GRINE ELF HORIZONTAL VERTICAL

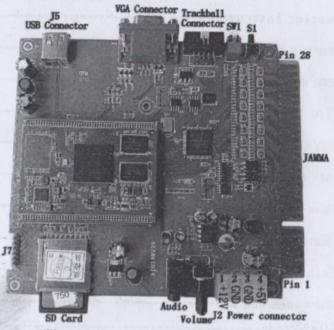
SYSTEM USER MANUAL

In order to understand the function of this system completely, please have a through reading of this manual

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1. Connector Instruction:



(Figure 1, Game board instruction)

CAUTION: The function of JAMMA connector power and J2 power is same; do not use them together that would destroy game board.

Trackball connection

J6 T	rack	ball	Conr	ector		Trackball 6P	Connect	or
BY 9	BX 7	AY 5	AX 3	5 V	+	1 Black	id non	GND
	•		•	•		2 light green 3 yellow	(Table)	Y+ Y-
•	•			•		4 purple 5 Green		X- X+
GND	8 BY	6 BX	4 AY	2 AX		6 Red	10 50	+ 5V

Please connect the trackball 1P (A) and 2P (B) to J6 connector accordingly

Remark: The picture of user menu only for reference, any difference, please refers to the products.

XIN	1ARMV27 b	oard JP7	connecto	rainvala
PIN	JP7-1	JP7-4	JP7-5	JP7-6
Definition	GND	V	Н	VDD3.3V
Note: JP7-6	is near Ia	stalling P	ort	e interpressor

2. Operation instruction

Connect the game board and switch on the machine power, after the logo of the "GAME ELF" disappear, then enter game list menu as the figure 2.



(Figure 2)

- Caution: press 1P C button to check the instruction.
- Press 1P-B to choose horizontal or vertical version game list. (Run type:H and V)
- Insert coins first and select game. (No needs to insert coin for Free play or free browse)
- Select game by moving 1P joystick up or down, and left or right moving is to view game list.
- 4) Press 1P-START button to enter game.
- 5) If Coin recycling is set to "No", after entering the game, all coins

- the player insert will be inserted into the game automatically. If **Coin recycling** is set to "Yes", Press 1P START button for 3 to pop up menu, and select "continue" to insert coins.
- 6) All games on Cocktail mode and some games on Upright mode need 2 coins(or more coins) and press 2P-START button first to enable 2 players mode. If Coin recycling is setted to "Yes", for these games please press 2P-START to add coins. (about horizontal version, see games with" * "in the game list.)
- 6) Press 1P-START button for 3 seconds to pop up menu, and select "exit" to return to the game list (as figure 2). Press 1P-Start for 3 seconds to return directly game list when it's in game loading process.

3. System settings configuration

 Switch on the machine power, when the string "Press TEST button to setup" appear, press TEST or S1 button to enter the system Settings menu (see the below figure 3).

```
Select the item, IP_START to Enter:

-> 1. Exit.
2. JAMMA I/O Test.
3. My Cabinet Type = Upright (Default).
4. My Cabinet Type = Cocktail.
5. Show Serial Number.
6. Service
7. Coin Settings.
8. Show coins counter.
9. Flip Screen
```

(Figure 3)

- Select item by moving 1P joystick down or up and press 1P START to enter.
- Select "Exit" to quit and then enter to the game list(figure 2).

3.1 JAMMA I/O Test

Check input/output buttons function is ok or no.(It is invalid for family mode.)

* [TEST] = [S1] * [SERVICE] = COIN

3.2 MY Cabinet Type = Upright (Default)

According to the screen display prompts, perform the operation step by step. All game configurations is returned to factory configuration and loaded of Upright mode. Prompt(DEFAULT) will be displayed after a successful Settings. Otherwise please perform again.

3.3 MY Cabinet Type = Cocktail

According to the screen display prompts, perform the operation step by step. All vertical version of games are loaded of Cocktail mode. Prompt(DEFAULT) will be displayed after a successful Settings. Otherwise please perform again.

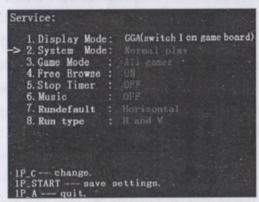
▲ Horizontal version of the games are not supported on this function.

3.4 Show Serial Number

This serial number is only marked number, we suggest that our customers note this number and be convenient for getting service in future.

3.5 Service

On the system menu (as figure 3), select item "6.Service" to enter the setting menu(as figure 4).



(Figure 4)

- Moving 1P joystick up or down to choose item, then 1P-C modify item.
- SW1 switch on game board adjust Display Mode.
- After finishing modification, press 1P-Start to save setting(as figure 5), then press 1P-A to return system menu(as figure 3).
 Select "Exit" to exit, the new configuration is valid after system automatically restarts.



(Figure 5)

3.5.1 Display mode

This game board support both VGA and CGA display modes, see the below setting way.

VGA mode (31.5 KHz):Before switching on the machine

power, set BIT1 of SW1 ON and the VGA monitor plug the VGA output connector. It output resolution of 800x600.

CGA mode (15.75 KHz): Before switching on the machine power, set BIT1 of SW1 OFF to use a regular JAMMA cabinet. The VGA port output is invalid.

▲ In addition: after the power of game board is on, and during the system starts, please don't switch SW1 on/off. Avoid affecting the normal operation! Thanks!

▲ 3.5.2 System Mode

Edit game list/Game difficult/Lives setting/Game configuration need to enter "Config/Edit Mode". If you don't need to adjust these items, please adjust to "Game Mode (Normal play mode)" for improving system stability.

3.6 Coin Settings

On the system menu (figure 3), select item "7.Coin settings" to enter the games setting menu(figure 6).

```
Coin settings:

-> 1. Coin Mode : | Coin | | Credit, | |
2. Coin recycling: No | |
3. Free play | |
1P_C -- change. |
1P_START -- save settings. |
1P_A --- quit.
```

(Figure 6)

 Select items by moving 1P joystick down or up, and press 1P C to modify the item.

- Press 1P START button after finishing the setting and follow the instruction to save.
 - ① Coin mode: to modify the game's coin setting.
 - ② Coin recycling: to select Coin recycling to "Yes" or "No".

"Yes": coins not be inserted into game can be returned to the player after quitting the game.

"No": All coins will be inserted into the game.

Remark: in single game mode, please change to "NO" in the coin recycling.

3 Free play:

Free play (ON): Play all games for free.

Free play (OFF): Disable for free play.

3.7 Show coins counter

Show the number of coins in the current mode of operation (The function is invalid for Free play mode and home mode).

3.8 Flip screen

Flip screen: Game screen flip 180 degree.

4. Edit game list

1) Enter Game Settings interface(as figure 4), set System Mode to Config/Edit mode, then save and quit the system setting. Enter the Game edit interface(as figure 7). (On the Config/Edit mode, press TEST or S1 button on the game list menu (figure 2) to enter the below menu also)

```
1P_A to Enter Submenu
1- Exit.
2- Edit game list.
3- Edit game difficulty
```

(Figure 7)

2) Moving 1P joystick down or up to select "2-Edit game list" and enter the "edit game list" menu as figure 8.



(Figure8)

- The item"*" means to show game list, no item "*" that means to hide game list.
- Select game list by moving 1P joystick and press button A to decide to show or hide the selected game.
- Press 1PB button to show all games and 1PC button to hide all.
- 4) After the game list edition is finished, press 1P START button to enter the save menu as figure 9 .Please follow the instruction to save.

Confirm your selection?

1P-A:Save and quit.

1P-B:Cancel.

1P-C:Quit without saving.

(Figure9)

5) After editing the game list, please enter the Game settings again (figure 4), set system mode to "Normal play" mode and save. The game will be started in normal after the system reboot.

5. Single game setting and operation

- 1) Please refer to "edit game list" as above, and enter the edit game list menu (see figure8)
- 2) Select game list by moving 1P joystick and press 1P D button to set. If it shows "SET" in front of game title you selected, that means the setting is successful.
- 3) Enter Service settings menu as figure 4, set the Game mode to Single mode, and System mode to "Normal play" mode and save. The single game will be started after entering the game.

Remark: in single game mode, please change to "NO" in the coin recycling.

6. Game difficulty and lives setting

1) Enter Service settings (figure 4), set system mode to Config/Edit mode, save and then enter the menu(figure 7). Select the item "3.edit game difficulty" to enter the menu as below figure 10.



(figure 10)

- 1P joystick: to select the game that needs to be changed.
- 1P A button: to adjust the game difficulty.
- 1P B button: to adjust the lives
- 1P C button: to set all games to hardest.
- 1P D button: to set all games to hard.
- 1P E button: to set all games to normal.
- 1P F button: to set all games to easy.
- ▲ notice: when game difficulty show as "x(x)" or lives show as "x", it means this game has no difficulty and no lives to adjust or it means this game doesn't support to adjust game difficulty and lives. If it is the latter, please enter the game and set the game configuration specifically.
- After finishing it, press 1P START button and follow the instruction to save. Press 1P A button to save the modified games and press 1P D button to force to save all games. Saving all games will cost a long time.
- Set the system mode to "Normal play" mode and enter the game list menu (see figure 2) to start game as usual.

7. Game configuration settings

Way 1 for Game configuration settings:

- 1) Enter Service settings menu as figure 4, set **System mode** to "Config/Edit" mode, save and quit the system settings menu, then enter the game list menu (figure 2).
- 2) Moving 1P joystick down or up to select the game you want to change, Press 1P START to start game and enter the game configuration editor menu as figure 11. (Part of the game into the void, see Way 2 for Game configuration settings)





(Figure 11)

(Figure 12)

- 3) Move 1P joystick to select "Dip Switches" and press 1P A button to enter the setting menu(see figure 11). This operation is invalid for some games, please refer to way 2 for details.
- Select option by moving 1P joystick down or up, and press 1P C or D button is to change.
- 5) Select "return to main menu" to quit the setting menu after setting, and select "Exit game" to back game list (see figure 2). Restart the game, then new settings is valid.
- 6) Please go on to set other games if there are, and if not, please set System mode to "Normal play" mode. Enter the game list and the game will be started in normal mode.

Way 2 for Game configuration settings:

- 1) Refer to way 1, enter the game configuration editor menu(figure 11), and select the item "Enter Service Mode (If have)" to enter game's original setting menu(when some games select this item, it's need to quit game first and enter again, then enter the game configuration setting menu)
- 2) Follow the instructions of the game configuration setting menu to

modify game configuration and save it.

3) After finishing it, press TEST or S1 to show the game configuration setting menu, select "Exit game" and back to game list menu (figure 2), enter the game again and the new configuration takes effect.

Caution: The game will enter setting menu after starting if "service mode" is set to ON.Please refer to way 1,set "Service mode" to "OFF".

4) Set the system mode to "game mode" and enter the normal playing mode.

Way 3 for Game configuration settings:

CAUTION: this way is only suitable for the games as below tab, for other games' setting, please see the way 1 or way 2 as above.

Item number	Game	Item number	Game
498	Robotron	525	Joust
522	Defender	526	Blaster
523	Stargate	527	Splat
524	Bubbles		

- Refer to Way 2, select the item "Enter Service Mode (If have)" to enter game's original setting menu, or start game, press 2P ADVANCE button(F button) to enter game test menu at any time. (On the Config/Edit mode)
- 2) After enter game test menu, continue to press ADVANCE* button to the game setting and then it can be set. Please see the below detail setting ways. (Remark *: for Defender game, press 2P E +F button to switch setting items.)

On the configuration setting mode, define 2P D button, E button,

F button as below.

2P D button: High score reset

2P E button: AUTO
2P F button: Advance

Remark: For the above definitions, they are only valid when System mode is set to Config/Edit mode, and only valid for above games.

- After setting, press ADVANCE button to quit the setting mode menu and back to game list(or press S1button, and select "Exit game" to back game list.)
- 4) Restart the game, then new settings is valid.
- 5) Set the system mode to "game mode" and enter the normal playing mode.

8. TEST or S1 button function

- 1) System setting button, press TEST or S1 button to enter the system setting menu when the screen show "Press TEST to setup" (figure 3).
- 2) On the Normal play mode, press TEST or S1 button to quit and back to the game list (Figure 2).
- 3) On the Config/Edit mode, press TEST or S1 button in the game to pop up or hide the configuration setting menu(figure 11). And press TEST or S1 button on the game list menu (Figure 2) to enter the edit game list.

On the configuration setting mode, define 2P 43 beaton. E catto intain protect collecting has been set as considered.

9. Instruction for Home mode

1) PS2 game controller

Plug-in J5 USB port of game console (figure 1-1) to PS2 game controller, switch on the power, after the game controller defected, then the system will enter the home mode.

One player: connect one of PS2 game controller to J5 USB port of game console

Two players: add one USB 2.0 hub, connect two PS2 game controllers to hub, and then connect hub USB port to J5 socket of game console.

2) Free play

No free play on the home mode. Press SELECT to insert coins, and then press START to begin game. Set the game configuration settings to get free playing is available for most games. Please refer to page 10 to get more information.

3) Define 1P PS2 game controller as below.



Press 1P-L1 and 1P-L2 bottom at the same time to quit game.

4) Sleep mode

The idle PS2 game controller will enter sleep mode when power is on.

Caution: When the controller is in sleep mode, the power switch of controller is invalid, you must press START button to wake it up, return to normal working state.

10. Common problems and solutions

Problem: the game screen is not synchronized in the CGA mode when game start.

Solution: Adjust the horizontal stabilizer in the game monitor until the image is clearly visible.

11. JAMMA wire map

Tab3. JAMMA wire map

JAN	MA W	IRE	PAP
Part side			Soild side
Definition	PIN	PIN	Definition
GND	1	1	GND
GND	2	2	GND
+5V	3	3	+5V
+5V	4	4	+5V
/	5	5	/
+12V	6	6	+12V
/	7	7	/
1	8	8	/
JMA9	9	9	JMB9
SPEAKER+	10	10	SPEAKER-
JMA11	11	11	JMB11
VIDEO R	12	12	VIDEO G
VIDEO B	13	13	VIDEO SYNC
GND	14	14	SERVICE
TEST	15	15	JMB15
1P-COIN	16	16	2P-COIN
1P-START	17	17	2P-START
1P-UP	18	18	2P-UP
1P-DOWN	19	19	2P-DOWN
1P-LEFT	20	20	2P-LEFT
1P-RIGHT	21	21	2P-RIGHT
1P-A	22	22	2P-A
1P-B	23	23	2P-B
1P-C	24	24	2P-C
1P-D	25	25	2P-D
1P-E	26	26	2P-E
1P-F	27	27	2P-F
GND	28	28	GND

▲ Caution:Do not connect the PIN27 of JAMMA port to ground lead, it will affect the game's playing.

4) Sleep mode

The idle PS2 game controller will enter sleep mode when power is on.

Caution: When the controller is in sleep mode, the power switch of controller is invalid, you must press START button to wake it up, return to normal working state.

10. Common problems and solutions

Problem: the game screen is not synchronized in the CGA mode when game start.

Solution: Adjust the horizontal stabilizer in the game monitor until the image is clearly visible.

Special note

- 1. This price is just for the computer hardware equipment.
- 2. Customers get the software by their own (including the purchase from the software provider or download free software from related web).
- 3. The way to get the software:
 - (1) Purchase the software from the software provider.
 - (2) Download the software from the related web.
- 4. Users assume all the legal consequences due to wrong download and use the software, it is unrelated with the equipment manufacturers and distributors.

