Pirate shooting gallery installation and maintenance



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1. Installation

1.1 Unpacking

Carefully remove all packaging material, and site the machine on a flat and level floor. The machine is designed for indoor use only.

1.2 Access

Gun consoles – Undo the lock on the top face of the consoles, the top is hinged at the back, and will lift complete with the gun.

Coin doors – Opening the door gives access to the coin mechanism and the cash lock

If no power to the gun consoles, check the connections and wiring from the 12 volt power supply to the consoles, the connections on the gun board, and fuses on the master control unit.

1.3 Assembling

Usually shooting galleries are assembled by our engineers, but they can be built and commisioned by a reasonably skilled site technician.

- a. Lay the floor panels down
- b. Fit the walls to the floor panels
- c. Fit the beams on top of the wall panels
- d. Fit the front sign
- e. Lay out the air and electrical loom.
- f. Fit and connect models.
- g. Bolt consoles togather and connect electrically.
- h. Fit master control unit.

1.4 Set up

The machine is delivered with the following settings:-Shots per game 20 Tickets per hit 1 Settings can be altered, see the section marked master control unit.

2. Game operation

2.1 Overview of electronics system

Master controller EAG03 (found in the gun console)

This board is responsible for communicating with all of the other boards on the system. It receives the "HIT" information from each of the targets, and then updates the scores on the gun control boards.

All of the target sound effects, and the background music sound track are generated on the master controller.

All of the parameters for the system such as coin values, shots per credit, gun volume, etc. are stored on this board. Any changes required only need to be done to the master controller and not to all the boards.

Gun control board EAG04 (found in the gun console)

Handles the credits from the coin mechanisms, the ticket dispensing, the gun sound effects, the guns and drives the gun display boards.

Parameters such as credit value, shots per credit as well as the gun volume are automatically loaded, on power up, from the master controller.

Target output board EAG 05 (found at the back of the machine)

This board provides the outputs when a hit occurs, and also interfaces with up to 4 targets. The boards are configured to provide 1,2, or 4 solenoid outputs from an infra red target.

Infra red target EAG01 (found on the animation scene)

This board receives the infra red bullet and sends it to the target output board for checking. The target board shows red leds and these change to green when the target is hit.

3.0 Trouble shooting

Infra red targets (IRT)

Data to target output board





Target LEDs

Status led

address jumper

Addressing.

This address jumper is set on address 1. Up to 4 targets can be connected to a target output board, but the addresses must be different on all infra red targets.

Target LED indications

One red LED on – No communication from master control units. Check the cat5 cables from the target output boards back to the master control unit. Check that the address is correct. Check that the master control unit is powered up.

Two red LEDs on – no communication from target output board This can happen if two Infra red targets have the same address. Check the cabling, try a new 4 core cable.

Four red LEDs on – All OK, target ready to be hit

Four green LEDs flashing – Target hit and animation in progress

Two greens on – Target hit but no communication to target output board. This can happen if two IRTs have the same address. Check the cabling, try a new 4 core cable.

Status LED

The red status light on the back of the back of the IRT will flash a number of times to indicate an error code.

Error codes

- 2. No link to target output board.
- 3. 5 volt rail on target board is under 4 volts, check wiring to IRT.

Target output board (TOB)



target fuse 1 amp

12 volt dc in

12 volt dc out _____

Cat 5 from master or



This board provides the outputs for when a hit occurs. This board also interfaces to up to 4 infra red targets.

Indicator LEDs

Error LED red

Error codes

1. In bootloader program (factory set) waiting for master to tell the TOBs to run the main program.

2. Output current is to high. (more than 5amps after 200ms)

3. Output is shorted (current more than 20 amps after 4 ms)

4. Default output programs loaded(factory set)

5. Unrecognised output program (factory set)

6. Blown output fuse.

7. No main firmware (factory set)

Data (yellow)

This LED should blink rapidly to indicate communication to the master controller. If it is not blinking check the cat5 cable to the master controller.

3v3 (green)

This indicates that the board is powered up and that 3.3.volts is available to the electronics.

D12 – 15(red)

These LEDs light when the output channels are on, they will show that the output is operating correctly.

Gun Control Board (GCB)



12 to 15volt input/output

This board also handles the credits from the coin mechanisms, the ticket dispensing, the gun sound effects, the infra red guns and also drives the gun display boards.

Indicator LEDs

Error LED (red) Contact factory DATA (yellow)

This led should be blinking rapidly to indicate communication to the master controller. Check the cat 5 cable to the master controller if this is not happening.

3V3 (green)

This indicates that the board is powered up and 3.3 volts is available to the electronics **5V (green)**

This indicates that the board is powered up and 5 volts is available to the electronics. If either of the LEDs are not lit, check the LOGIC fuse.

AUX1 12v

Shows that 12volts is available to the following outputs:-

- Credit and ticket counters
- Electronic coin mechanisms
 If this LED is not lit , check for external faults, and then check FUSE AUX1 12V

Gun display board (GDB)



This board displays the score, credits and shots.

It is powered over the cat 5 cable that connects it to the gun control board.

It has to have an address set on the dip switches to define which player it relates to.

Player 1 switch 1 off switch 2 off

Player 2 switch 1 on switch 2 off

Player 3 switch 1 off switch 2 on

Player 4 switch 1 on switch 2 on

Master control unit (MCU)



This board is responsible for communicating with all the other boards on the system. It receives the HIT information from each of the targets and then updates the scores on the gun control boards.

All of the target sound effects and background sound tracks are stored on an SD card found on the side of this box.

Service mode

Various parameters such as coin values, tickets dispensed etc. can be altered The adjustments can be made using the 4 buttons on the lid of the control box in conjunction with the LCD display.

To alter parameters turn the service switch on. The top line shows the item and the bottom line shows the value associated with the item. The > shows the current selection. The buttons perform the following functions:-

'SELECT' moves between the item and value. The selected one is shown with the > symbol 'UP' increments the item or value on the display

'DOWN' decrements the item or value on the display

'SAVE' saves the data to flash memory.

Change the data of each and every item that you wish to change and when you have finished, press the 'SAVE' button which stores the new values in flash memory, then turn off the service switch which will cause a reboot of the system.

Example

To change the cost per credit from 50p to £1

1. Ensure that the machine is switched on and that there are no credits left and no games are playing. Turn on the 'service mode switch' which is situated on top of the control box. The display will show 'SERVICE MODE' for 2 seconds.

2. The display will then show the first item which is "GAME TIME" with a value of 99 if set to its default setting. *A value of 99 equates to a game time of 990 seconds.*

3. While the top line is selected '>', press the up button repeatedly until the display shows "CREDVAL" which is item 3, cost per credit.

4. Now press 'SELECT' button so that the bottom line of the display is selected. If set to default it should show "value=05" which equates to 50 pence.

5. Press up button until the display shows 'value=10' which equates to £1.

6. Press the 'save' button, which will save the changes made. Note: *if you turn off service modewithout pressing 'SAVE' any changes will be lost.*

7. Now turn off service mode switch which will reboot the gallery.

Notes:

1. You can only adjust each value within certain limits which are defined below in table 1.

 As the display is only 2 digit on some machines, some values are entered divided by 10 For example ; coin 6 has a value of £2.00 (200 pence) so we would enterthe value 20.

3. Items shown in red in **table 1** should not be changed unless instructed to do so by Pan amusements.

Table 1:		
Item	Value	Description
GAMETIME	= 99	;Game duration. Enter value divided by 10. eg: 24 is 240 secs (not used)
HITTKT	= 1	;1 tickets per HIT
WINTKT	= 1	;1 extra tickets per WIN or bonus target
CREDVAL	= 5	;Cost per credit. Enter value divided by 10. example: 5 is 50pence.
CREDMAX	= 10	; maximum of 10 credits can be deposited before coin mech is locked out
COIN1	= 10	;1 pound coin Enter value divided by 10.
COIN2	= 5	;50 pence coin Enter value divided by 10.
COIN3	= 2	;20 pence coin Enter value divided by 10.
COIN4	= 1	;10 pence coin Enter value divided by 10.
COIN5	= 0	;No coin Enter value divided by 10.
COIN6	= 20	;2 pound coin Enter value divided by 10.
COINM	= 5	;50 Pence coin for mechanical coin mech. Enter value divided by 10.
1CRED	= 1	;
2CRED	= 2	;
3CRED	= 3	;
4CRED	= 4	

5CRED	= 5	,
6CRED	= 6	• •
7CRED	= 7	• •
8CRED	= 8	• •
9CRED	= 9	• •
10CRED	= 10	• •
TARGETS	= 7	;Number of TARGET OUTPUT BOARDS on system. (max of 32)
GUNS	= 2	;Nmbr of gun control boards on system. 2 equals 8 guns (max of 15 GCBs))
DEFSCORE	= 10	;Default score if score.txt is missing or corrupt
GAMEMIX	= 32	;not used
ATRCTMIX	= 32	;not used
ATRCTDLY	= 30	;not used
DUCKING	= 12	;not used
BGMTREBLE	= 40	;Background and attract music Treble
BGMBASS	= 40	;Background and attract music bass
FXTREBLE	= 40	;Sound effects Treble
FXBASS	= 40	;Sound effects bass
GUNLOCK	= 10	;Gun lockout time 10 = 1 second
FIRERPT	= 4	;IR bullet repeats 4 times
GUNDBNC	= 5	;Debounce for trigger 5 = 48mS
SHOTS	= 20	;Shots per game
SWDBNC	= 10	;80mS
COINDBNC	= 5	;48mS
TKTTIM	= 20	;Ticket timeout. Enter seconds * 10. Example: 20 is 2 seconds
IRFLASH	= 50	;Flash speed of IR leds when hit in 10mS steps
IRBRIGT	= 10	;Brightness of IR leds (not done yet)
IRRPTS	= 2	;Number of times the 'Bullet' has to be received before a hit is valid
IRMINLKT	= 10	;Minimum lockout time of target when hit. (if no anim prgm)
IRMAXFLSH	= 99	;Maximum time the LED's will flash when target hit.
IRSPARE5	= 55	
IRSPARE6	= 66	
IRSPARE7	= 77	

4. Parts

Part number	Description	Where used	Picture
	•	•	

G555	Gun assembly	On gun consoles	
			6
G416A	Gun hose with wires	On gun	
G551	Gun barrel complete	Part of gun	CE LION / 20
G710	Trigger microswitch	Part of gun	
G708	Trigger spring	Part of gun	-0
EGA01	Infra red target Circuit board	Receives infra red signals from the gun	
P32	Target plate	Fits in front of the target circuit board	

EGA02	Display	Shows credits, Score, and shots left	
EGA03	Main control board	Runs all the electronics	
EGA04	4 way gun board	Drives 4 guns	
EGA05	Target output board	Controls up 4 target boards	
EGA06	High score display	Supplied as an extra, and shows the highest scorer	ALCE COMMUNICATION

A100	Water iet	Used on water	
		squirt targets	
A100B	Water jet adapter	Connects the water	a an
		jet to the model	
A009 to	Air cylinders of	Operate the	
A042	various bores and strokes	models	Please
			quote numbers on the cylinder
			body
A112A	3 port 12 volt dc air valve	Used on models	
A116A	3 port 12 volt dc	Used on water	
	water valve	squirters	
A114A	5 port 12 volt dc air valve	Used to drive air cylinders	

A135	4mm red tube	
A135A	4mm natural tube	~ /
A136	4mm blue tube	
A136A	4mm yellow tube	
Δ139	8mm vellow tube	
A139	8mm natural tube	
		-
A152	8 mm push in tee	
	fitting	
A151	¼" bsp to 8mm tube	
A154A	1/8" bsp to 8mm	
	tube	
A152A	4mm tube to 4mm tube	

A153	8mm x 4mm stem reducer		
P31	Game over plate		CREATER STORE STOR
H162B	Ticket dispenser golding gallery	Dispenses tickets (ticket dispensers are an optional extra)	

5. Maintenance

Compressor

<u>Daily</u>

At the end of the day, press the button on the compressor switch box, and drain the compressor by opening the tap under the air tank. Leave the tap open until the next day, and then lift the button to start the compressor. Note that switching the compressor off at the main switch can cause the compressor to attempt to start with compressed air still in the system, and may overload the motor.

<u>Monthly</u>

1. Clean the air filter on the air inlet pipe with a dry cloth.

2. Check the oil level in the compressor

<u>Yearly</u>

Change the compressor oil

Water system

Monthly

Remove and wash the water filter in the tank

6. Contacts

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