in length

2. INSTALLATION

(1) Install the machine on a flat floor.

(2) Avoid locations subjected to direct sunlight, high temperature, high humidity, vigorous
  vibrations, dust, etc. Also avoid locations where dangerous objects or fire-fighting apparatuses
  are stored or which block the emergency exit.

(3) Don’t give any shock or vibrations to the machine.

(4) Don’t allow any metal objects to fall into or water to get into the cabinet.

(5) When applying voltage on the machine, do not use the same wall outlet as the one for
  motors, air conditioners, etc. which tend to fluctuate the voltage of the machine or to pro-
  duse noise.

(6) The line voltage that may be selected is as follows: single-phase 50/60 Hz A.C. 240, 220,
  117, 110 or 100V. Connect the plug to the socket which is fitted your local voltage. This
  Voltage Selection Connectors are located on Power-Transformer.
3. PLAY INSTRUCTIONS

★ After coin inserted, press either 1 or 2 PLAYERS BUTTON.

★ Operate your BATTLE STATION right or left by CONTROL LEVER. And shoot assulting enemies.

★ Your BATTLE STATION gradually sails up in the sky.

★ 7 enemy ships are all destroyed, the 1st round is over. When the 8th round is over, return to the 1st round.

★ When each round is over, if the cities on the ground remains, add the number of cities for your score as BONUS points.

★ All your reserved BATTLE STATIONs are destroyed, the GAME is over.

<table>
<thead>
<tr>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTEROIDS</td>
</tr>
<tr>
<td>ENEMY SHIPS</td>
</tr>
<tr>
<td>ALL ARE 10 PTS.</td>
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</tbody>
</table>
4. OPERATIONAL INSTRUCTIONS

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

- Avoid momentarily pushing in or pulling out the power cord plug.

- Even when it is found that the solid-state module is apparently out of order, do not check for the circuit by means of a tester, etc. since the voltage developed within the tester, etc. may destroy the IC unit.

- When carrying the machine about, be careful not to drag or drop it so as to protect the CRT of its TV set.

- Be sure to use rated fuses.

- Since there are high-tension parts on the base board and in the interior of the TV set, never touch such parts (this rule, however, does not apply to the manufacturer’s servicing engineers).
OPERATOR’S OPTION

1. AUDIO VOLUME ADJUSTMENT

2. OPTION SWITCH SETTINGS

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>DIP SWITCH</th>
<th>FUTURE</th>
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<tbody>
<tr>
<td></td>
<td>#1 #2 #3 #4 #5</td>
<td></td>
</tr>
<tr>
<td>DIFFICULTY</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>COIN OPERATE (CHUTE 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COIN OPERATE (CHUTE 2)</td>
<td></td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
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</tbody>
</table>

June 09/81
Add wiring from #1 to include #2. 03 both #2 and #4 on #1 setting.
5. TROUBLESHOOTING

○ Before considering some phenomenon as a trouble, confirm the matters listed below and then contact your dealer.

○ The video game machine is broadly divided as to electrical component into four sections, namely, the monitor section, game PCB, operating section and power source section, which are connected with one another by wiring. If any one of them develops a trouble the game machine as a whole will not work normally. When you think that there is something wrong with the machine, check for the machine just for a little while before consulting your dealer since an apparent trouble may sometimes be caused by a trifling mistake or misunderstanding which can be remedied by a modicum of repairs.

○ When the machine has developed any trouble, it must first be found out which part of the four sections and the wiring is malfunctioning. When you have guessed the malfunctioning part, check for each section. If the checked part shows no abnormal signs, check for other parts related to it, too.

○ Is the fuse not blown? (Be sure to use the indicated fuse. If a renewal fuse is also blown, then the other part is out of order.)

○ Is the connector unfirmly contacted or disconnected? Since connector's poor contact is conceivable in all trouble cases thoroughly check the connector for contact condition (Be sure to turn the power off before mounting or demounting the connector.)

○ Sometimes normal images cannot be produced despite turning ON the power cord plug. This can sometimes be corrected by setting the control circuit. So, repeat turning ON and OFF the power a few times.

○ When checking for the meters, switches, etc. by means of a circuit tester, be sure to pull out the IC board connector.
6. PARTS DIAGRAM

- OUTSIDE VIEW

- L Fixture (062)
- Acrylic Tytle Panel (058-2)
- Acrylic Play field Panel (058-1)
- Acrylic Smoked Mask (033)
- Operating Lever Ass'y (071)
- Operating Panel (008)
- Players SW (010)
- Front Door (066)
- Coin Slot #2
- Coin Slot #1
- (Cash Box)
- Sylinder Lock (001-3)
- Sylinder Lock (001-2)
- (Common key)
- 20" Color CRT Monitor (042)
- Sticker (034)
- Push Button Ass'y (016-R)
- Caster 3"
- Rear Access Door
• INSIDE VIEW

Fluorescent Lamp (059)
Speaker 8 ohm (032) (061)

Service SW (021)

Coin Counter (020)

Cash Box (067)

Cabinet (001)

Power Source Unit (048) (049)

20" Color CRT (042)

Synthesizer Board (051-2)

Game Board (051-1)

Interlock SW (064)

Power Cord
• CONTROL LEVER ASSEMBLY

- Long-Lever micro (019)
- Push button fixture (017)
- Lever Knob (Part of 016)
- Operating panel
- Blind (012)
- Lever Assembly (011)
- Players SW Assembly (010-2)
- Attached nut (Part of 016)
- Molded push button (016)
- Spacer ring (018)
WIRING DIAGRAM

FROM 44P CONNECTOR

BLK

NOISE FILTER (O35)

100

BLK

FUSE CHIPS (O25)

34

BLK

FOR MONITOR

0251

FOR FLUORESCENT LAMP

0252

AC IN

INTERLOCK SW (10641)

BLK

PTL-1450S7

Red

07A

0V

12V

5V

NLK

 inter

GND 1-4

1 2

BLK

TRAN CENTER TAP

3 4

AC 12V

5 6

BLN

TRANS AC 12V

7 8

AC 12V

9 10

BLN

SYNC

11 12

SYNC

13 14

BLK

Red

Sync

15 16

BLK

Ground

17 18

Yel

2P FUSE SOCKET

19 20

SP

21 22

SP

23 24

IP

25 26

2PLAY

27 28

1PLAY

29 30

CDM 2

31 32

CDM 1

33 34

Green

35 36

AC 9V

37 38

MNL

39 40

AC 9V

41 42

BLK

43 44

BLK

TRAN CENTER TAP

44
# 7. PARTS LIST

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Nomenclature</th>
<th>Description</th>
<th>Quantity</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Cabinet</td>
<td>Type 6500</td>
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<tr>
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<td>Sylinder lock &amp; key</td>
<td>(Common key)</td>
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<tr>
<td>001-3</td>
<td>Sylinder lock &amp; key</td>
<td>(Safe key)</td>
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<tr>
<td>006</td>
<td>Coin mechanism</td>
<td></td>
<td>2</td>
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<tr>
<td>008</td>
<td>Operating panel</td>
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<td>1</td>
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<td>010-2</td>
<td>Player's SW</td>
<td>Round type</td>
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<td></td>
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<tr>
<td>012</td>
<td>Blind (black paper)</td>
<td>10.5φ-40φ</td>
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<td>015</td>
<td>Lever knob</td>
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<tr>
<td>016-R</td>
<td>Molded push button ass'ly</td>
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</tr>
<tr>
<td>016</td>
<td>Molded push button</td>
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<td>017</td>
<td>Push button fixture</td>
<td>(Upright)</td>
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<tr>
<td>018</td>
<td>Spacer ring</td>
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<td>019</td>
<td>Long-lever micro SW</td>
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<td>020</td>
<td>Coin counter</td>
<td>6VDC 6digit</td>
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<td>Service SW fixture</td>
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<td>AC Outlet receptacle</td>
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<td>027</td>
<td>Cord bush</td>
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<td>Fuse clips</td>
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<td>Noise filter</td>
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<td>031</td>
<td>3A Fuse</td>
<td>6φ glass cartridge</td>
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<td>Speaker</td>
<td>6-8” 8 ohm</td>
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<tr>
<td>033</td>
<td>Acrylic smoke</td>
<td>(Blue)</td>
<td>1</td>
<td></td>
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<tr>
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<td>Play instruction sticker</td>
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<td>44p Edge connector</td>
<td>4 mm pitch</td>
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<td></td>
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<tr>
<td>042</td>
<td>20” Color CRT monitor</td>
<td>Toei</td>
<td>1</td>
<td>Insulated; with signal cable &amp; power cord</td>
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<tr>
<td>042-1</td>
<td>Signal lead cable</td>
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<td></td>
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<tr>
<td>042-2</td>
<td>Power cord</td>
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<td>044</td>
<td>7p relay plug &amp; socket</td>
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<td>2</td>
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<td>045</td>
<td>Triangle ideal</td>
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<td>Power source board ass'ly</td>
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<td>049</td>
<td>Set down transformer</td>
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<td>051</td>
<td>Game PCB</td>
<td></td>
<td>1 set</td>
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<td>Main (MPU) PC board</td>
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<td>Playfield panel</td>
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<td>060</td>
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<td></td>
</tr>
<tr>
<td>061</td>
<td>Mesh plate</td>
<td></td>
<td>1</td>
<td>For speaker</td>
</tr>
<tr>
<td>062</td>
<td>L fixture</td>
<td></td>
<td>2</td>
<td>For tytle panel</td>
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<td>Nomenclature</td>
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<tr>
<td>064</td>
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<td>066</td>
<td>Front door</td>
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<tr>
<td>067</td>
<td>Cash box</td>
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<td>2p terminal board</td>
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<td>Spacer</td>
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<td>Plate spring</td>
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<td>U-ring</td>
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<td>R-ring</td>
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<td>Escutcheon (black paper)</td>
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<td>Patching lock</td>
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<td>Diode</td>
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<td>Class 1A (10D-1)</td>
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