

# Game Manual



#### WARNING! STOP AND READ – UNPLUGGING BOARD CONNECTORS WHILE THE MACHINE IS POWERED ON CAN, AND MOST LIKELY WILL, DESTROY THE BOARD! THIS IS NOT COVERED UNDER AMERICAN PINBALL'S WARRANTY AND YOU WILL BE RESPONSIBLE FOR ALL ASSOCIATED REPAIR COSTS. NO EXCEPTIONS.

WWW.AMERICAN-PINBALL.COM PART NUMBER: VHR-D0C0022-00

# LIMITED WARRANTY.....

American Pinball Inc. ("Seller") warrants only the original purchaser of its products that the items listed below are free of defects in material & workmanship under normal use and service for the specified warranty period. <u>Warranties are non-transferable</u>.

# COVERAGE

The limited warranty covers defective workmanship and materials as follows:

- 1. All parts of the pinball machine, excluding standard plastic, bumper post, rubber rings and wear & tear parts for **90 days** from the date of invoice or shipment by distributor.
- 2. The LCD monitor for 1 year from the date of invoice or shipment by distributor.

# CONDITIONS

The **original purchaser** must register the Limited Warranty by completing the Product Registration Form on the American Pinball Website within 15 days of receipt: <u>https://www.american-pinball.com/support/register/</u>

In the event that warranty parts or service help is required the game owner must open a **Service Ticket** <u>https://www.american-pinball.com/support/service/</u>

#### www.americanpinball.com/support/service/ or call 1-833-API-HELP.

Service-related questions can be sent via e-mail to <u>service@american-pinball.com</u>.

Defective parts need to be sent to American Pinball at the purchaser's expense, if the defective parts cannot be removed, the entire Pinball Machine will need to be returned to the Distributor for repair or replacement. All parts must be properly packaged with an RMA tag/Service ticket and returned freight prepaid to the Sellers facility.

# EXCLUSIONS

The Limited Warranty does not cover service, labor or shipping and handling. Damage, wear and or breakage not caused by defective materials or workmanship shall not be covered by the warranty. Damage incurred during shipping and handling shall not be covered by the warranty.

# DISCLAIMER OF IMPLIED WARRANTY

Except as specifically provided in a written contract between Seller and Purchaser, there are no other warranties, express or implied, including any implied warranties of merchantability or fitness for a particular purpose.

# DISCLAIMER OF DAMAGE

This warranty does not apply to any parts damaged due to improper handling or due to improper installation, usage or alteration. In no event shall the Seller be held liable for any anticipated profits, loss of profits, loss of use, accidental or consequential damages or any other losses incurred by the customer regarding the purchase of an AMERICAN PINBALL, INC. product.



# **CAUTIONS, WARNINGS & NOTICES**

**CAUTION!** FOR SAFETY AND RELIABILITY, DO NOT SUBSTITUTE PARTS, EQUIPMENT OR ADD GAME CIRCUITRY MODIFICATIONS. SUCH MODIFICATIONS MAY ADVERSELY AFFECT GAME PLAY OR CAUSE INJURIES AND MAY RESULT IN VOIDING OF THE WARRANTY. ALWAYS TRANSPORT PINBALL GAMES WITH THE HINGED BACKBOX IN THE FOLDED POSITION. CONTACT AUTHORIZED SERVICE PERSONNEL BEFORE PERFORMING ANY REPAIR. ANY SUCH REPAIRS SHOULD BE DONE WITH THE LINE VOLTAGE DISCONNECTED. FOR SERVICING TIPS, REFERENCE THE USER MANUAL OR CONTACT AMERICAN PINBALL INC. TECHNICAL SUPPORT. SUBSTITUTION OF PARTS AND EQUIPMENT MAY VOID FCC TYPE ACCEPTANCE.

**WARNING!** EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A "CLASS A" COMPUTING DEVICE. PURSUANT TO SUBPART J OF PART 15 OF THE FCC RULES AND REGULATIONS. FCC RULES ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST RF ENERGY WHEN OPERATED IN A COMMERCIAL ENVIRONMENT. OPERATION IN A PRIVATE RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT ITS OWN EXPENSE WOULD BE REQUIRED TO TAKE WHATEVER MEASURES TO CORRECT SUCH INTERFERENCE.

**WARNING!** OPENING THE COIN DOOR EXPOSES HIGH VOLTAGE PARTS IN THE GAME, AND DIRECT CONTACT TO THESE HIGH VOLTAGE PARTS CAN LEAD TO SERIOUS OR FATAL INJURIES. THIS EQUIPMENT ISTO BE SERVICED BY TRAINED PROFESSIONALS ONLY.



# **COMPLIANCE, LEGAL AND WARNINGS**

# **Radio Frequency Interference Notice**

CABLE HARNESS PLACEMENT AND GROUND STRAP ROUTING have been designed to keep RF radiation and conduction within levels accepted by FCC rules.

DO NOT ALTER WIRING OR GROUND STRAPPING. Position wiring and ground strap back to their original position if they become loose or are removed for service.

# LEGAL

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# WARNINGS

Only American Pinball authorized parts are to be used. Using ANY unauthorized parts will void all warranties and may cause injury to persons or property.

All servicing of equipment must be completed by competent personnel. Pinball machines are complex and present an electrical shock hazard. Not following these guidelines can be fatal.

# **DOCUMENT REVISION HISTORY**

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	Oktober 19, 2021	Production Release
		Final Release of Document

All information in this manual is accurate at time of release and is subject to change without notice. Check <a href="https://www.american-pinball.com/support/">https://www.american-pinball.com/support/</a> for any and all updates to this manual.

# **REGIONAL CONTACTS**

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Service or Warranty requests Service@americanpinball.com 833-API-HELP

API Tech Tip Videos

https://www.youtube.com/channel/UC9\_k0XRo6lbeyeOuQy4Hseg/videos



# CONTENTS

	Coverage	iii
	Conditions	iii
	Exclusions	iii
	Disclaimer of Implied Warranty	iii
	Disclaimer of Damage	iii
	CAUTIONS, WARNINGS & NOTICES	iv
	COMPLIANCE, LEGAL & WARNINGS	v
	Reginal Contacts	vi
	Contents	vii
1	Overview	1
	About this Manual	1
2	Unpacking Instructions	4
	Unpacking the game	4
	Tools Required for Unpacking	4
	Unpacking Continued	5
	Leveling the game	7
3	Service Menu	8
	Service Menu	8
	API Cockpit	9
	Tests	11
	Access Test Menu	12
	Switch Testing	13
	Playfield Switch Map	14
	Playfield Coil Map	15
	Fuse Table	16
	Coil Testing	17
	LED Testing	17
	Display & Sound Tests	17
	Coil Interlock Switch	17
	Coil Adjustment Settings	18
	Feature Adjustment Settings	19
	Coin Door and Dollar Bill Acceptor Information	20
	Pricing Adjustment Settings	21
	Replay Adjustment Settings	23
	Sound Adjustment Settings	24
	How to Create a Custom Message	25
	Standard Adjustment Settings	26
	Presets	27
1		

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. .

	Switch Table	29
	Opto Board Connectors	30
	Switch Theory	31
	Coil Table	32
	Cabinet Circuit Board Assembly	33
	Bottom Playfield PCB and Dip Switch Settings	34
	Power Distribution	35
	LED Board Configuration and Dip switch settings	36
4	How To Update Game code	37
	Code Update Procedure	37
	How to Download and Update Code	38
	Collecting Game Logs	39
5	Game Rules	40

# LIST OF FIGURES

Post Locations 1-1	2
Rubber Ring Location 1-2	3
Authorized American Pinball Box 2-1	4
Service Menu 3-1	9
Service Menu Navigation Buttons 3-2	12
Test Menu 3-3	12
Switch Testing Menu 3-4	13
Playfield Switch Map 3-5	14
Playfield Coil Map 3-6	15
Opto Board Connectors 3-7	30
Opto Board Schematic 3-8	31
Cabinet Circuit Boards Assembly 3-9	33
Dip switch Settings and Bottom playfield PCBs Drawing 3-10	34
Power Distribution 3-11	35
LED Board Configuration 3-12	36

# LIST OF TABLES

Commonly Used Terms 1-1	1
Service Menu Icons 3-1	9
Tests Menu Icons 3-2	11
API Cockpit Navigation 3-3	13
Fuse Table 3-4	16
Coil Adjustment Settings 3-5	18
Features Adjustment Settings 3-6	19
Price Table 3-7	21
Pricing Adjustment Settings 3-8	22
Replay Adjustment Settings 3-9	23
Sound Adjustment Settings 3-10	24
Standard Adjustment Settings 3-11	26
Presets 3-12	28
Switch Table 3-13	29
Coil Table 3-14	32

# **O**VERVIEW



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# **ABOUT THE MANUAL**

This manual details the integral aspects of the pinball machine. The following chapters are included in this manual.

Chapter	Title
Chapter 1	Overview
Chapter 2	Unpacking Instructions
Chapter 3	API Cockpit / Service Information
Chapter 4	Code Update / Game Logs / USB
Chapter 5	Game Rules

#### Table 1-1Commonly used terms in the Service Manual documentation.

Term	Description
ADJ	Abbreviation for the adjustment menu, when certain settings are adjusted/configured
AUD	Abbreviation for the audit menu, where audits can be run for the machine.
DIAG	Abbreviation for the diagnostic menu, where diagnostics can be run for the machine.
Plumb Bob Tilt	Weighted tilt assembly on the inside left of the cabinet.
P3-ROC Board	Designed to control all the real-time signaling on a pinball machine. Note: The documentation for the P3-ROC Boards is available at American-pinball.com/support
UTIL	Abbreviation for the utility menu, where utilities can be run for the machine.





PST0002-02 21	PST0003-02 20	PST0003-00 19 8	PST0001-00 18	PST0002-00 7	PST0004-03 6	PST0004-02 4 5/	PST0004-00 1	Part# item#
<b>10-32 MINI POST-STEEL WOOD SCREW</b>	8-32 POST FASTENING WOOD SCREW MTG	-32 POST FASTENING SCREW BUTYRATE MTG	1.06 CLEAR PLAIN POST W/ 8-32 HOLE	10-32 MINIPOST FULL THREAD	5/16" HEX SLEEVE POST W/ 8-32 TAP	16" HEX SLEEVE POST W/ 8-32 THREADED TOP	5/16" PLAIN HEX SLEEVE POST - PLAIN	Playfield Posts
л	19	6	20	4	4	9	2	Qua ntity



Part#	item#	Playfield Rubber Rings	Quantity
RBR0005-01	2	0.26 ID X 0.5 OD x 1.06 POST SLEEVE	14
RBR0003-01	6	7/16" OD MINI-POST RUBBER - BLACK	7
RBR0001-12	18	2-1/2" ID RUBBER RING - BLACK	2
RBR0001-02	20	3/16" ID RUBBER RING - BLACK	J
RBR0001-04	21	5/16" ID RUBBER RING - BLACK	4
RBR0002-01		1-1/2" FLIPPER RUBBER - BLACK	з

# **UNPACKING INSTRUCTIONS**

# UNPACKING

In order to fully enjoy your pinball machine in the manner it was designed, please adhere to the following unpacking instructions.

**CAUTION!** THE GAME WEIGHS IN EXCESS OF 250 LBS. AT LEAST TWO PEOPLE ARE REQUIRED TO UNPACK AND MANEUVER THE MACHINE.

# **TOOLS REQUIRED FOR UNPACKING**

A pair of scissors or a utility knife is all you will need.

To unpack: Your pinball machine should appear in the following corrugated box.

#### Figure 2-1 Authorized American Pinball Box.



CHAPTER

#### **UNPACKING CONTINUED**

Using a pair of scissors or utility knife, carefully cut the bands highlighted with the red arrows.



Lay the box down on the "TRUCK THIS SIDE ONLY" side. Remove the 2 pieces of Styrofoam and fold the flap under or cut the whole flap off the box.



Remove the 2 top corner protectors highlighted in the picture (left) and pull out the game by the center strap (center). Next remove the 4 legs from the bottom corner protectors (right).

#### DO NOT CUT THE CENTER STRAP AROUND THE GAME YET

#### **UNPACKING CONTINUED**

Slide the game completely out of the box (left), and carefully stand the game up (center). Cut the shrink wrap by the front legs and install the legs with the supplied hardware (right).







Lay the game down and cut away the shrink wrap covering the rear leg mounting area.



Carefully lift the game up. Install the 2 rear legs with the included hardware. Stand the game up on all 4 legs once rear legs are installed.



Cut and remove the center band, all the stretch wrap as well as the 2 cardboard protectors for the front and back.



#### **UNPACKING CONTINUED**

Lift the head and insert the supplied 5/16" hex wrench into the lock mechanism and turn clockwise to lock.



Remove the keys from the ball shooter rod. One set is for the back box, the other set is for the front coin door. Open the coin door and move the lockbar handle to the left and pull up on the lockbar. Remove the film from the lockbar. Pull the glass off and follow the instructions under the glass.





### LEVELING YOUR AMERICAN PINBALL MACHINE

Your game is designed to sit at **6.5 degrees**. However, depending on the floor, you may have to adjust so that the game is properly leveled left to right and or at the proper pitch. With the leg levelers all the way in (no threads showing below the leg) the game will sit approximately at 6 degrees.

#### Phone Applications for leveling:





iPhone: PinGuy <a href="https://apps.apple.com/de/app/pinguy/id782973821">https://apps.apple.com/de/app/pinguy/id782973821</a>

Video showing how to use: <u>https://www.youtube.com/watch?v=SiM7aMIoCjc</u>

Android: Pinball Leveler <u>https://play.google.com/store/apps/details?id=com.nottud.pinballleveller&hl=en\_US&gl=US</u>



# .....

CHAPTER

# Legends of Valhalla SERVICE MENU

This chapter includes service menu settings. The service menu accesses the following settings for optimal play and maintenance.

- Tests
- Settings
- Statistics
- Utilities
- Health Meter

#### **Before You Begin**

- Have you unpacked your pinball machine and set it up according to the instructions in the manual?
- Have you downloaded the most current code from American Pinball's Support site? <u>https://www.american-</u>pinball.com/support/updates/
- Video showing how to update the gamecode: <u>https://youtu.be/\_n4-7ZSH3UE</u>

- Have you registered your game? <u>https://www.american-pinball.com/support/register/</u> *Games must be registered prior to receiving any warranty parts*

Video showing how to register your game: <u>https://youtu.be/LsoqXcbKZzE</u>



**Note:** Settings are occasionally updated. Please refer to American Pinball's Support site for the most current documentation.

# **API COCKPIT**

The service menu contains tests for all the electrical and mechanical functions within the game.

Video showing how to use the service menus: <a href="https://youtu.be/nKcwKNgNhCw">https://youtu.be/nKcwKNgNhCw</a>



#### Figure 3-1 Service Menu



#### Table 3-1Service Menu Icons

Tests		This includes tests in the following areas         • Switches         • Coils         • LEDs         • Displays
Settings	COST OF	This includes adjustments in the following settings         • Standard Adjustment Settings         • Replay Adjustment Settings         • Coil Adjustment Settings         • Sound Adjustment Settings         • Feature Adjustment Settings         • Pricing Adjustment Settings         • Presets
Statistics		This includes auditsfor the following statistics         • Basic Statistics         • Feature Statistics         • Standard Statistics         • Game Time Statistics         • Earning Statistics         • Score Breakdown Statistics

#### Table 3-1Service Menu Continued

Utilities	X	This includes information for the following utilities• Clear Balls• Statistic Clear• Date and Time Set• Restoration of Default Settings
Health Meter Green	<b>*</b>	The Health Meter Provides a Quick Analysis of the Overall State of The Game Game has no issues
Health Meter Yellow	<b>~</b>	Game may have switch issues. If the game hasn't seen a switch hit in 30 games, it will call attention to it. Go to TESTS – SWITCH TEST
Health Meter Red	<b>*</b>	Game may have missing balls

# TESTS

The test menu includes several diagnostic tests for assuring that your machine is operating properly. The Test Menu provides tests for the following items.

- Switches
- Coils
- LEDs
- Display

#### Table 3-2Test Menu Icons

Switches	
Coils	
LEDs	
Display	

#### To Access the Test Menu

- 1. Power on the machine
- 2. Open the coin door
- 3. Press the black MENU SELECT button to access the service mode

#### Figure 3-2 Service Menu Navigation Buttons



- 4. Press the red +/- buttons to move to icons and menu selections.
- 5. Press the MENU/SELECT button to enter or test the selection

# 

Figure 3-3 Test Menu

6. Use either the flipper buttons or the red +/- coin door buttons to navigate the tests.

#### Table 3-3 API Cockpit Navigation

API Cockpit Button	Flipper Button Equivalent	Fu	nctionality
Green	Press right and left flipper button	•	Back one level
	simultaneously	•	Exit
Red (+)	Right flipper	•	Increases through menu by one
		•	Advance to the right or down
Red (-)	Left flipper	•	Decrease through menu by one
		•	Advance to the left or up
Black	Start	•	Menu Enter
		•	Select current choice

#### **SWITCH TESTING**

The Switch Test screen shows all the switches, grouped by their boards, there are 16 individual switches per board and are displayed in columns. That means all the switches in one column are all on the same switch board. Each switch board has 2 groups of 8 switches and each group of 8 switches will all share the same primary wire color. Opto switches do not share a primary wire color. All contact switches (micro, standup and rollover) will have a brown background when open. The background color will change to bright green when made. Opto switches will be dark green when they are open, and the background will change to bright green when detecting a ball. A switch with a red background indicates a switch that has not been made in a while and should be checked to ensure it is working properly.

#### Figure 3-4 Switch Testing Menu

States L	W.	QUUE	7000	12Q57DN	19
Sales and a		DANI	151		U
Trough 1	<b>Blood Target</b>	Target Light	Unused	Board: 4 Slot: 0	
Trough 2	Left Ramp Standup	Target Ship	Unused	Board: 4 Slot: 1	
Trough 3	Spinner	Target Locks	Exit	Board: 4 Slot: 2	
Trough 4	Center Ramp Stan	Drop Target	Down	Board: 4 Slot: 3	R
Trough 5	Under Ship Standu	<b>Right Ramp Enter</b>	Up	Board: 4 Slot: 4	
Trough 6	Upper Loop Right	Ship Lock 1	Enter	Board: 4 Slot: 5	
Trough Eject	Upper Loop Left	Ship Lock 2	Slam Tilt	Board: 4 Slot: 6	Y.
Shooter Lane	Center Ramp Ente	Coin 1	Unused	Board: 4 Slot: 7	
Left Outlane	Left Orbit	Coin 2	<b>Right Flipper</b>	Board: 4 Slot: 8	Be
left Return Lane	Left Ramp Enter	Coin 3	Left Flipper	Board: 4 Slot: 9	R
<b>Right Return Lane</b>	AX(E)	Coin 4	<b>Start Button</b>	Board: 4 Slot: 10	
<b>Right Outlane</b>	ACXDE	Coin 5	Tilt	Board: 4 Slot: 11	-
Left Slingshot	(A)XE	Coin 6	Middle Flippe	r Board: 4 Slot: 12	
<b>Right Slingshot</b>	Unused	Unused	<b>Action Button</b>	Board: 4 Slot: 13	
Scoop	Right Orbit	Unused	EOS L NA	Board: 4 Slot: 14	
VUK Subway	<b>Right Shooter Lan</b>	Unused	EOS R NA	Board: 4 Slot: 15	
		ALC: NO	and a second		

Figure 3-5 PLAYFIELD SWITCH MAP



# Figure 3-6 PLAYFIELD COIL MAP



	(3)
1	Trough Kick
2	Left Flipper Main
3	Left Flipper Hold
4	Left Slingshot
5	Scoop
6	Upper Flipper Main
7	Upper Flipper Hold
8	Upper Magnet
9	Auto Plunger
10	Right Flipper Main
11	Right Flipper Hold
12	Right Slingshot
13	Drop Target
14	Drop Target Trip
15	Ship Magnet
16	Ship Post
17	Thor's Hammer

Fuse Name	Fuse Rating	Voltage	Туре	Fuse Voltage
Coil Driver	6.3 Amp	48 VDC	5x20 Slow Blow	250 Volt
Con Driver	6.3 Amp	48 VDC	5x20 Slow Blow	250 Volt
Main Fuse	6 Amp (US) 3 Amp (EU)	120 VAC OR 230 VAC	3AG Slow Blow	250 Volt
Add On Board F1	4 Amp	12 VDC	5x20 Slow Blow	250 Volt
Add On Board F2	5 Amp	48 VDC	5x20 Slow Blow	250 Volt
RGB/Flasher - PCB00053	4 Amp	5/12VDC	5x20 Slow Blow	250 Volt
RGB - PCB00040-01	4 Amp	5 VDC	5x20 Slow Blow	250 Volt

# **COIL TESTING**

To test the coils, you must pull out on the High-Power Interlock switch, just inside the coin door – bottom left – White Knob. While in TESTS - Coil TEST, highlight the coil you want to test, then press the black enter button on the coin door or Start button on the cabinet.

Note: The power is a momentary pulse, not the full strength you would experience in gameplay.

Flipper hold - you need to hold the flipper bat up with one hand and tap the test button rapidly.

Shaker motor - tap the test button rapidly.

Magnet – hold a ball next to the magnet and hit the test button.

#### LED TESTING

When first entering LED Test, all LED's flash on the playfield, rotating through red, green, blue and white.

You also can walk through the LED's one-by-one. LED testing is designed to follow the playfield in a logical sequence.

#### **DISPLAY & SOUND TEST**

The main display proceeds through a series of colors (red, green and blue) and a test pattern. The test also exercises the stereo speaker system at the same time.

## **COIL INTERLOCK SWITCH**

#### ATTENTION .....

THIS GAME IS EQUIPPED WITH AN INTERLOCK SWITCH FOR THE COIL VOLTAGE. THE INTERLOCK SWITCH DISABLES THE COIL VOLTAGE WHEN THE DOOR IS OPEN. INTERLOCK SWITCH NEEDS TO BE PULLED OUT TO ENGAGE COIL VOLTAGE WHEN DOOR IS OPEN FOR COILS TO WORK.



# **COIL ADJUSTMENT SETTINGS**

Coil settings allow you to control the "strength" of the various mechanisms on the playfield.

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#### To access Coil settings



- 1. Power on the machine.
- 2. Open the coin door
- 3. Press the MENU SELECT button to access the service mode.
- 4. Press the red +/- button to select the settings icon.
- 5. Press the MENU SELECT button to enter the settings section.
- 6. Use the red +/- buttons to page through the different settings to the coil settings.
- 7. Press the green BACK EXIT button to return to the previous menu.

#### **COIL SETUP**

Individual coil strength can be adjusted to enhance game play to your preference.

**CAUTION!** Increasing coil strength can create undesirable results such as broken plastics as well as expedited playfield wear. Increased coil strength wear and tear is not covered under our warranty. Keep coil strength as low as possible.

#### Table 3-5 Coil Adjustment Settings

Note: all default settings are highlighted green. They turn white when changed.

cons.		
Berzerker Drop Target	options: [5-30]	default: 10
Left Slingshot	options: [1-35]	default: 12
Right Slingshot	options: [1-35]	default: 12
Auto Fire	options: [1-35]	default: 15
LWR L Flipper Main	options: [1-46]	default: 34
LWR R Flipper Main	options: [1-46]	default: 34
Mid Flipper	options: [1-46]	default: 26
Scoop	options: [5-25]	default: 10
Trough Kicker	options: [1-46]	default: 18

Coils:

# FEATURE ADJUSTMENT SETTINGS

Feature settings address conditions that are specific to the game.

#### To access Feature settings



- 1. Power on the machine.
- 2. Open the coin door
- 3. Press the MENU SELECT button to access the service mode.
- 4. Press the red +/- button to select the settings icon.
- 5. Press the MENU SELECT button to enter the settings section.
- 6. Use the red +/- buttons to page through the different settings to the feature settings.

7. Press the green BACK EXIT button to return to the previous menu.

#### Table 3-6 Feature Adjustment Settings

Note: all default settings are highlighted green. They will turn white when changed.

#### Features:

Ball Save Timer		default 12
Color Gl		default ENABLED
Combos Fire Thor's Hammer		default ENABLED
Extended Light Shows		default DISABLED
Knocker Usage		Credit/Match
Physical Ball Locks		default ENABLED
Playtime Handicap	options: [0-251]	default DISABLED
Pulse Kraken Magnet at Ship Exit	options: [25-125]	default DISABLED
R-A-I-D-Completions to start RAID	options: [20-61]	default: 20

# COIN DOOR AND DOLLAR BILL ACCEPTOR INFORMATION

Dollar Bill Acceptor (DBA)

Any standard up stacker DBA with a bill cassette of 500 or less, operating at <u>12 Volts DC</u> can be used.

Description	Part number
US Coin Door	PUR0001-00
European Coin Door (*not included w/ door)	PUR0007-00
*European Coin Door Cable	WCA0036-00
*European Interface Board	PCB0024-00

#### Coin door lights are 12 volts

Note: you can make a 120v bill acceptor work by getting an MEI 01-12-139 converter plug and tapping into a coin switch.



Back







Wire Color	Pin
	Location
Black wire w/ white stripe = 12v DC HOT (power)	Pin 5
Pink wire w/ red stripe = Credit Relay Pulse/N.O.	Pin 7
Black wire = Credit Relay (Common)	Pin 8
White wire w/ black stripe = 12v DC Return (Ground)	Pin 9

Coin door receptacle

Male 0.062" Molex pins = 02-06-2103

Receptacle = 172161-1 Mate-N-Loc

**DBA Mating plug** 

Female 0.062" Molex pins = 02-06-1103

Plug = 172169-1 Mate-N-Lock



# **PRICING ADJUSTMENT SETTINGS**

Pricing adjustment settings address settings related to game unit value, free play and currency management.

Pricing establishes the game unit of value, which should be the lowest denomination of currency based on coin door configuration.

#### **To access Pricing settings**



- 1. Power on the machine.
- 2. Open the coin door.
- 3. Press the MENU SELECT button to access the service mode.
- 4. Press the red +/- button to select the setting icon.
- 5. Press the MENU SELECT button to enter the setting selection.
- 6. Use the flipper buttons to page through the different settings to the pricing settings.
- 7. Press the green BACK EXIT button to return to the previous menu.

#### The <u>"Unit Value"</u> must be set to the lowest denomination that the game will accept.

#### Table 3-7 Price Table

Desired Coinage	Set "Pricing Plan"
25 cents per game	1 unit = 1 credit
25 cents per game or 2 games for 75 cents	1 unit for 1 credit, 2 for 3
50 cents per game	2 units for 1 credit
50 cents per game or 5 games for 2 dollars	2 units for 1 credit, 4 for 3
50 cents per game or 5 games for 3 dollars	2 units for 1 credit, 5 for 3
50 cents per game or 5 games for 2 dollars	2 units for 1 credit, 8 for 5
75 cents per game or 3 games for 2 dollars	3 units for 1 credit, 8 for 3
75 cents per game	3 units for 1 credit
1 dollar per game (default setting)	4 units for 1 credit
1 dollar per game or 3 games for 2 dollars	4 units for 1 credit, 8 for 3
1 swipe per game	1 swipe for 1 credit
Overseas Options	Set "Pricing Plan"
	10 units for 1 credit
	15 units for 1 credit
	20 units for 1 credit
	10 units for 1 credit, 20 for 3
	10 units for 1 credit, 40 for 5

#### Table 3-8 Pricing Adjustment Settings

#### Pricing:

Free Play	options: ['On','Off']	default: 'Off'
Unit Value	options: [.1, .2, .25, .5, 1]	default: .25
Pricing Plan	options: 1 Unit = 1 Credit 2 Units for 1 Credit 3 Units for 1 Credit 4 Units for 1 Credit 2 Units for 1 Credit, 4 for 3 2 Units for 1 Credit, 8 for 5	
	4 Units for 1 Credit, 8 for 3 1 Unit for 1 Credit, 2 for 3 10 Units for 1 Credit 10 Units for 1 Credit, 20 for 3 10 Units for 1 Credit, 40 for 5	default: '4 Units for 1 Credit'
	15 Units for 1 Credit 20 Units for 1 Credit 2 Units for 1 Credit, 5 for 3 4 Units for 1 Credit, 20 for 6 1 Swipe for 1 Credit	
Currency	options: ['Dollar', 'Euro', 'Pound', 'Kroner']	default: 'Dollar'
Coin Slot 1 Units	options: [1-21]	default: 1
Coin Slot 2 Units	options: [1-21]	default: 1
Bill Changer	options: [1-21]	default: 1
Coin Slot 4 Units	options: [1-21]	default: 1
Coin Slot 5 Units	options: [1-21]	default: 1
Credits	options: [0-99]	default: 0
Max Service Credits	options: [0-99]	default: 30

### **REPLAY ADJUSTMENT SETTINGS**

# To access Replay Settings



- 1. Power on the machine.
- 2. Open the coin door.
- 3. Press the MENU SELECT button to access the service mode.
- 4. Press the red +/- button to select the settings icon.
- 5. Press the MENU SELECT button to enter the settings section.
- 6. Use the red +/- buttons to page through the different settings to the replay setting.

7. Press the green BACK EXIT button to return to the previous menu.

#### Table 3-9 Replay Adjustment Settings

Name	Description	Value
Automatic Replay Percentaging	Whether the game software should periodically adjust Replay Award Level 1 to maintain replays at the frequency specified by Replay Percentage. Requires "Replay Levels" to be set to 1.	Options: On/Off Default: On
Replay Award Level 1	Specifies the point total required to receive an award that is defined in Replay Award Type	Options: 20M-250M Increments: 10M Default: 20M
Replay Award Level 2	Specifies the point total required to receive an award that is defined in Replay Award Type	Options: 20M-250M Increments: 10M Default: 100M
Replay Award Level 3	Specifies the point total required to receive an award that is defined in Replay Award Type	Options: 20M-250M Increments: 10M Default: 150M
Replay Award Level 4	Specifies the point total required to receive an award that is defined in Replay Award Type	Options: 20M-250M Increments: 10M Default: 250M
Replay Type	Specifies the type of replay awarded to the player.	Options: Free Game, Extra Ball, Points, Off Default: Free Game
Replay Levels	Specifies how many replay levels are active	Options: 1-5 Default: 1
Replay Boost	Specifies the amount of points that each replay value will be increased. After each game in which a replay is earned, all replay levels are increased by the defined replay boost amount. For any game in which a replay was not won, the amount is reduced by the boost amount. For example, if three games in a row earn a replay, each replay amount is set to the original value + (3* boost value). If on the next game the replay is not earned, it drops to original value+ (2* boost value).	Options: 1M, 50M Increments: 1M Default: 5M

# SOUND ADJUSTMENT SETTINGS

Sound settings allow you to control the volume level in the game.

#### **To access Sound Settings**



- 1. Power on the machine.
- 2. Open the coin door.
- 3. Press the MENU SELECT button to access the service mode.
- 4. Press the red +/- button to select the settings icon.
- 5. Press the MENU SELECT button to enter the settings section
- 6. Use the flipper buttons to page through the different settings to the sound setting.
- 7. Press the green BACK EXIT button to return to the previous menu.

#### Table 3-10 Sound Adjustment Settings

Name	Description	Value
Initial Volume	Specifies the initial volume	Options: 1 to 11
		Default: 6
Music volume offset		Options: -0.4 to +0.4
		Default: 0.4

#### **Amplifier settings**

The amplifier is located within the backbox and should not need adjustment.



## **HOW TO CREATE A CUSTOM MESSAGE**

. . . . .

Video showing how to create a custom message for the attract screen: <u>https://youtu.be/8fpDKsQIHA4</u>

 Create a PNG image, 1366x768 with whatever you want on it. Name the file *custom\_message* and put that file on a USB stick (with no game code) see the section "Code Update" for information on how to format your USB stick to FAT 32.

2. go into Settings->Standard and set 'Custom Message' to 'On'.

. . . . .

- 3. Insert the USB stick into the USB extension cable inside the coin door on the right side, after several seconds you will get a screen with green type that says, 'audits copied . . .' power cycle game.
- 4. After you power cycle, use the flipper buttons to cycle through the screens to see the message.
- 5. If the image didn't take and all of the above steps have been followed, try step 3 again.

# STANDARD ADJUSTMENTS SETTINGS

Standard adjustments address global options, such as the number of balls per game, tilt settings and replay award settings.

## **To access Standard Adjustment Settings**



- 1. Power on the machine.
- 2. Open the coin door.
- 3. Press the MENU SELECT button to access the service mode.
- 4. Press the red +/- button to select the settings icon.
- 5. Press the MENU SELECT button to enter the settings section.
- 6. Use the red +/- buttons to page through the different settings to the standard adjustment.
- 7. Press the green BACK EXIT button to return to the previous menu.

#### Table 3-11 Standard Adjustments

Attract Mode Music	options: ['On','Off']	default: 'On'	
Attract Mode Sounds	options: ['On','Off']	default: 'Off'	
Balls Per Game	options: [1-6]	default: 3	
Color Display X Offset	Offset for X axis	default 0	
Color Display Y Offset	Offset for Y axis	default -70	
Custom Message	options: ['On','Off']	default: 'Off'	
Debug	Developer tool	default 10	
Game Restart	Holding start button for 5 seconds after ball 1	default True	
Inactive Switch Warning		default 5	

# PRESETS

The Preset feature allows you to load a profile setting. There are 8 presets available.

**Note:** Presets are subject to change. Refer to American Pinball's Support page for the most current listings of Presets.

#### **To access Presets**



- 1. Power on the machine.
- 2. Open the coin door.
- 3. Press the MENU SELECT button to access the service mode.
- 4. Press the red +/- button to access the settings icon.
- 5. Press the MENU SELECT button to enter settings selection.
- 6. Use the flipper buttons to page through the different settings to the preset settings.
- 7. Press the green BACK EXIT button to return to the previous menu.

	Preset:	Preset:	Preset:	Preset:	Preset:	Preset:	Preset:	Preset:
	Extra	Extra	Easy	Medium	Hard	Competition	Home	Location
	Easy							
STANDARD								
Attract Mode	On	On	On	On	On	On	On	On
Sounds								
Attract Mode	Off	Off	Off	Off	Off	Off	Off	Off
Music								
Tile Warnings	2	2	2	2	2	2	2	2
Game Restart	True	True	True	True	False	False	True	False
Balls Per Game	3	3	3	3	3	3	3	3
Maximum Extra	2	2	2	2	2	2	2	2
Balls								
Max Initials	3	3	3	3	3	3	3	3
Length								
PRICING								
Free Play	On	On	On	On	On	On	On	Off
FEATURES								
Combos Fire	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
Thor's Hammer								
Physical Ball	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
Locks								
Playtime	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Handicap								
Pulse Kraken	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
Magnet								
RAID	15	15	15	25	25	20	20	20
Completions								
start RAID								
Shield of gods	2	2	2	8	8	4	4	4
escapes to start								
RAGE (cont)								
Viking Cheering	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Ball Save	20	20	20	0	0		12	12
Color GI	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled	Enabled
REPLAY								
Replays	Enabled		Disabled	Disabled	Disabled	Disabled	Enabled	Enabled
Replay Award	Extra	Extra	Extra	Replay	Off	Off	Extra	Replay
Туре	Ball	Ball	Ball				Ball	
Replay Type	Fixed	Fixed	Fixed	Incremental		Off	Fixed	Incremental
Replay Levels	1	1	1	1		0	1	1

#### Table 3-13Switch Table

					Cal	binet Swite	h Board O	- PCB0021-0	02						
J9 Add-On Board	Return 1 Pin 2	Return 2 Pin 3		turn 2 Return 3 Pin 3 Pin 4		Retu	Return 4 Pin 5		Return 5 Pin 6		Return 6 Pin 7		Return 7 Pin 8		im 8 19
Ground	WHT BLK Leaf O	WHT BRN Leaf 1		WHT Leaf	RED 2	WHT Push	ORG 3	WHT Push	YEL 4	WHT Push	GRN 5	WHT Push	BLU 6	WHT N/A	VIO 7
BLK-pin 10	Left Flipper button	<b>Right Flip</b>	perbutton	Action	Button	En	ter	Ex	it	Do	wn	Up		Tilt	
J8 Add-On Board	Return 1 Pin 2	Return 2 Pin 3		Return 3 Return Pin 4 Pin !		um 4 n 5	Return 5 Pin 6		Return 6 Pin 7		Retu Pir	Return 7 Pin 8		Return 8 Pin 9	
Ground	GRY BLK Push 8	Y BLK GRY BRN h 8 Push 9		GRY Micro	RED 10	GRY Micro	ORG 11	GRY Opto	YEL 12	GRY Opto	GRN 13	GRY Leaf	BLU 14	GRY Leaf	VIO 15
BLK-pin 10	Start Button	Interlock/Dooropen		Coin #1 Coin #2		Dollar Bill Acceptor Coin #4		Coin #5		Left Upper flipper					
	_				\$	W-16 Boar	d 1 - Dip sı	witch 1 ON							
J2 Bank A	Return 1 Pin 2	Return 2 Pin 3		Return 3 Pin 4		Reto	um 4 n 5	Retu Pir	im 5 1 6	Retu Pir	irn 6 1 7	Retu Pir	irn 7 1 8	Retu Pir	im 8 19
Ground	ORG BLK Micro 16	ORG S/U	BRN 17	ORG S/U	RED 18	ORG S/U	GRY 19	ORG	YEL	ORG	GRN 21	ORG	BLU 22	ORG Micro	VIO 23
BLK-pip 10		target Light		target ship			13	INICIO	20	Lear	21	Intero		right outlane	
DER-pill 20	Drop Target	targe	t Light	targe	t ship	targe	t locks	right sho	oter lane	right sl	ingshot	right i	n lane	right o	utlane
J6 Bank B	Drop Target Return 1 Pin 2	targe Retu Pi	t Light urn 2 n 3	targe Reti Pi	et ship urn 3 n 4	targe Retu Pi	t locks um 4 n 5	right sho Retu Pir	oter lane im 5 in 6	right sl Retu Pir	ingshot irn 6 n 7	right i Retu Pir	n lane Irn 7 1 8	right o Retu Pir	utlane im 8 n 9
J6 Bank B Ground	Drop Target Return 1 Pin 2 VIO BLK le af 24	targe Retu Pii VIO leaf	t Light urn 2 n 3 BRN 25	targe Reti Pi VIO leaf	t ship urn 3 n 4 RED 26	targe Retu Pi VIO Micro	t locks um 4 n 5 ORG 27	right sho Retu Pir VIO Micro	oter lane Im 5 1 6 YEL 28	right sl Retu Pir VIO S/U	ingshot irn 6 n 7 GRN 29	right i Retu Pir VIO S/U	n lane irn 7 n 8 BLU 30	right o Retu Pir VIO S/U	utlane im 8 n9 GRY 31
J6 Bank B Ground BLK-pin 10	Drop Target Return 1 Pin 2 VIO BLK le af 24 Right flipper EOS	targe Retu Pi VIO leaf Left flip	t Light urn 2 n 3 BRN 25 oper EOS	targe Retr Pi VIO leaf Left SI	t ship urn 3 n 4 <u>RED</u> 26 ingshot	targe Retu Pi VIO Micro Left Ret	t locks um 4 n 5 ORG 27 um Lane	right sho Retu Pir VIO Micro Left O	20 oter lane im 5 n 6 YEL 28 utlane	right sl Retu Pir VIO S/U Blood Ra	ern 6 n 7 GRN 29 ge Target	right i Retu Pir VIO S/U Left Ramp	n lane Irn 7 n 8 BLU 30 o Standup	right o Retu Pir VIO S/U Cntr Ramp	utlane im 8 n9 GRY 31 o Standup

				1					
			S	W-16Board 2 - Dips	witch 2 ON				
J2	Return 1	Return 2	Return 3	Return 4	Return 5	Return 6	Return 7	Return 8	
Bank A	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	
	GRN BLK	GRN BRN	GRN RED	GRN ORG	GRN YEL	GRN GRY	GRN BLU	GRN VIO	
Ground	Micro 32	Micro 33	Micro 34	Micro 35	Micro 36	Micro 37	Micro 38	S/U 39	
BLK-pin 10	Left Orbit	(A)xe	a(X)e	ax(E)	Upper loop left Upper loop Right		Right Orbit	Ship Standup	
	Return 1	Return 2	Return 3	Return 4	Return 5	Return 6	Return 7	Return 8	
J6-Bank A	Pin 2 on SW-16	Pin3 on SW-16	Pin4 on SW-16	Pin5 on SW-16	Pin6onSW-16 Pin7 on SW-16		Pin8 on SW-16	Pin9 on SW-16	
X14-opto	Pin3-Plug-X2 opto	Pin4-Plug-X3 opto	Pin5-Plug-X4 opto	Pin6-Plug-X5 opto	Pin7-Plug-X6 opto	Pin8-Plug-X7 opto	Pin9-Plug-X8 opto		
Crowned	YEL BLK	YEL BRN	YEL RED	YEL ORG	YEL GRY	YEL GRN	YEL BLU	YEL VIO	
Ground	Opto 40	Opto 41	Opto 42	Opto 43	Opto 44	Opto 45	Opto 46	Micro 47	
BLK-pin 10	C. hum	6	Contra Dona Fatra	Laft Dama Fata	Diabt Dama Fata a	Chieledat	Chin Look 2	Colonas	
Pin1-opto	Subway	Scoop	Center kamp Enter	Left RampEntry	Right Ramp Enter Ship LOCK 1		Ship Lock 2	spinner	
			SI	N-16 Board 3 - Dip sw	itch 1,2 ON				
J2	Return 1	Return 2	Return 3	Return 4	Return 5 Return 6		Return 7	Return 8	
Bank A	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	
Course of	BLU BLK	BLU BRN	BLU RED	BLU ORG	BLU YEL	BLU GRN	BLU GRY	BLU VIO	
Ground	Opto 48	Opto 49	Opto 50	Opto 51	Opto 52	Opto 53	Opto 54	Micro 55	
BLK-pin 10	Ball Trough 1	Ball Trough 2	Ball Trough 3	Ball Trough 4	Ball Trough 5	Ball Trough 6	Ball Trough Jam	Shooter Lane	



X1	Power Connection
X2	Subway
X3	Scoop
X4	Center Ramp Enter
X5	Left Ramp Entry
X6	Right Ramp Enter
X7	Ship Lock 1
X8	Ship Lock 2
X14	SW-16 Board 2 – J6

# See Fig 3-5 For the Switch Location Map



# Switch Theory

#### Mechanical Switch

All mechanical switch lines are "Active Low"0 VDC (Logic Ground) when active (Made). Normally open state (12 VDC) (Not Made).

#### <u>Optos</u>

All opto switch lines are "Active High" (12 VDC) when active (Made). Normally open state 0 VDC (Logic Ground) (Not Made).



#### Table 3-14Coil Table

Add-on boar	d PCB0021_02	2		Coil Locations	;		Q = Transi	stor IRL540N	
		BRN + BLK -			RED + BLK -				
	J10 - Pin2	J10 - Pin3	J10 - Pin4	J10 - Pin5	J11 - Pin3	J11 - Pin4	J11 - Pin5	J11 - Pin6	
48v Power	Not Used	Knocker	Not Used	Not Used	Thor's Hammer	Not Used	Not Used	Not Used	
	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	
Add-on board PCB0021_02				Aux Locati	ons	C	) = Transistor [	DMN3404L-7	
	BLK - YEL +	BLK - GRY +	BLK - ORG +						
	J1	J2	13	J4	J5	J6	J7		
12v Power	Start Button	Backbox LED	Shaker Motor	Not Used	Not Used	Not Used	Not Used		
	Q1		Q3	Q4	Q5	Q6	Q7		
Dip Switch 2,	3,8 ON		PD-16	<b>5</b> Coil Location	าร		Q = Trans	istor IRL540N	
	GRY BLK	GRY BRN	GRY RED	GRY ORG	GRY YEL	GRY GRN	GRY BLU	GRY VIO	
18y Dowor	Pin#1	Pin#3	Pin#4	Pin#5	Pin#6	Pin#7	Pin#8	Pin#9	
400 POWEI Bonk 17		Left Flipper	Left Flipper	Left	Scoon	Upper	Upper	Upper	
DalikA - J7	HOUGH KICK	Main	Hold	Slingshot	3000	flipper Main	flipper Hold	Magnet	
J3 + ORG	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	
	VIO BLK	VIO BRN	VIO RED	VIO ORG	VIO YEL	VIO GRN	VIO BLU	VIO GRY	
49y Dowor	Pin#1	Pin#2	Pin#4	Pin#5	Pin#6	Pin#7	Pin#8	Pin#9	
BankB - J11	Auto Plunger	Rt Flipper Main	Rt Flipper Hold	Right Slingshot	Berzerker dron target	Berzerker Dron trin	Ship Magnet	Ship post	
J4 + VIO	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	







35

9 PCB0058-00 N/A cross bow, light weapon, arrows 10 PCB0059-00 1,2,4,6 ON light, ship, locks	<ul> <li>8 PCB0057-00 N/A</li> <li>9 PCB0057-00 N/A</li> <li>9 N/A</li>     &lt;</ul>	6 PCB0055-00 2,3,6 ON Special, Ulfberht sword, arrow	4 PCB0054-00 1,4,6 ON Spear, arrow 5 PCB0055-00 1,3,6 ON mystery, extra ball, arrow	3 PCB0054-00 4,6 ON war hammer, arrow	2 PCB0054-00 1,2,3,6 ON Club, arrow	1 PCB054-00 2.4.6 ON mamman axe. arrow	REDIp Switches and
	oi legends, combos, god oi tridrider, war on land, war at sea						ocations

36

# HOW TO UPDATE GAME CODE

Please have the following items available before performing a code update:

- A FAT 32 formatted 2.0 USB drive with at least 8 GB of storage
- Latest version of game code, which can be downloaded from <a href="https://www.american-pinball.com/support/updates/your computer">https://www.american-pinball.com/support/updates/your computer</a>.

Video showing how to update gamecode: <a href="https://youtu.be/">https://youtu.be/</a> <a href="https://youtu.be/">n4-7ZSH3UE</a>



WARNING! OPENING THE COIN DOOR EXPOSES HIGH VOLTAGE PARTS IN THE GAME, AND DIRECT CONTACT TO THESE HIGH VOLTAGE PARTS CAN LEAD TO SERIOUS OR FATAL INJURIES. THIS EQUIPMENT IS TO BE SERVICED BY TRAINED PROFESSIONALS ONLY.



#### How To download code to a Microsoft Windows PC

- 1. Go to <u>www.american-pinball.com/support/updates/</u>
- 2. Compare the game version on your machine (in service menu status box) to the most current version available on the site.
- 3. If your machine is running the most current version of code, enjoy your game! Otherwise, proceed to the next step.
- 4. Insert a formatted USB drive with at least 8GB of storage into your computer.
- 5. From File Explorer, right click on the USB drive.
- 6. Select Format Drive FAT 32.

#### How To download code to a MAC

- 1. Go to www.american-pinball.com/support/updates/
- 2. Compare the game version on your machine to the most current version available on the site.
- 3. If your machine is running the most current version of code, enjoy your game! Otherwise, proceed to the next step.
- 4. Insert a formatted USB drive with at least 8GB of storage into your computer.
- 5. Open Disk Utility.
- 6. Select USB Drive.
- 7. Select Erase.
- 8. Select Format FAT 32.

#### How To update code

- 1. Copy the update package (.pkg) code file to the USB drive.
- 2. Open the coin door and locate the USB extension cable on the inside-side of the cabinet below the flipper switch.
- 3. Insert the USB drive with the code update package into the USB extension cable.
- If the game is powered off, turn on (USB can be inserted with power on).
   The game will recognize the USB drive and will provide a message on the monitor stating that you have 5 seconds to remove the USB drive or the machine will begin the update process. Takes about 10 min.
- 5. When the code update process is complete an "Update Complete" message appears. Remove the USB drive from the USB extension cable.
- 6. Power cycle the game.
- 7. Enjoy your updated game!

Note: The code version is shown on the home page of the service menu.

# **Collecting Game Logs**

To assist in game development and troubleshooting, American Pinball may ask for a copy of the game logs. Make sure your game's Date and Time are set correctly in the Utilities menu so you can note the date and time the error occurred.

#### How to copy game logs

1. Open the coin door and locate the USB extension cable on the inside-side of the cabinet below the flipper switch.

. . . . . . . . . . .

- 2. Insert a **blank** USB drive into the USB extension cable.
- 3. If the game power is turned off, turn on.
- 4. Wait for the completion screen on the monitor and remove the USB drive.
- 5. Power cycle the game.
- 6. Email the files to <u>service@americanpinball.com</u>, include the date and time of the error along with a detailed description of what's going on.

# Legends of Valhalla GAME RULES



# **Main Objectives**

Battle 16 gods and monsters and face Ragnarok. On the way you can complete 8 tasks (center inserts) and battle ODIN in Valhalla.

# **Overview of Gameplay**

- 1. Spelling God of Thunder (top lanes) increases your bonus multiplier and awards a weapon
- 2. Bottom in-lanes spell R-A-I-D. Spelling RAID also adds a warrior to your raiding party.
- 3. Left ramp lights a random weapon shot. Collect the weapons to open additional battles.
- 4. 16 traditional modes 4 in each of the 4 tiers increasing in difficulty and profitability. Number of weapons needed for each tier:
  - a. Tier 1 1 weapon needed
  - b. Tier 2 2 weapons needed
  - c. Tier 3 5 weapons needed
  - d. Tier 4 9 weapons needed

Once all battles are played you face RAGNAROK where you take everyone from Valhalla back to earth and destroy everything.

- 5. Skill shots:
  - a. Regular skill shot with lane change plunge the ball to one of the top God of Thunder lanes. Skill shot adds points.
  - b. Hands free skill shot awards a weapon and increases the end of ball bonus multiplier.
  - c. Super Skill shot is awarded off plunge around orbit and directly into right ramp. God of Thunder task is awarded and a combo
- 6. "Blood Rage" via the target on the left lights the left and right outlane drain save. Additional Blood Rage sequences start War of the Clans hurry-up.
- 7. Three mid right targets light locks. Balls are "locked" via the upper ramp shot to the ship.
  - a. Other Stand-Up Targets two ramp targets and the ship target. Hitting all of them starts war on land.
  - b. JOTNAR = RAMPS
  - c. TROLLS = LOOPS
  - d. DWARVES = SPINNERS
  - e. Berzerker rises at the start of each hurry-up. Hit him and add time, he falls down and pops up 2 seconds later for another chance.
- 8. COMBOS unique combos are coded:
  - a. COMBOS are available anytime throughout the game. Combos build a COMBO JACKPOT that cashes out every 20 combos. COMBO task is lit at 10 combos.
  - b. Left loop to Center ramp
  - c. Left ramp to Center ramp
  - d. Right ramp to Center ramp
  - e. Left loop to Left ramp
  - f. Left ramp to left return to Right loop
  - g. Left loop to right loop to spinner to Right ramp
  - h. Center ramp to right return to Left ramp
  - i. Right ramp to Left orbit
  - j. Left ramp to left return to Right ramp MB ONLY
  - k. Left ramp >Right ramp > Center ramp MB ONLY

- 9. Raiding Party once you collect enough warriors there is another mini-wizard mode. Shoot the ball into the ship to begin a raiding party. 3 ball multiball. Map in the display shows you the town you are raiding. Shots re color coded for each town. Raid all 11 towns if you can. Raid continues until you are in single ball play. These are the locations you RAID: Vinland, Greenland, Iceland, Faroer, Shetland, Scandinavia, York, Dublin, Normandy, Miklagard and Kiev.
- 10. Rampage Spell Rampage by hitting the center ramp.
  - a. Timer starts, all shots are lit.
  - b. Hitting a shot awards 1X for the shot and restarts timer. Hitting another shot awards 1X for that shot and restarts the timer. If you hit a shot twice, award 2X and restart timer. 3X for 3<sup>rd</sup> shot and that shot is solid and worth 3X. Try to complete all shots 3 times before timer runs out.
- 11. Scoop during battles adds time. When lit pops up battle select (battle select also pops up if right shooter lane is lit). Scoop awards MYSTERY when MYSTERY INSERT is lit.
- 12. Escape the Kraken mini mode –

During regular game play, hit 10 full upper-inner loops to start the mode. This is a countdown mode beginning at 25 million points and ending when score or time is 0. Goal is to escape the kraken by hitting the ship target. The kraken will whip his tail (pulse the magnet) every 1 second so you need quick reflexes to score the shot and get past his fury. You'll also hear him roar one of 5 random roars every tail whip. A grand roar awaits those that escape.

For advanced players during the mode, a full upper inner loop from left to right will add 5 seconds to the clock, while a full upper inner loop from right to left will add 2.5million to the countdown score. Keep looping and build up your time and jackpot then fire the target!

- 13. DOUBLE SCORING 6 right ramp shots through the ship enable double scoring for 30 seconds.
- 14. EXTRA BALL Completing 4, or 10 BATTLES lights extra ball. Also available as a rare MYSTERY AWARD. Extra ball redeemed at the scoop.
- 15. Valkyries a Valkyrie is summoned after 5 combos. Use the Valkyrie during battles to score the next shot in the battle, or complete the battle if you are battling Dearg Due. Valkyries are also awarded at 6,8,12 and 14 battles played and as a MYSTERY AWARD.
- 16. War of the Clans (a hurry-up available when you hit the second round of BLOODRAGE targets and have the outlane ball saves lit) 1 of 3 random awards is available at the start. Hit the green lit shots to collect. (Awards are WEALTH, WEAPONS or WARRIORS)

Hit the BERZERKER during the hurry-up to get a new pattern of shots

You have 12 seconds. Available during regular game play only

- 17. RAGE a multiball event where you destroy villages. Qualify: enable shield of the gods (outlane ball save) by hitting 2 blood rage targets, then score 4 outlane saves (shield of the gods resets each time) to move the blood level on the axe in the display. When the axe is filled, RAGE begins!
- 18. TASKS

WEAPONS – Collect 9 weapons to complete this task
ARMY – Add 10 warriors to your RAIDING party
COMBOS – Collect 10 combos (over 20 possible combos available)
WAR ON LAND – Battle several land beings (Jotnar, trolls, dwarves)
CONQUEST – Collect all 8 qualities of a Viking (instant info has shot details)
DESTOYER OF LEGENDS – BATTLE 4 of the 16 LEGENDS
GOD OF THUNDER – achieve 3X bonus (top rollovers) or Super-Skill-shot
WAR AT SEA – start a war at sea multiball (3 balls locked in the ship or virtual)

# **SKILL SHOTS (3)**

- a. Regular skill shot with lane change plunge the ball to one of the top God of Thunder lanes. Skill-shot adds points.
- b. Hands free skill shot awards a weapon and increases the end of ball bonus multiplier.
- c. Super-Skill-shot is awarded off plunge around orbit and directly into right ramp. God of Thunder task is awarded and a combo.

# Multiball Modes (10)

(5) battles are multiball battles

(2) Sea multiball battles at the ship

Raiding party

RAGE

Ragnarok final wizard mode

# Wizard Modes (2)

• <u>VALHALLA</u>

Collect all 8 of the center insert tasks to light Valhalla, start by hitting the scoop or shooter lane.

<u>RAGNAROK</u>

Endure all 16 battles and face RAGNAROK. start by hitting the scoop or shooter lane.



Part Number VHR-D0C0022-00 For Support Call Your Distributor or 833.API.HELP service@americanpinball.com