



Highway Pinball - Pinball Brothers

ALIEN



Highway Pinball - Pinball Brothers - ALIEN - ENG - Rev: 1.3
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This was made possible by the pinball community

Unofficial Instructions!

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Introduction and description of the ALIEN world

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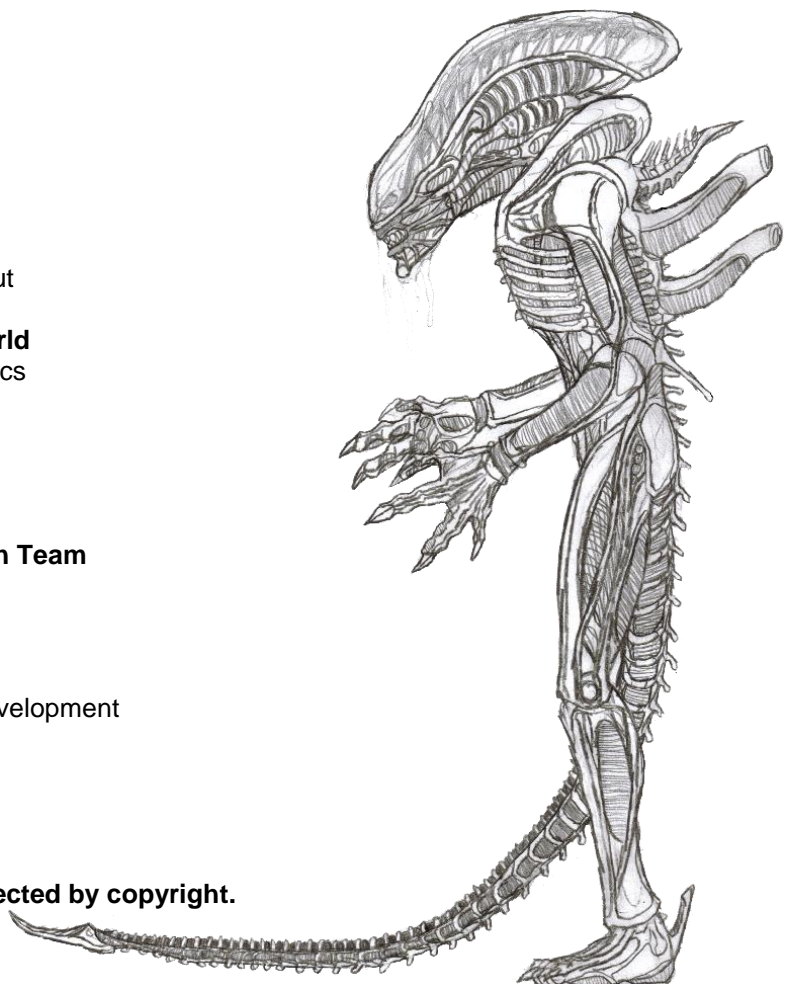




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1 Introduction

The aim of this rulesheet is to help you acquire the necessary understanding for your ALIEN Pinball Machine.

- All descriptions and figures included in this rulesheet are non-binding.
- We reserve the right to make changes as a result of technical advances.
- Read this rulesheet carefully and ensure you adhere specifically to the notes provided.
- Please note that the rulesheet is made for personal use only.

1.1 Abbreviations and their description

Abbreviations	Description
APC	Armored Personnel Carrier
Cab.	Cabinet
Diff.	Difficulty
EB	Extra Ball
ECA	Extrasolar Colonization Administration
e.g.	Latin: Exempli Gratia (For Example)
EOS	End Of Stroke
Ex.	Extra
GI	General Illumination
HSTD	High Score To Date
i.e.	Latin: Id Est (meaning: that is to say)
JP	Jackpot
Max.	Maximum
MB	Multiball
Misc.	Miscellaneous
Min.	Minimum
MS	Milliseconds
xM	x Million
No.	Number
Sec.	Seconds
USCSS	United States Commercial Star Ship
USS	United States Ship
Xeno	Xenomorph

Tab. 1: Abbreviations and their description



1.2 Explanation of signal words and icons

Different terms marked in **bold** should give a direct reference to the objects on the playfield or the missions in the game. You will also find useful keywords in the index with a reference for a quick navigation to the information.



CAUTION

Pay attention to a possible risk!

This safety notice means that avoidable problems **CAN** occur if you fail to observe the appropriate precautionary measures.



ATTENTION

Possible danger to the Pinball Machine!

This safety notice means that material damage **CAN** occur if you fail to observe the appropriate precautionary measures.



Note

This note provides useful or additional information regarding the easy handling of this rulesheet.

1.3 About this rulesheet

Heighway Pinball never published information regarding the ALIEN rules, the only official source are the hints given by the game itself. There are different opinions whether game rules are needed at all, as they might spoil the fun of their exploration. We personally like rulesheets because they help us to understand all aspects of the game and to plan our playing strategy.

So we created this ALIEN rulesheet for the latest official software version 1.2. It significantly improved our play and our respect for the ALIEN machine as well as its designers. With permission of the Pinball Brothers, other updates has been released, which contains improved features and fixes bugs of the previous versions. These updates has no impact on the existing rulesheet, as the game and its rules have not changed.

The rulesheet is based on the following sources:

- Good first introduction from RS-Pinball: <http://www.rs-pinball.at/alien-regelwerk/>
- Early [summary at Pinside](#) from PinballRulez
- Hours of gameplay videos recorded on ALIEN Pinball
- The official Heighway Pinball Software release notes: [Version 1.1](#) and [Version 1.2](#)
- The official Pinball Brothers Software release notes: Version 1.3 and Version 1.4
- Specific explanations in [many different posts](#) from the ALIEN rules designer "**Ferret**" at Pinside. He also presented some [basic rules](#).
- And - most valuable - detailed insights added by Brian and Ferret several times during the evolution of this document. **Thank you Brian and Joe!**

Ferret mentioned that his internal rulesheet was "about 20 pages long" and for sure this compilation is incomplete and may include errors. We would be happy to include your feedback - just contact us via [Pinside](#) or the German [Flipperforum](#).



**Note**

A few rules depend on settings in the ALIEN Service Menu ([see section 13 "Service Menu"](#)). This allows to adjust the game difficulty - and the fun - to the own playing skills.

Rules also partly change if you select the tournament mode: "**Random effects**" are replaced by fixed behavior.

We included some very basic instructions, as there are some first-timers among our friends.

1.4 The ALIEN World

Deep in space, millions of miles from Earth, one of the most deadly creatures that has ever existed is waiting for its victims, developed from the mind of artist H.R. Giger.

An ultimate space predator - a steampunk hybrid ALIEN creature with a metallic appearance, razor teeth, and acid for blood - the Xenomorph.

With films directed by cinema legends Ridley Scott and James Cameron this sci-fi/ horror series had its beginning - in particular, the early films ALIEN and ALIENS are masterworks.

Now it's time to remember history and continue future and expand the original story, because it can be hard to understand what's really going on here.

So, what's the ALIEN saga really about?

Let's explore...

1.5 The Company

Weyland-Yutani Corporation



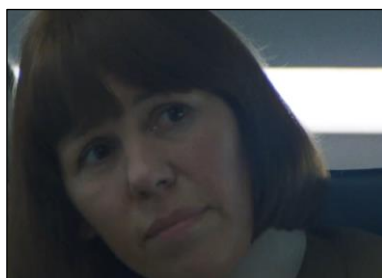
Weyland-Yutani is primarily a technology supplier, manufacturing synthetics, spaceships and computers for a wide range of industrial and commercial clients. The company has extensive assets in interplanetary shipping and transport, and is one of the corporations that operates human colonies

outside the solar system through the Extrasolar Colonization Administration. The company owns and controls the United States Colonial Marine Corps and has consistently driven its employees and agents to obtain a living sample of the species they designate Xenomorph XX121, so that the creatures may be exploited as biological weapons or otherwise for financial gain.

The Extrasolar Colonization Administration (ECA)

The Extrasolar Colonization Administration (ECA) is the main central organization through which the administration concerning the continuing human colonization of new planets is conducted.

ECA Representative



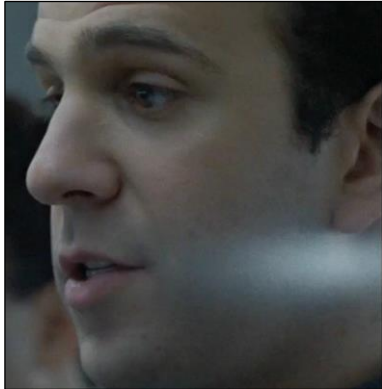
During the tribunal aboard Gateway Station, an unnamed ECA representative was one of the more vocal skeptics of Ripley's story.

She questioned how Ripley could have found an ALIEN creature on a moon with no indigenous life. Although Ripley asserts several times that the ALIEN her crew had encountered on LV-426 had come from a derelict spacecraft and was not indigenous.





Insurance Attorney



During the tribunal aboard Gateway Station, an unnamed insurance attorney was keen to point out the huge loss of investment the destruction of the USSCSS Nostromo represented.

When confronted with Ripley's assertions that a Xenomorph had been involved, he immediately sought clarification on whether any such creature was known to exist; the ECA representative at the hearing promptly alleged that it did not.

When Ripley became frustrated with the tribunal's refusal to accept her story, she grabbed a handful on the insurance attorney's papers, angrily throwing them across the table.

Carter J. Burke



Carter J. Burke was a **junior executive** for the Weyland-Yutani Corporation, serving as **Special Projects Director** for their (Space) Corp's Special Services Division. He acted as a liaison to Ellen Ripley after her rescue from deep space in 2179, and later accompanied a squad of Colonial Marines on board the USS Sulaco to LV-426, the moon where Ripley had first encountered the Xenomorph species, to investigate the loss of contact with the colony of Hadley's Hope. While initially amicable towards the Marines and Ripley in particular, in reality Burke had ulterior motives and his loyalties lay solely with Weyland-Yutani.

His continued scheming against the personnel from the Sulaco mission was eventually discovered, and he was nearly executed by the surviving Marines for his treachery.

Ultimately, he was ambushed by one of the Xenomorphs at Hadley's Hope and was killed straightaway or taken alive to be cocooned and implanted with a Chestbuster.

1.5.1 Locations

LV-426 (Acheron)



Acheron, formerly known as LV-426, is one of three known moons orbiting Calpamos in the Zeta2 Reticuli system, 39 light years away from Earth.

The moon was given its common name by the early human colonists who settled there.

The main colonist base, Hadley's Hope, housed 158 people.

Hadley's Hope



Hadley's Hope was a human terraforming, research and mining colony that was established on LV-426 in 2157.

The settlement was co-financed by the Extrasolar Colonization Administration and the Weyland-Yutani Corporation, and by 2179 maintained a constant population of 158 colonists.

It was subject to a major Xenomorph infestation that ultimately all but destroyed the complex.





1.5.2 Spaceships

Derelict Ship



The derelict on LV-426, codenamed Origin and also known as the alien derelict, was a crashed Engineer Juggernaut.

Some time in 2122, a warning signal being broadcast from the derelict was detected by the Weyland-Yutani Corporation and the commercial hauler USCSS Nostromo was subsequently sent to investigate, without the knowledge of its crew.

The ship was believed to have crashed on LV-426 several millennia prior to the arrival of the Nostromo.

USCSS Nostromo



The USCSS Nostromo, registration number 1809246, was a modified Lockmart CM-88B Bison M-Class starfreighter owned by the Weyland-Yutani Corporation and captained by Arthur Dallas, registered out of Panama. The Nostromo operated as a tug, connecting to and pulling loads like a tractor truck rather than carrying those loads on board like a traditional freighter.

The ship was destroyed in 2122 when its reactor was set to self destruct by Ellen Ripley in an attempt to kill the lone Xenomorph that was loose aboard the vessel. The ship and its refinery cargo were completely destroyed in the resulting explosion.

Narcissus



The Narcissus was a modified Lockmart Starcub light shuttle that served as one of two lifeboats aboard the Weyland-Yutani commercial hauler USCSS Nostromo.

Warrant Officer Ellen Ripley used the Narcissus to escape the destruction of its parent vessel in 2122, along with the ship's cat Jones.

Gateway Station



The Gateway Station was a large geosynchronous space station orbiting Earth in the late twenty-second century. It functioned primarily as a loading station for cargo being transported to and from Earth.

Most space-based commercial organizations (including both the Interstellar Commerce Commission and the Extrasolar Colonization Administration) had representatives stationed aboard.

USS Sulaco



The USS Sulaco was a Conestoga-class troop transport ship in service with the United States Colonial Marine Corps, assigned to 2nd Battalion Bravo Team.

It was most notably used in the investigation of the Hadley's Hope colony on Acheron (LV-426) in 2179, when it was manned by Lieutenant Scott Gorman's combat unit of Colonial Marines.





UD-4L Cheyenne Dropship (Bug Stomper)



Bug Stomper was a UD-4L Cheyenne Dropship aboard the USS Sulaco, piloted by Corporal Colette Ferro. It was notably involved in the initial USCM operation on LV-426 in 2179.

Bug Stomper was the dropship utilized by the Marines during the initial combat stages of the mission, and it was used to deploy ground forces to the Hadley's Hope colony.

It was ultimately destroyed in a crash landing when its crew was slaughtered in flight by a Xenomorph Warrior.

1.5.3 Vehicles

M577 Armored Personnel Carrier (APC)



The M577 Armored Personnel Carrier (APC) is a troop transport used by the United States Colonial Marine Corps. The M577 evolved from the Marine 70 battlefield deployment strategy, which proposed a requirement for a low-cost lightweight APC capable of being transported into combat aboard the UD-4L Cheyenne Dropship. Designed as a multi-role vehicle within a lightly-equipped rapid-reaction force, the M577 is mobile and well armed.

However, the rigid design restrictions and compromises imposed by the need to be drop-transportable have resulted in a lighter, less capable vehicle than other APCs currently in US service.

P-5000 Powered Work Loader (Power Loader)



The P-5000 Powered Work Loader, commonly referred to as the Power Loader, is a commercial mechanized exoskeleton used for lifting heavy materials and objects. As well as widespread industrial use, the P-5000 is heavily employed by the United States Colonial Marine Corps to load ordnance on board their starships. Power Loaders are equipped with hydraulic "claws" that can be used to hold and manipulate a variety of objects.

The Colonial Marines (as well as other groups, including the Iron Bears) also utilized the Exosuit, the military version of the P-5000. Perhaps the most famous use of a Power Loader was when Ellen Ripley used one in desperation to engage a Xenomorph Queen in hand-to-hand combat aboard the USS Sulaco.

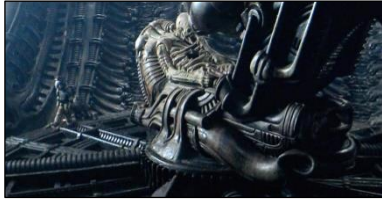
"Get away from her you bitch!"





1.5.4 ALIEN Life Forms

Jockey-Xenomorph



The Jockey-Xenomorph is a Xenomorph born from an Engineer. The Jockey-Xenomorph is usually huge in size, far larger than any typical human-spawned Xenomorph.

Dallas, Lambert, and Kane discovered a derelict Engineer ship on LV-426 and inside found a fossilized Engineer in a Chair Suit with a large hole torn in his chest, its ribcage bent outwards, the result of a Chestburster emerging from within.

Ovomorph (Egg)



The Ovomorph, known colloquially as the Egg, is an egg-like capsule containing a Facehugger, generally considered to be the first stage in the lifecycle of the species Xenomorph XX121. They are produced and laid by a Queen. Xenomorph Eggs by themselves are seemingly inert and are often dismissed as nothing more than lifeless vessels simply designed to contain the Facehugger.

However, study has shown that they are in fact complicated organisms in their own right and that they exist in a symbiotic relationship with the Facehugger they contain. They notably possess the ability to "sense" or otherwise detect when a potential host creature approaches, at which point four "petals" at the top of the Egg open up and the Facehugger within launches itself at the nearby victim.

Facehugger



The Facehugger, known taxonomically as *Manumala noxhydrya* and designated a "Stage 1" Xenomorph by Weyland-Yutani scientists, is a parasitoid form of the species Xenomorph XX121 that hatches from an Ovomorph. It is the second stage in the Xenomorph's lifecycle, and exists solely to implant a Chestburster within a host creature via their mouth.

As such, it has no real offensive capabilities (beyond an ability to spit acid, which is generally only used to gain access to hosts and not for attack) and must rely on stealth, surprise or their victims being previously immobilized by an attacker to achieve implantation. Notably, a Facehugger dies shortly after its task has been completed.

Chestburster



The Chestburster, designated a "Stage 2" Xenomorph by Weyland-Yutani scientists, is the infant form of the species Xenomorph XX121 and the third stage in its lifecycle. It is most well known for its horrific method of gestation - it is implanted into a host lifeform's chest cavity by a Facehugger.

Upon maturing it will erupt violently from the host's chest, killing them in an incredibly bloody and traumatic fashion. Chestbusters are small, generally not more than a foot tall and around two feet long including their tails, although larger examples have been seen.





Xenomorph



Xenomorph commonly referred to as simply the Xenomorph and known colloquially as the ALIEN, is a highly aggressive endoparasitoid extraterrestrial species. The Xenomorphs are vicious predatory creatures with no higher goals than the propagation of their species and the destruction of any life that could pose a threat to them.

Like wasps or bees, Xenomorphs are eusocial, with a fertile Queen breeding a host of subordinate castes. The creatures are known for their potent acidic blood and their pharyngeal jaws, although their biological lifecycle, in which their offspring is implanted inside living hosts before erupting violently from their chests, is in many ways their signature aspect.

Queen



The Acheron Queen was a Xenomorph Queen born on Acheron (LV-426) in 2179.

She was the original leader of the Hive at the colony of Hadley's Hope, and was later encountered there by a unit of Colonial Marines from the USS Sulaco. The Queen escaped the colony before its destruction and managed to reach the Sulaco by stowing away aboard a dropship.

Later the Queen was killed during the fight with Ellen Ripley with her Power Loader when she was flushed into space.

1.5.5 Human Crew Members (USCSS Nostromo)

The crew was serving on the ship during its fateful voyage in 2122 when it encountered a Xenomorph on LV-426, an incident that eventually led to the destruction of the ship and the loss of all but one of its crew and a pet.

Gilbert Ward "Thomas" Kane



Gilbert Ward Kane, better known as Thomas Kane, was the **executive officer** aboard the commercial towing vehicle USSCS Nostromo.

Kane was the crew member who was attacked and impregnated by a Facehugger, and as such it was he who brought the ALIEN aboard the ship.

He died when the Chestburster erupted from his chest.

Samuel Elias Brett



Samuel Elias Brett was the **engineering technician** aboard the commercial towing vehicle USSCS Nostromo.

Brett was the first victim of the fully-grown Xenomorph, and was killed whilst searching for the creature not long after it was born.

"Right"



**Arthur Koblenz Dallas**

Arthur Koblenz Dallas was the **captain** of the commercial towing vehicle USCSS Nostromo.

Dallas was taken by the Xenomorph while attempting to flush the creature from the ship's ventilation shafts and into its main airlock so that it could be ejected into space.

Joan Marie Lambert

Joan Marie Lambert was the **navigator** aboard the commercial towing vehicle USCSS Nostromo.

Lambert was killed by the ALIEN whilst gathering oxygen tanks that would allow the survivors to flee the Nostromo in its shuttle, the Narcissus.

Dennis Monroe Parker

Dennis Monroe Parker was the **chief engineer** aboard the commercial towing vehicle USCSS Nostromo.

Parker was killed by the ALIEN whilst gathering oxygen tanks that would allow the survivors to flee the Nostromo in its shuttle, the Narcissus.

Ellen Louise Ripley

Beginning her career as a **warrant officer** with Weyland-Yutani's commercial freight operations, she was assigned to the USCSS Nostromo in 2122 when it encountered a single Xenomorph unintentionally collected from the planetoid LV-426. The event led to the death of the rest of her crew and the destruction of the ship.

As a **Lieutenant First Class** Ellen Louise Ripley was a civilian adviser to the United States Colonial Marine Corps and a hugely influential figure in humanity's encounters with the species Xenomorph XX121. She was the mother of Amanda Ripley-McClaren and the forebear of Alan Decker.

"This is Ripley, last survivor of the Nostromo, signing off."





1.5.6 Pets

Jones "Jonesy"



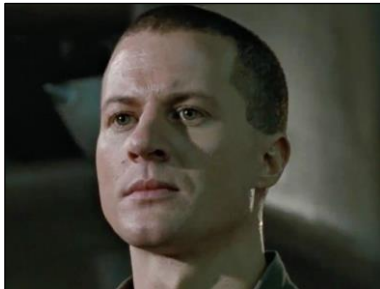
Jones, nicknamed "Jonesy", was a ginger American Shorthair tomcat kept aboard the USCSS Nostromo as Ellen Ripley's pet. While the cat's official purpose was to control rodents aboard the ship, it also served as a source of relaxation and entertainment for the crew on long space journeys.

Jones and Ripley were the only individuals who survived the Nostromo's encounter with a Xenomorph and the ship's subsequent destruction.

1.5.7 United States Colonial Marine Corps (USS Sulaco)

The United States Colonial Marine Corps was a combat unit deployed to LV-426 aboard the USS Sulaco in 2179 to investigate the sudden loss of contact with the colony of Hadley's Hope and subsequently involved in combating the Xenomorph infestation.

Scott Gorman



Lieutenant Scott Gorman was a member of the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team.

Gorman did not command a great deal of respect from his Marines owing to his inexperience in the field, and was incapacitated throughout much of the incident at the colony, leaving Corporal Hicks to take command.

Gorman was among the last to perish in the incident, committing suicide with Private Vasquez rather than be captured by the Xenomorphs for impregnation.

Al Apone



Gunnery Sergeant Al Apone was a member of the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. He was the **senior non-commissioned officer** with the combat unit deployed to LV-426 aboard the USS Sulaco in 2179, to investigate the sudden loss of contact with the colony of Hadley's Hope. Despite a sometimes antagonistic relationship with some of the Marines under his command, notably Private Hudson, Apone was greatly respected by his men. He was taken by the Aliens in the Hive during the early stages of the operation, and was most likely subsequently impregnated with a Chestbuster.

Cynthia Dietrich



Corporal Cynthia Dietrich was a **Hospital Corpsman** with the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team.

Dietrich was part of Second Squad's rifle team, along with Private Frost She was taken by the Aliens during the early stages of the operation, and was most likely subsequently impregnated with a Chestbuster.



Dwayne Hicks

Corporal Dwayne Hicks was a member of the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team.

Hicks was part of Second Squad's gun team, along with Private Drake, and was also the **squad's leader** and **Motion Tracker operator**.

When the unit's commanding officer, Lieutenant Gorman, was incapacitated, Hicks took overall charge of the mission as the ranking Marine. He was the only Marine to survive the incident, alongside Ellen Ripley and civilian Rebecca Jorden, and the USCM android Lance Bishop, who was badly damaged.

Colette Ferro

Corporal Colette Ferro was a UD-4L Cheyenne Dropship **pilot** for the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. During the mission to Hadley's Hope, Ferro piloted the dropship Bug Stomper, assisted by copilot Private Spunkmeyer.

She was killed when a Xenomorph attacked her in-flight as she sat at the controls.

Her death resulted in the loss of the dropship itself and the destruction of the squad's APC, leaving the few surviving Marines stranded and with little usable equipment.

William L. Hudson

Private First Class William L. Hudson was a **combat technician** in the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. Hudson was part of First Squad's gun team, along with Private Vasquez.

He was also the **squad's leader**, although Master Sergeant Apone assumed nominal command for the initial operation at Hadley's Hope.

Hudson was also designated First Squad's Motion Tracker operator. He was among the last to perish in the incident, eventually becoming host for a Chestbuster.

Jenette Vasquez

Private First Class Jenette Vasquez was a **Smartgun operator** with the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. She was the sister of Carmen Vasquez. Vasquez was part of First Squad's gun team, along with Private Hudson. She had a long history with fellow Smartgun operator Private Mark Drake, and the two shared a close, possibly romantic relationship.

Vasquez was among the last to perish in the incident, committing suicide with Lieutenant Gorman rather than be captured by the Xenomorphs for impregnation.

"You always were an asshole, Gorman."





Mark Drake



Private First Class Mark Drake was a **Smartgun operator** with the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. Drake was part of Second Squad's gun team, along with Corporal Hicks. He had a long history with fellow Smartgun operator Private Jenette Vasquez, and the two shared a close, possibly romantic relationship. He was killed during the early stages of the operation when an exploding Warrior showered him in acid.

Ricco "Frosty" Frost



Private First Class Ricco Frost, nicknamed "Frosty" or the "Zen Master" owing to his cool attitude, was a member of the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. Frost was part of Second Squad's rifle team, along with Corporal Dietrich, and was also a skilled martial artist, holding a first-degree black belt in the Marine Corps Martial Arts Program. He was killed by friendly fire inside the Hive when Dietrich accidentally set him on fire with her flamethrower.

Daniel Spunkmeyer



Private First Class Daniel Spunkmeyer was a Cheyenne dropship **Crew Chief** with the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. During the mission to Hadley's Hope, Spunkmeyer acted as copilot aboard the dropship Bug Stomper, piloted by Corporal Ferro. He was killed when a Xenomorph stowed away on board, ultimately causing the dropship to crash.

Tim Crowe



Private Tim Crowe was a member of the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. Crowe was part of First Squad's rifle team, along with Private Wierzbowski. He was killed during the early stages of the operation when the squad's Pulse Rifle ammunition, being carried in a bag to prevent its use, cooked off in a fire, causing an explosion.

Trevor "Ski" Wierzbowski

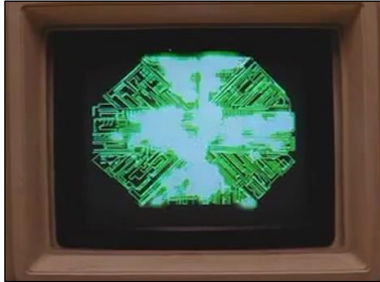


Private Trevor Wierzbowski, nicknamed "Ski", was a member of the United States Colonial Marine Corps, part of 2nd Battalion Bravo Team. Wierzbowski was part of First Squad's rifle team, along with Private Crowe. He was lost during the early stages of the operation, although it is unclear if he was killed immediately or taken and later impregnated with a Chestburster.



1.5.8 Artificial Life Forms

MU/TH/UR 6000



MU/TH/UR 6000, commonly referred to simply as "**Mother**", was the artificial intelligence computer mainframe aboard the USCSS Nostromo. Mother operated many of the ship's background systems, and auto-piloted the vessel while the crew were in hypersleep. It was also programmed to wake the crew during the voyage should certain situations arise. Mother was ultimately destroyed when the Nostromo was set for self destruct by Ellen Ripley, in an attempt to kill the Xenomorph that was aboard on the ship.

Ash



Ash was a **synthetic employee** of the Weyland-Yutani Corporation and the **science officer** aboard the commercial towing vehicle USCSS Nostromo. He was serving on the ship during its fateful voyage in 2122 when it encountered a Xenomorph on LV-426, an incident that eventually led to the destruction of the ship and the loss of all but one of its crew.

Ash's synthetic nature was kept secret from the rest of the crew, who assumed he was merely another human assigned to the ship. In fact, he was a sleeper agent who had been placed on board the Nostromo specifically to ensure the Xenomorph was returned to the company.

Lance Bishop



Lance Bishop was a Hyperdyne Systems model 341-B **synthetic technician** with the United States Colonial Marine Corps, assigned to 2nd Battalion Bravo Team. He served as **Executive Officer** aboard the USS Sulaco, and as such was part of the combat unit deployed to LV-426 in 2179, to investigate the sudden loss of contact with the colony of Hadley's Hope. As a technician, Bishop was not part of the squad's combat personnel, although he used his non-combat skills to aid in the escape of the survivors from the colony.

He survived the incident along with Ellen Ripley, Corporal Hicks and Rebecca Jorden, although he was seriously damaged.

1.5.9 Civillians

Anne Jorden



Anne Jorden (born Anne Ridley) was a colonist and prospector living at Hadley's Hope on Acheron. She was the wife of Russ Jorden and mother to Timmy and Rebecca Jorden. In 2179 Anne, along with her family, was one of the first people to rediscover the derelict ship on the planet and was caught up in the subsequent Xenomorph infestation that overran the colony.

Anne and her children were with the small group of survivors that holed up in the colony's operations center. She perished when the Xenomorphs overran the room.

"If I catch either of *you* playing in those air ducts again I'll tan your hides!"





Russel "Russ" Jordan



Russell "Russ" Jordan was a colonist and prospector living at Hadley's Hope on Acheron. He was the husband of Anne Jordan and father to Timmy and Rebecca Jordan. In 2179 Russ, along with his family, was one of the first people to rediscover the derelict ship on the moon.

While Russ was the first colonist to become impregnated by a Facehugger, it remains unclear whether it was he who triggered the Xenomorph infestation that destroyed the colony.

Newt was one of four people to survive the infestation on LV-426, along with Ripley, Corporal Hicks and the android Lance Bishop, who was badly damaged.

Tim "Timmy" Jordan



Tim "Timmy" Jordan was a colonist living at Hadley's Hope on Acheron. He was the son of Russ and Anne Jordan and elder brother to Rebecca Jordan. He was caught up in the Xenomorph infestation that overran the colony in 2179.

Timmy, along with his mother and sister, was with the small group of survivors that holed up in the colony's operations center. He perished when the Xenomorphs overran the room while he killed the individual Xenomorph Drone with a handgun.

"Don't worry, mom, you and Newt *can* count on me to look out for you."

Rebecca "Newt" Jordan



Rebecca Jordan, formerly known as "Newt", was the sole survivor from the Hadley's Hope settlement on Acheron following a Xenomorph infestation at the colony. She was the daughter of Russ and Anne Jordan and sister to Timmy Jordan.

The United States Colonial Marine Corps unit which was dispatched to the moon in 2179 discovered her hiding in the colony's ventilation system. She subsequently became close to Ellen Ripley, who later risked her own life to rescue Newt from the Xenomorph Hive.

Newt was one of four people to survive the infestation on LV-426, along with Ripley, Corporal Hicks and the android Lance Bishop, who was badly damaged.





2 Playfield Overview

Here is an overview of the ALIEN lanes, targets and inserts. For reference, we will use the terms listed below in the rule explanations.

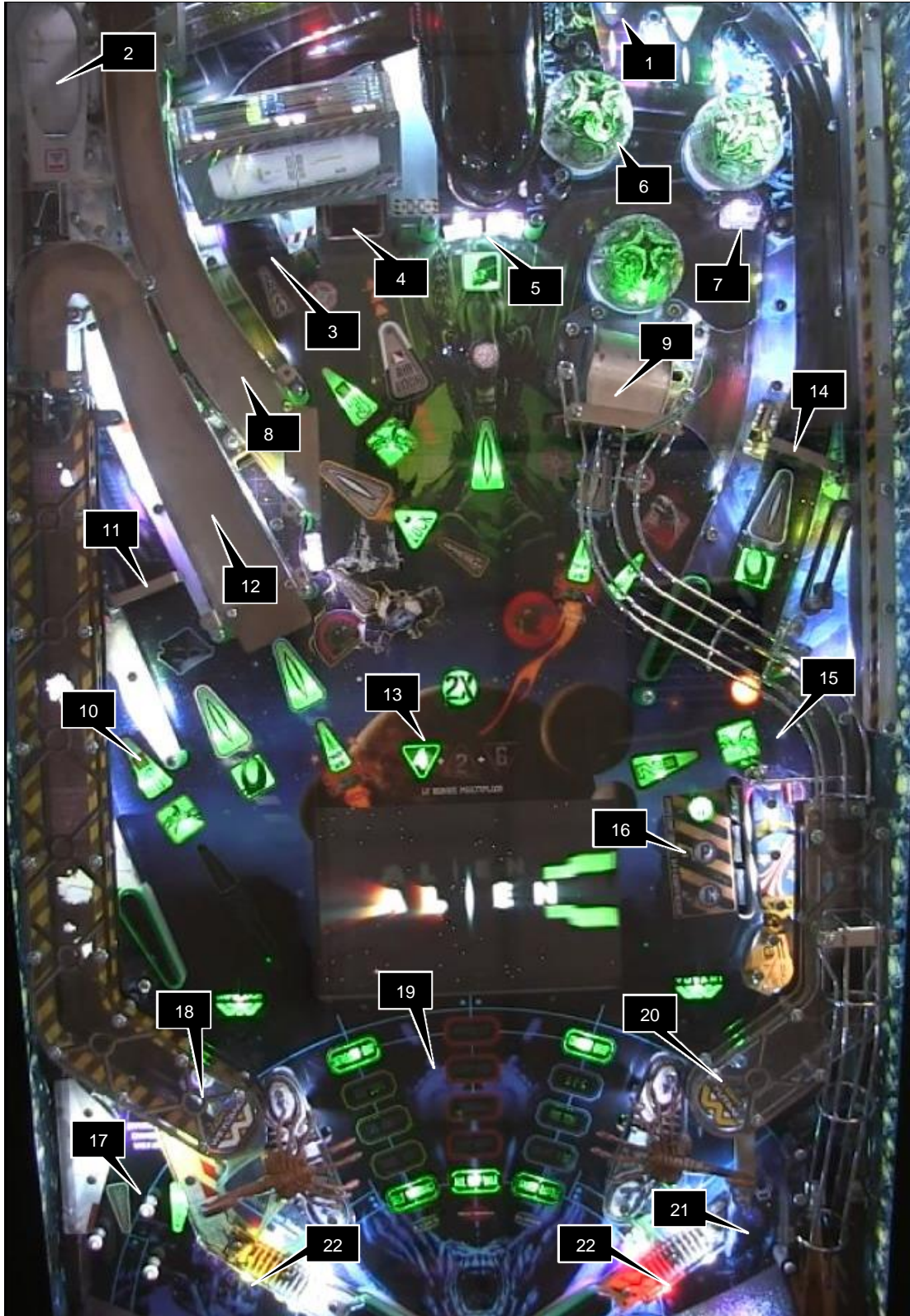


Fig. 1: Playfield Overview





Playfield Overview

Legend

- | | |
|--|---|
| 1 Top "L" and "V" lanes | 12 Left ramp with "Drop Ship" light |
| 2 Hypersleep chamber | 13 Playfield double scoring (2X) and bonus multipliers |
| 3 Vent 3 and "Super" Jackpot | 14 Right orbit with spinner |
| 4 Airlock with weapon targets and "Airlock" light | 15 Vent 2 with weapon target |
| 5 Xenomorph targets | 16 A-P-C drop targets |
| 6 Egg Bumpers | 17 Left outlane with "Revive" lights |
| 7 Chestburster target | 18 Left inlane with "Weyland" lights |
| 8 Upper ramp with "Lock" and "Extraball" lights | 19 Mission and Multiball lights |
| 9 Right ramp with weapon targets and "Drop Ship" light | 20 Right inlane with "Yutani" light |
| 10 Vent 1 with "Mother" light | 21 Right outlane with "Special" light |
| 11 Left orbit with spinner | 22 "Scream again" lights |

Without numbers at numerous places:

- "Lifecycles" lights
- "Arrow" lights



3 Screens

The ALIEN screens are used to display video sequences but also to report the current status of different gameplay elements.

3.1 Main Screen and Playfield Screen



Fig. 2: Main Screen

Legend

- | | | | |
|---|-------------------------------|---|--|
| 1 | Weapon status and explanation | 5 | Action display |
| 2 | Sentry Guns ammunition | 6 | Counters for ball in play, Extra Balls and credits |
| 3 | DROP SHIP letter display | 7 | Current player |
| 4 | Lifecycle progress indicator | 8 | Gained points of current player |



Note

The Playfield Screen displays the same video sequences and reports the current status of different gameplay elements as the Main Screen.





3.2 Airlock Screen

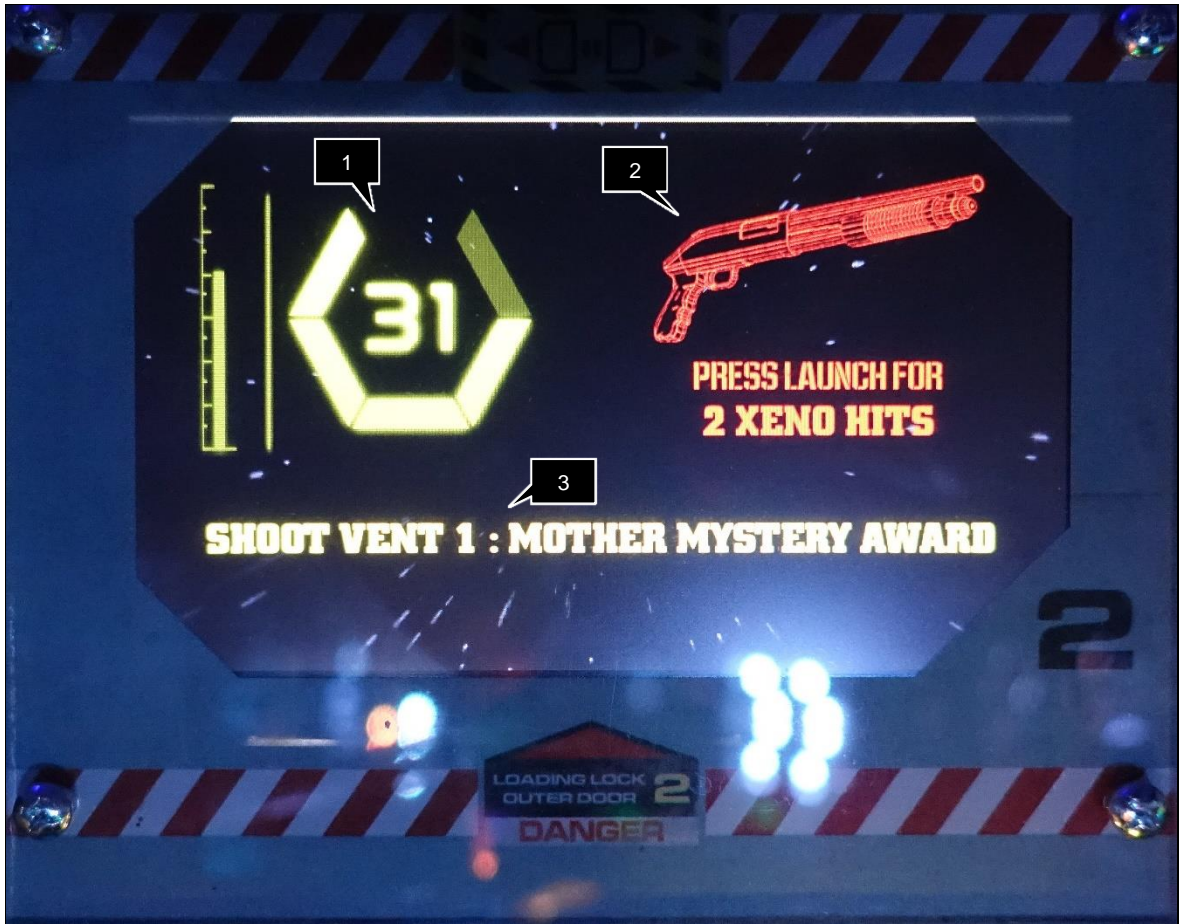


Fig. 3: Airlock Screen

Legend

- 1 Remaining mission time
- 2 Selected weapon

- 3 Action display



Note

The Airlock screen shows a closed Airlock and the name of the next waiting mission ([see section 6 "Missions"](#)). When the mission is started the Airlock opens and reveals the status display shown above.





4 Start a Game

Press the blinking **"Start"** button in front of the pinball to activate a new game. The first ball will be released and can be shot in the game with the **"Launch"** button. Press the start button again to add up to 4 players.

If the pinball machine is not running in the **"Free Play"** mode, you have to buy credits in advance. Each game or player consumes one more credit - as long as they are available.

4.1 Movies

Before launching the first ball, each player can decide which movie and related missions he wants to play first.

- Press the left or the right flipper button to select the movie **"ALIEN"** or **"ALIENS"**
- Confirm the selection by starting the first ball with the **"Launch ball"** button

If all missions of a movie are played, the game will continue with the other movie.



Note

Fun tidbit: While in movie select, you can press the left and right flipper buttons to progress through several lines of dialog from the corresponding movie. This has no effect on the game, just a fun semi-hidden concept that the amazing David Thiel dreamt up.

4.2 Skill Shot



Fig. 4: Skill Shot

For a limited time after starting a new ball, try to hit a blinking target or lane to get a special **"Skill shot"** award. A shot into the Airlock deactivates the Skill Shot Timer.

Each distinct skill shot (Vent 1, ramps, weapon targets, etc.) gives a unique award (light mystery, spot all letters in DROP, get weapon, etc.) as well as some number of points; making the same skill shot again later in the game awards more points. Making three different skill shots in the game awards a Super Skill Bonus of 5,000,000 (in addition to the normal value of the shot made).





5 Basic Rules

5.1 Scoring

A player collects different types of points when hitting targets, passing ramps or lanes, finishing missions etc.:

- Playfield points are added immediately to the displayed score. If a playfield multiplier is activated ([see section 5.2 "Playfield Multiplier"](#)) all values are count twice.
- Bonus values are given for achieved tasks during the gameplay, e.g. destroyed eggs, collected weapons or finished missions. The resulting bonus points are added to the score at the end of a ball. The bonus can be multiplied with bonus multipliers ([see section 5.3 "Bonus Multiplier"](#)).
- Certain targets additionally increase the ammunition counters (A) and (B) for the Sentry Guns. Every scoring switch will increase the ammunition counters (A) and (B) for the mighty Sentry Guns by 1. Additionally, making primary shots will increase ammo between 4 and 20, depending on the difficulty of the shot made.



The level of the scores can be very different depending on the game play (e.g. completed and active missions). Blinking lights typically indicate valuable shots (in terms of scoring and game play). During Multiballs the hits of all balls are evaluated separately.



Note

The difficulty of collecting ammo is based on the Sentry Guns Multiball difficulty adjustment plus the number of Sentry Guns Multiball already played by the current player.

For lower difficulty levels, ammo increases apply to both the (A) and (B) guns simultaneously... at higher difficulty levels, ammo increases alternate between the (A) and (B) Sentry Guns.

5.2 Playfield Multiplier

The 2X playfield multiplier is started with Drop Ship, the Pulse Rifle or a Mother Mystery award, it lasts for 20 seconds. Each additional activation increases the running time by 20 seconds.

A repeating "**Beep**" sound indicates the active multiplier, with shorter intervals during the end of the mode.

5.3 Bonus Multipliers

Bonus multipliers are given when the ball passes both "**L**" and "**V**" lanes above the eggs. The multiplier is increased in steps of 2 up to a maximum of 12 (all 3 multiplier lights lit).

5.4 Extra Balls

The number of balls per game can be adjusted, usually 3 balls are available per player. However you can add one or more Extra Balls when completing certain tasks ([see section 9 "Lifecycles"](#)) or by simply reaching an adjustable number of points.





5.5 Special

The special light in the right outlane signals a special award when overrun - typically a free game or another Extra Ball (which makes more sense in the free play mode).

The special award and the trigger event can be configured, the default are 4 fulfilled missions.

5.6 Ball Save

The **"Ball Save"** timer starts when a new ball is launched. The timer will be active for a configurable time (e.g. 15 seconds), indicated by blinking **"Scream Again"** lights below the outlanes. If a ball gets lost during this time, it will automatically be re-launched. During the game, there are more triggers for a ball save phase.

Additionally a ball will be re-launched if it passes a lit **"Revive"** light when leaving the playfield through the left outlane. Shoot the upper ramp to activate a Revive light.

5.7 End of Game

The game ends after playing all regular and Extra Balls. If your final score is high enough, you will be prompted to enter your name in the **"Highscore"** list.

Choose letters with the flipper buttons and select them with the start button.

"NOT BAD... FOR A HUMAN"





6 Missions



Fig. 5: Missions

Depending on the movie chosen, there are 5 different missions available. The lights below the playfield monitor show which missions have already been played (mission is lit) or will follow next (blinking). Shooting any ramp will change the next mission to be played (when no mission is active), but the last one is always final.

To start a mission you need to:

- Illuminate the **"Weyland"** and **"Yutani"** lights above the left and right inlane by passing them (e.g. by shooting through the left and right ramp). The **"Airlock"** light in front of the Airlock will then flash red.
- Shoot the ball in the Airlock.

Each mission requires to perform a sequence of tasks to be completed. They are described (step by step) on the main screens. Colored lights (usually blue) will point to the targets or lanes to be shot. The final target will be the Airlock again.

Most missions come with a time limit - the remaining time is shown on the Airlock screen. The mission ends if all tasks are accomplished or if the time expires. Missions also end if the player drains or tilts; they don't continue across balls.

In any case the mission is regarded to be completed, but with a lower score when aborted. Successful missions award a weapon, increase the bonus and push the score of the final SELF DESTRUCT or LOADER BATTLE.



Note

Missions as well as Multiballs considerably depend on difficulty and timer configuration settings, [see section 13 "Service Menu"](#). The following descriptions assume plain default settings.





6.1 ALIEN Missions Summaries



Fig. 6: Find Jonesy

6.1.1 Derelict Ship



Shoot egg bumpers to explore the nest. Orbit shots (blue or green) increase the pop bumper value, green orbits add some mission time as well.

The initial pop bumper value is based on how many eggs were destroyed before starting this mission.

After 12 egg hits you need to enter one of the 3 blue flashing Vents, the earned points depend on the accumulated egg value and how fast you hit the Vent. Finally shoot in the Airlock.

6.1.2 Acid Burn



Find the acid in 3 decks (i.e. lanes or ramps), indicated by flashing blue lights. Avoid green targets, too many hits will end the mission. Enter the Airlock as final step.

6.1.3 Find Jonesy



Find the cat with shots through orange blinking ramps or lanes. As the target changes rapidly you need to catch the ball and wait - the moving light follows some pattern ([see section 12 "Expert Tips"](#)). Point award is based on how many shots it took you to find Jonesy - making two orange shots with no misses is the most valuable. Again the Airlock finishes the mission.

"Here, kitty kitty! Here, Jonesy!"





6.1.4 Tunnel Hunt



Shoot all three Vents (lit blue), followed by the Airlock. Shooting the three Vents in order (1, 2, 3) doubles the value of the final shot.

6.1.5 Self Destruct

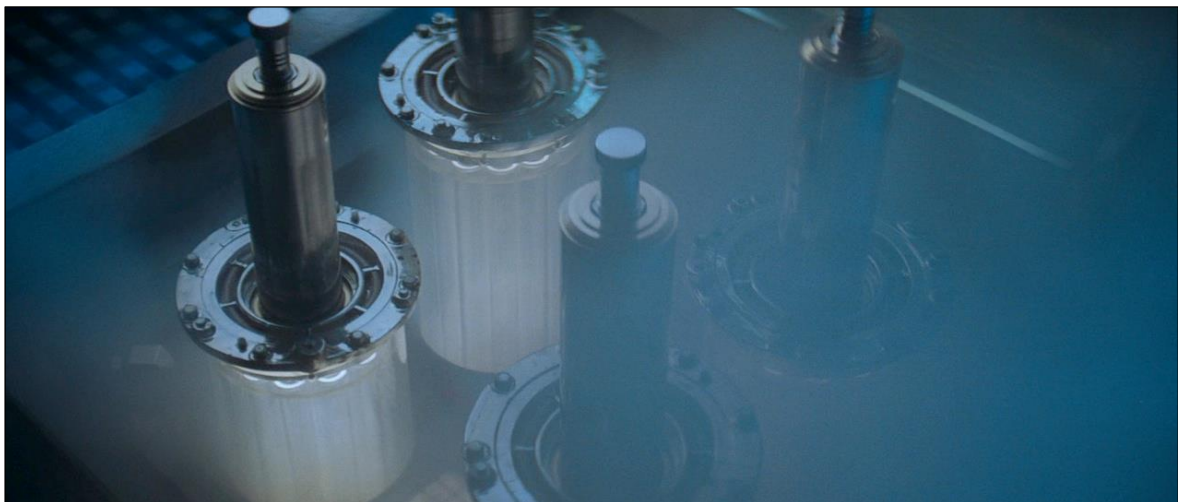


Pass all four blue flashing lanes or ramps to evacuate the ship. Shoot Airlock to proceed to shuttle. Shoot XENOMORPH and AIRLOCK to get rid of the beast. Hit Vent 1 to ignite the engine and to finish it. Now you can collect big victory points.

SELF DESTRUCT as well as LOADER BATTLE activate the ball saver as long as the timed mode runs.

In other words, you can't drain out of these modes, you can only run out of time. If you reach the Victory Laps portion of these missions a ball is added and the mode continues until you drain down to one ball (without time limit). However, whatever ball saver you had continues. In other words, if you raced through the necessary shots of the single-ball portion very quickly, you'll have a longer ball saver for the Multiball portion.

"THE SHIP WILL AUTOMATICALLY DESTRUCT IN T MINUS 5 MINUTES!"





6.2 ALIENS Missions Summaries



Fig. 7: ALIEN Queen

6.2.1 Combat Drop



Hit 4 weapon targets (blinking blue) to crew the ship and release it. Land the ship with shots into one of the indicated lanes and the Airlock. This is one of the missions where you can somewhat choose when to end the mode.

Once you're in the second phase (land the ship), a single ramp shot will qualify the Airlock to win the mode.

Player's choice of how many ramp shots they want to try to make to run up the score before shooting the Airlock to win the mode.

6.2.2 A-P-C



Do several orbits, ramps, the Xeno and the Airlock to navigate the APC transporter through the station. As always, blue blinking lights will guide you. Completing the APC drop targets automatically awards the current lit shot (unless it's the final Airlock) and increases the value of shots for the rest of the mission.

This can be done repeatedly, so theoretically the most valuable way to play this mode would be to shoot the APC drops over and over. However, the short shot timer makes this impractical. This is the only mode where the timer is per-shot, instead of for the entire mode.





6.2.3 Bug Hunt



Reach the colonists by passing 3 ramps marked blue. Hit the chestburster target and examine a colonist. Accomplish blue arrows to stop approaching Xenomorphs until the Airlock is lit. In the final phase shooting an unlit shot results in one of the good guys being killed by a Xeno, which reduces scoring for the rest of the mode.

As with Combat Drop, once you get to the final phase, only one lit shot is required to qualify the Airlock for mode win; at that point the player must decide whether to keep making shots for points, or shoot the Airlock to win the mode.

6.2.4 Queen's Nest



Hit at least one egg bumber followed by a shot in the Airlock. Repeat these two steps 3 times to kill the ALIEN queen.

6.2.5 Loader Battle



Attack queen by shooting left loop, right loop and Xeno. Enter Vent 1 to open the Airlock. Hit the Airlock to push the queen into it. Shoot 4 ramps and finally the Airlock to eject the ALIEN. Aim for the flashing lanes and ramps to celebrate your victory and finish the mode.

For more details about ball saver and timer behaviour [see section 6.1.5 "Self Destruct"](#).



Note

- *The mission time limit can mostly be increased with a Mother Awardshot.*
 - *Missions can be combined ("stacked") with Multiballs.*
 - *A special is given after 4 successfully played missions (configurable).*
-





7 Multiballs

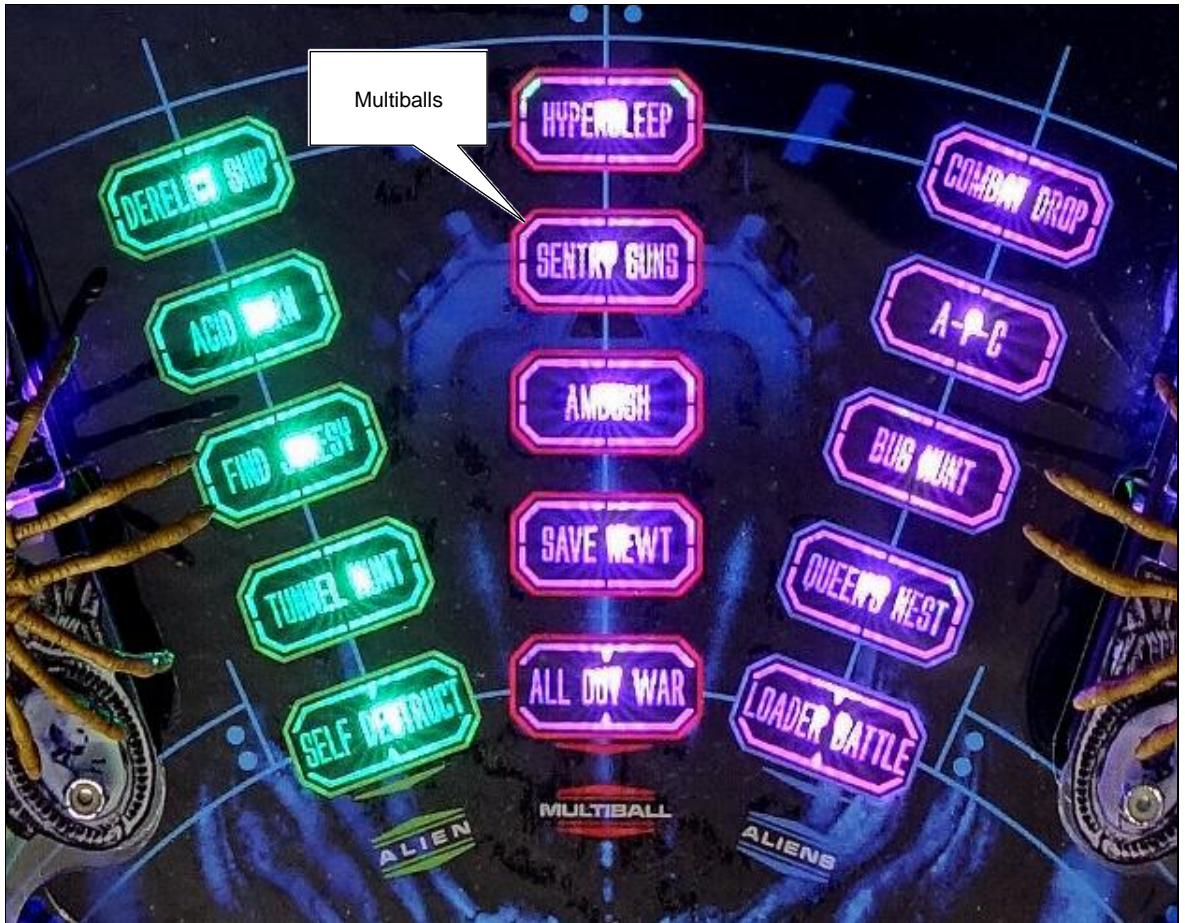


Fig. 8: Multiballs

The ALIEN Pinball offers 5 Multiball modes (regardless of the selected movie). The lights between the missions indicates running (blinking) or accomplished (always on) Multiball modes. The following list describes how to start the Multiball modes and explains the main objectives.

7.1 Hypersleep



Hitting all A-P-C targets will activate the **"Lock"** light in front of the left upper ramp. Shoot the ramp to add a ball to the hypersleep chamber.

The hypersleep Multiball starts after 2 locked balls (next time 3 balls, configurable). Shoot red flashing arrows to revive 7 crew members -progress is displayed with empty hypersleep boxes.

Resurrections are rewarded with a jackpot. Completing the APC drop targets out of order increases the jackpot value. Completing the APC drop targets in order (A, P, C) increases the jackpot multiplier.





7.2 Sentry Guns



The Sentry Guns Multiball can be started by a shot into the (red blinking) Vent 1, as soon as both ammunition counters reach 500.

Fire the Sentry Guns by passing the red blinking orbits (spinners), which will lit the Xeno for a regular Jackpot.

A Super Jackpot will become available on the Airlock once the ammo counters decrease below critical level (50). The Super Jackpot value is increased when collecting Xeno Jackpots. So, the highest value way to approach this Multiball is alternating the spinner and Xeno as much as possible until the Airlock lights for Super Jackpot. Repeat this sequence to collect a lot of points.

7.3 Ambush



Hit the Xeno multiple times to fight against the Aliens. The number of Xeno hits required to start Ambush begins with 5 (configurable) and increases (to a limit) each time Ambush is played. The Aliens attack from different directions from the left to the right-shown in 4 quadrants of the ALIEN radar.

The related shots are marked with different colors. Once all attacking Aliens are killed, a "Super Jackpot" is available at Vent 3 for some time. After that, a new wave starts. The Super stays at a reduced value if not hit. The value of killed attacking Aliens keeps increasing until you allow the Xenos to reach the center, at which point all shots unlight, the shot value resets to a (fairly low) baseline, and you have to hit the center Xeno shot to resume the attack wave.

7.4 Save Newt



Finish 2 or more lifecycles to start the Save Newt Multiball. The number is configurable (with 2 on default/ medium difficulty) and increases (to a limit) each time Save Newt is played. You have to accomplish three phases: First save Newt by shooting the blinking red arrows to open the grating with the plasma cutter. Assuming you still have multiple balls, Newt always gets abducted after 20-25 seconds.

In the second phase Vent shots will be lit and Newt is randomly hiding in one of them.

Hit the hideout Vent to move to phase three: Alternate shot any lit target for Jackpot, then shoot Vent 3 for 3x Jackpot. This continues for as long as you have balls. This is actually a pretty complicated Multiball. In the first phase lit shots will award a jackpot and raise the jackpot value. This jackpot value is the base of scoring for the rest of the Multiball, so for biggest points you want to shoot as many of the lit shots as you can, as fast as you can. Making a lit shot in the second phase that doesn't find her awards the current jackpot value; making a lit shot that finds her increases the jackpot value and awards 2X jackpot value.

7.5 All Out War

White flashing mission and Multiball lights announce this final Multiball after playing all missions and all other Multiballs. Hit the Xeno to start the final.

You don't need to complete all missions to start ALL OUT OF WAR.

However, the better you do in the missions and throughout the whole game, the more valuable ALL OUT OF WAR will be:

- Pop value is based on how many eggs you destroyed
- Xeno value is based on the number of lifecycles completed





- Weapons value is based on how many weapons you have
- Ramps are worth the highest combo value you've earned during the game
- Vents are based on the last Save Newt jackpot value
- Chestburster shot is based on the last Ambush MB jackpot value
- Orbit value is based on the last Sentry Guns jackpot value
- and completing the APC drops is worth the last Hypersleep jackpot value

Whew! But wait, there's more:

- Completing all three Vents awards a Super Jackpot that's based on how you did in the game's missions
- Completing all six "**main arrow**" shots increases the scoring multiplier of all those shots
- And completing all five weapons targets adds a ball



Note

- *Unlike the missions, Multiballs have no time limit. They end when only one ball is left in the game.*
 - *Multiballs typically begin with some "**Ball Save**" time (configurable per Multiball)*
 - *During Multiballs, the mother award most often adds a ball*
 - *A terminated Multiball can be restarted within a grace period by starting a "**Sentry Guns**" Multiball. In reverse a terminated "**Sentry Guns**" will restart when quickly followed by another Multiball.*
 - *A terminated Multiball can also be restarted with an "**Add-a-Ball**" Mother Award*
 - *When all Multiballs except "**All Out War**" have been performed, the according lights in the playfield are reset. This allows to repeat them -nevertheless the completion is remembered for "**All Out War**".*
 - *Comment by Ferret: "Sadly, this [All Out War] is the only part of the game that's a bit unfinished; it would've been nice to have better visuals during All Out War"*
-

7.6 Stacking

An important feature is that Multiballs can be started during a mission ("**stacking**", configurable). This may make it easier to complete a mission - give it a try and decide by yourself.

Please note that a new mission cannot be started during Multiball.

Sentry Guns is the only Multiball that can stack on top of another Multiball. All jackpots/ super jackpots count double then!



Note

- *The remaining mission time shown in the Airlock screenfreezes during stacked Multiballs. This is a display bug caused by never added videos for each multiball, internally the mission timer is continuing its countdown. This bug was fixed with software version 1.4 without adding new videos.*
-



8 Weapons

During the game you can collect and activate weapons to perform bonus actions.



Fig. 9: Weapons

Collected weapons appear white in the weapon status area of the Main Screen.



Fig. 10: Collected Weapons










Typically the smaller (less useful) weapons are available first. You need to complete all 5 weapon targets to add a weapon to your inventory. Blinking targets indicate missing shots, a weapon turns solid when hit.

Alternatively, you can earn a weapon by hitting a lit weapon target as a Skill Shot, by winning a mission or occasionally from Mother Award.

You can cycle through all available weapons by pressing the Extra Ball button (left of the coin door). The main screen or the Airlock LCD (if the main screen is busy) will show the selected weapon and its feature. There are also different sound effects for each weapon - the shotgun is very distinctive. The flashing Start button will immediately activate the selected weapon's function:

Weapons	Action
 Vasquez's VP70 Handgun	Increase the bonus factor (if not already at maximum).
 Hicks' ITHACA 37 Shotgun	Shoot Xenomorph twice, with the same effect as if you hit the Xeno targets two times with a ball. That might progress toward Ambush Multiball (possibly starting it) but could also award mission shots or other Multiball shots that are active on the center Xeno shot.
 M56 Smartgun	Performs a valuable hit, e.g. trigger the Extra Ball (if lit) or a blue mission target (" Smart Collect "). The selection is hard to predict, but the extraball obviously has a high priority.
 M41A Pulse Rifle	All playfield scores count double.
 M240 Flamethrower	The flamethrower starts a two seconds " Ball Save " time.

Tab. 2: Weapons

The weapons can be very valuable, [see section 12 "Expert Tips"](#). Try to preselect a weapon when available to be able to activate it quickly when needed.



Note

- *The collection of all 5 weapons will be rewarded with an additional ball (if possible) or with a short "**Ball Saver**".*
- *A bug in software version 1.2 does not allow to cycle through all collected weapons, if they are separated by an inactive (because used) one. This bug was fixed in software version 1.3 and later.*





9 Lifecycles

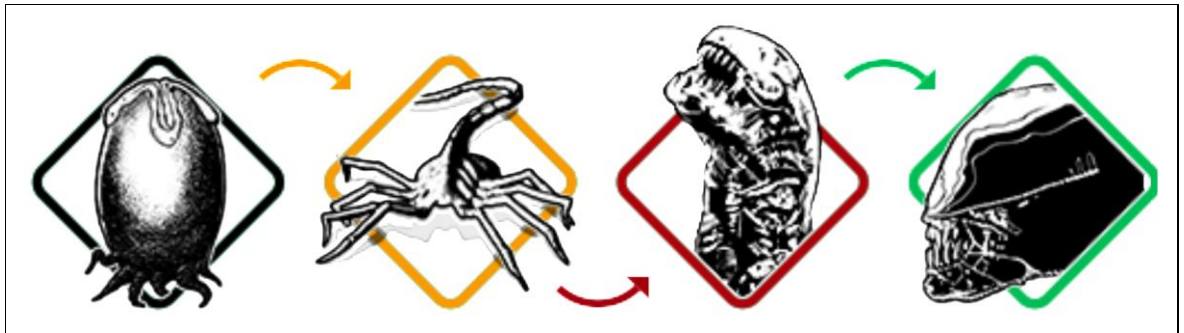






Fig. 11: Lifecycles

An ALIEN lifecycle consists of 4 states as shown on the right side of the main screen. Green inserts at many locations in the playfield will be lit to guide you to the next switch or target in the following sequence:

Lifecycles	Action
 Egg (Ovomorph)	Left or right orbit
 Facehugger	Vent 1, 2 or 3
 Chestburster	Target or lane (configurable) in front of the right egg (pop bumper).
 Xenomorph	Xeno goals

Tab. 3: Lifecycles

The biggest reason to complete lifecycles is to progress towards Save Newt Multiball, one of the 4 primary Multiballs in the game. However, completing lifecycles also has other side effects, such as increasing the spinner value, increasing the value of Ambush Multiball, and progressing toward Extra Ball lit. And the lifecycle shots award points, of course. Lifecycle progress can be made pretty much any time you're not in a Multiball.



Note

The number of lifecycles needed to light the Extra Ball and to start the Newt Multiball is configurable. I lowered the factory setting.





10 Mother Award

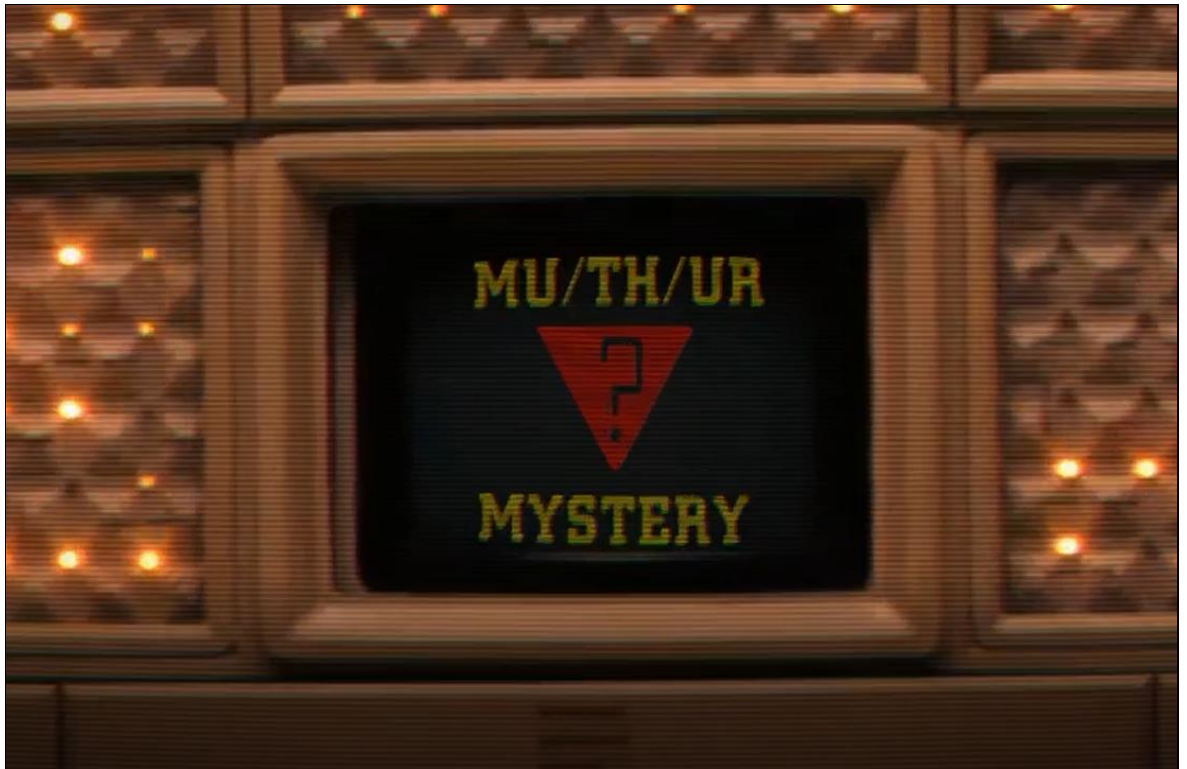


Fig. 12: Mother Award

The **"Mother"** light in front of Vent 1 is lit by a Skill Shot or when you complete all three Vents (in any order). A subsequent shot into Vent 1 will enable MU-TH-UR 6000 to give you a random award.

Awards may be (but not only):

- Additional time during a mission
- Additional ball during a Multiball
- Increase the bonus multiplier
- Add a weapon
- Advance combo value
- Additional points
- Reset the tilt warning counter
- Special (very rare)
- Advance Lifecycle
- Activate Ball Saver
- Increase Bonus
- Increase Spinner Value
- Light Extra Ball
- Light Hypersleep Lock
- Start (or add time to) 2x Playfield multiplier
- And more ...



11 More Rules

11.1 Drop Ship

Shooting through the lower left ramp or the right ramp adds letters to **"DROP"** resp. **"SHIP"** in the main screen (if not already completed, in this case the related light is turned off).

The upper ramp always adds a letter to both words. Collecting all letters activates the double playfield scoring.

11.2 Combos

The ALIEN Pinball rewards successive shots through ramps and lanes (**"x Way Combo"**) with increasing scores. However, repetitions of the last two shots are not evaluated (e.g. ongoing left ramp/ right ramp shots).

- The Chestbuster Combo is the Chestbuster shot immediately followed by either the upper ramp or upper loop (Vent 3). Every X such combos will hold some accumulating value that would normally reset at end of ball (bonus, bonus multiplier, combo value, spinner value, egg value, etc. ... there's actually a lot of these).
- The Host Combo, which is Vent 1 immediately followed by the Chestbuster shot. The Host Combo value accumulates based on combos made in the current ball (unless held).

11.3 Rescue Mode



Resolving the drop targets in the order **"A"**, **"P"** and **"C"** twice (configurable) will activate the Rescue Mode. A hurry up point countdown starts, the values are shown in the lower left corner of the main screen.

Quickly shoot the Xeno to start a switch frenzy and lock in the hurry up value as the frenzy switch value. The frenzy has a time limit which can be extended with Xeno hits.

The collected frenzy points "pot" will be only added to your score if you hit the A-P-C targets (in any sequence) again as indicated by the yellow lights.

The Rescue Mode can be restarted, although more in-order APC target completions will be needed and the hurry up start value is reduced. The Rescue Mode can always be performed, even during modes and Multiballs.

11.4 Eggs



Egg bumper action during normal game play is counted resulting in **"destroyed"** eggs. Destroyed eggs contribute to the bonus calculation at the end of a ball.

Egg hits are also boosting the score during some **"egg related"** missions (Derelict Ship, Queen's Nest).

Two posts in the upper part of the orbit loop can divert the ball into the egg pop bumpers.

They become active when the Hypersleep Lock is lit on the upper ramp ([see section 7.1 "Hypersleep"](#)).

Also, having the ball go through an inlane and then immediately shooting the opposing orbit (e.g. left inlane -> right orbit) will also divert the ball to the pops granting 5X pop bumper scoring, which is very subtly indicated by the on-screen egg being red instead of green.





11.5 Spinner



Shots in the left and right spinner will not only increase your score but also:

- add ammo to qualify Sentry Guns Multiball
- make it easier to light Sentry Gun super jackpot
- provide higher Rescue Mode scores
- and more...

11.6 Recharge



The recharge target basically does helpful things in modes and Multiballs:

- Spots lit shots
- increases shot values
- things like that

It is activated at the start of any scene or Multiball.



Note

The Recharge difficulty adjustment controls whether Recharge can be used multiple times per mode/ Multiball (Easy: Default), or only once (Hard).



12 Expert Tips



Fig. 13: Expert Tips

Here are copies of some valuable expert tips from Ferret, most of them can be found here: <https://pinside.com/pinball/forum/topic/alien-pinball-scoring-tips>

12.1 Mode Scoring

Playing modes well is certainly a good strategy for big scores. Most modes, if completed well, have a straight-up value in the neighborhood of 10M points, which is already decent value.

But wait, there's more! Using 2X Playfield scoring wisely can be huge... now a completed mode's value can jump to ~20M points if you're quick. (There are several ways to activate 2X Playfield... the obvious is by completing DROP SHIP on the ramps, but you can also do it by firing the Pulse Rifle weapon, or via Mother Mystery award.)

If you win a mode, a portion of that mode's points (which does include any points doubled by 2X Playfield) is added as multipliable end-of-ball Scene Bonus. If you've won one or, hopefully, several modes on a ball, it probably makes sense to work on building your bonus X via the top lanes. An inlane->orbit combo will usually divert the ball to the top lanes.

You can also advance bonus X by firing the Pistol weapon.

12.2 Multiball Stacking

Of course, Multiballs are a good strategy, too. Sentry Guns is the only Multiball that can stack on top of another Multiball (Ambush, Save Newt, Hypersleep). If you stack Multiballs, the value of all the Multiball shots is doubled... and this *is* combinable with 2X Playfield, so that can become huge. Ergo, you're better off not starting Sentry Guns until you've first started another Multiball.

Multiballs can also be stacked on top of a running mode. There are clearly some modes that are better than others for combining with Multiballs ... any mode that has **"bad"** shots (e.g. Acid Burn, Find Jonesy, Bug Hunt) may be poor choices for combining with Multiballs, since balls will tend to randomly find the **"bad"** shots. (Although I'd probably be willing to take Bug Hunt into a Multiball and hope for the best...) Conversely, some modes are excellent for stacking with Multiball... e.g. Derelict Ship wants you to shoot the orbits and can potentially be extended indefinitely, so that's a great one to combine with Sentry Guns that also wants you to shoot the orbits.





12.3 Score boosting

If you're really going for broke (e.g. an unlimited **"best score"** tournament format, vs a one-try match play format), most game features can have their scoring boosted by things you do prior to starting that feature (**"chain reactions"**): Destroying eggs increases the value of modes that involve eggs (Derelict Ship and Queen's Nest).

The value of Ambush Multiball is boosted by completing lifecycles before starting it. Doing well in modes increases the value of the associated mini-wizard mode, as well as the final wizard mode. Doing well in modes also gives weapons that you can use to boost your scoring in other modes or Multiballs.

12.4 Use of weapons

Skilled use of the weapons is definitely an advanced technique. Each one has fairly obvious times when you might want to use it... e.g. Pistol (Advance Bonus X) is great if you have a big bonus and you just drained (but the ball hasn't hit the trough yet). I'll often fire the Pistol after winning a mode to ensure I don't forget it later.

Shotgun (Spot Xeno Hits) can be a ball saver in the ball-drained-but-not-gone-yet situation if you have 1 or 2 Xeno hits left for Ambush.

Pulse Rifle (2X Playfield) is basically useless if you fire it when the ball drains... that one is probably best used when you're starting a Multiball.

Smart Gun (Spot Lit Shot) is a wildcard... use it when you drain if some Multiball is ready to start? Or to collect a lit Extra Ball or Super Jackpot you're having a hard time shooting? Lots of options with that one.

Finally, Flamethrower is a potential beast... ball saver, period. But a short one. Gotta get the timing right. That's by design, I didn't want it to be too powerful.

12.5 Find Jonsey

Here are some more useful tidbits about Find Jonesy... the kitten and the ALIEN both follow the same pattern: they run to a destination, they pause there, and then they hide for a bit. A few seconds later they repeat the pattern.

Once they start running, they don't change direction, although they can wrap around from the right edge of the playfield to the left edge or vice versa. So when you see them moving, you know which way your eyes need to follow; they won't zig-zag in crazy patterns.

And Jonesy meows when he starts running, so you know when to pay attention to the arrows as he runs.

"Here, kitty kitty! Here, Jonesy!"

12.6 End a mission

The Airlock/ Queen shot is a scoop. Its most common purpose is to start and end modes. Start is obvious. All modes have some objective that must be fulfilled, and once fulfilled, you shoot the Airlock shot again to officially **"win"** the mode.

Winning a mode awards a portion of the total points earned in the mode as multipliable bonus, awards a weapon, and boosts the value of the wizard modes.

Many (not all) modes remain playable once the win is qualified, so there is strategic choice available at that point to try to run up the score before cashing out the win... if you time out or drain out without shooting that final Airlock shot, you don't get awarded the bonus goodies for the win.



13 Service Menu

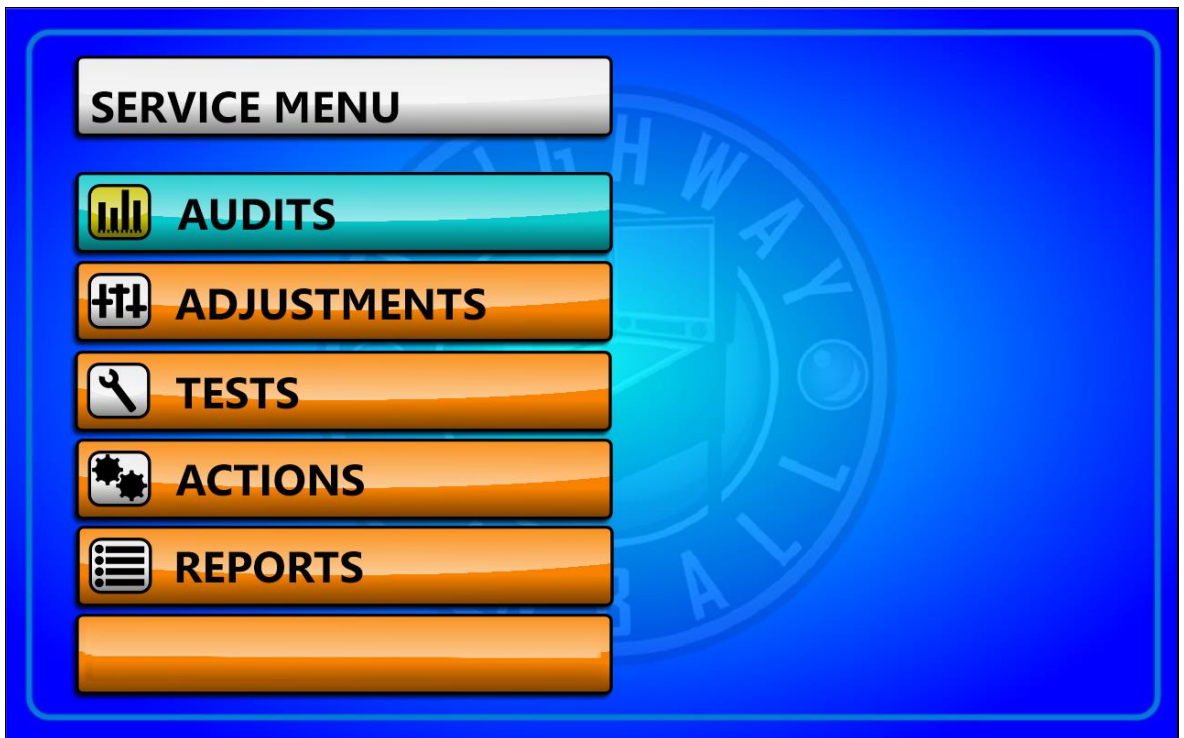


Fig. 14: Service Menu

The Service Menu is activated and managed with 4 control buttons inside the coin door. You need to open the coin door to reach them.



Fig. 15: Control buttons






Button	Function
Enter	<ul style="list-style-type: none"> - Opens the selected menu item or configuration item - Saves a changed configuration item value
+	<ul style="list-style-type: none"> - Select the next menu item or configuration item value
-	<ul style="list-style-type: none"> - Select the previous menu item or configuration item value
Back	<ul style="list-style-type: none"> - Closes the current menu or configuration item - Shows the previous level

Tab. 4: Control buttons





Submenus and description

Submenu	Description
 AUDITS	Display game statistics like games & balls played, games won, number of different actions - also number of hardware.
 ADJUSTMENTS	Configure game parameters or hardware settings.
 TESTS	Check lamps, coils, switches, toys etc.
 ACTIONS	Clear audits, reset settings, perform updates.
 REPORTS	Export reports to USB storage.

Tab. 5: Submenus and descriptions of adjustments



ATTENTION

Possible danger to the Pinball Machine!

Due to a hardware and software problem, neither time nor date can be set in the menu. The values are lost as soon as you leave the menu.

- An alternative is to call up the BIOS during the startup process of the pinball machine via a connected mouse and keyboard by pressing the **"Delete"** button.
- Set only time and date in the BIOS and don't change other values. As soon as you have saved the settings and left the BIOS, the values are taken over in the game mode after the system is booted again.





13.1 Adjustments

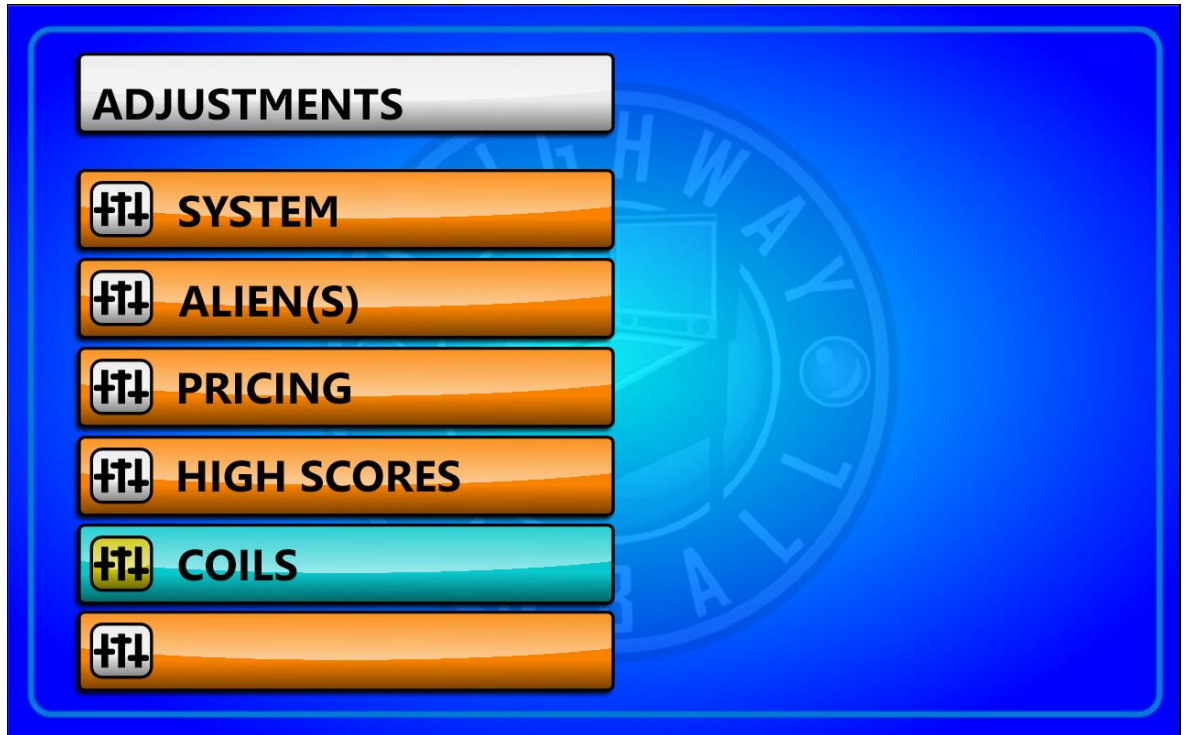


Fig. 16: Adjustments



Note

In the following tables, you can use the Custom column for your own settings and enter the corresponding values. This enables you to re-enter the values quickly and easily in case of data loss (replacement of components or service).

13.1.1 System

The system menu contains some more game-play relevant settings.

No.	Configuration Item	Value(s)	Default	Custom	Explanation
1	Power On Mode	Normal	Normal		
2	Balls/Game	1 - 10	3		Number of balls per game
3	Tilt Closures	1 - 10	3		Tilt contacts until ball tilts
4	Max. Extra Balls	0 - 10	5		Extra Ball limit per player
5	Replay Fixed/Auto	Fixed, Auto	Fixed		Fixed or calculated replay limits (based on latest games results)
6	Replay Auto %	5% - 50%	7%		Target ratio of replays
7	Replay Start	Off, 10.000.000 - 100.000.000	30.000.000		Minimum Points for 1 st replay level
8	Replay Levels	1 - 4	1		No. of calculated replay levels
9	Replay 1	Off, 10.000.000 - 100.000.000	30.000.000		Points needed for 1 st fixed replay award
10	Replay 2	Off, 10.000.000 - 100.000.000	Off		Points needed for 2 nd replay award
11	Replay 3	Off, 10.000.000 - 100.000.000	Off		Points needed for 3 rd replay award
12	Replay 4	Off, 10.000.000 - 100.000.000	Off		Points needed for 4 th replay award
13	Replay Increase	Off, 5.000.000 - 50.000.000	15.000.000		Raise replay level when reached
14	Replay Award	Off, Credit, Extra Ball, Point, Ticket	Credit		





No.	Configuration Item	Value(s)	Default	Custom	Explanation
15	Special Award	Off, Credit, Extra Ball, Point, Ticket	Credit		
16	Language	American, British, Deutsch, Francais, Espanol	British		
17	Clock Style	AM/PM, 24 Hour	24 Hour		
18	Date Style	D/M/Y, M/D/Y, Y/M/D	D/M/Y		
19	Show Date/Time	Yes/No	Yes		
20	Tournament Mode	Yes, No	No		Random behavior is avoided in tournament mode
21	Digit Separator	Comma, Point, Space	Point		
22	Minimum Volume	0 - 124	0		
23	No Bonus Flips	Yes/No	Yes		
24	Game Restart	Always/Never/Slow	Slow		
25	Ball Search Limit	Yes/No	Yes	No	
26	Open Door Save	Yes/No	No		YES ensures balls get returned to play from the trough instead of ending the ball
27	Max. Players	1 - 4	4		No. of players per game
28	L.E.D. Brightness	1 - 8	5		
29	General Brightness	1 - 10	5		
30	Music Volume	Off, 0% - 100%	100%		
31	Speech Volume	Off, 0% - 100%	100%		
32	Sample Volume	Off, 0% - 100%	100%		
33	Not used				
34	Knocker Sound	Yes/No	Yes		Turns the knocker sound On or Off - NO activates hardware knocker if installed
35	Shaker Power	0% - 99%	50%		
36	Shaker Frequency	10% - 100%	50%		
37	Shaker Limit	10% - 100%	100%		

Tab. 6: System settings

13.1.2 Alien(s)

Most of the ALIEN(S) configuration items deal with two types of settings:

- Time limits for ball saving, missions or shots. Values range from 1 - 99 seconds.
- Difficulty settings to start or fulfil missions or Multiballs.

Typical difficulty settings are:

- Extra Easy
- Easy
- Medium
- Hard
- Extra Hard

Higher settings will typically require more successful shots with less choices - the rulesheet descriptions assume default settings.





CAUTION

Pay attention to a possible risk!

Appearance of disturbing content

- Please pay attention to the setting if you want to play with small children.
- Switch the setting 35 "Adult Content" to "NO" so that you do not frighten your small children.

No.	Configuration Item	Value(s)	Default	Custom	Explanation
1	Timed Plunger	On/Off	Off		(Factory Default)
2	Flipper Plunger	On/Off	Off		(Factory Default)
3	Game Music	On/Off	On		(Factory Default)
4	Ball Saver	0 - 99	5		Ball save time in seconds (5 does not really help)
5	Scene Start Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Medium		
6	Derelict Ship Time	0 - 99	45		Time to finish this mission
7	Acid Burn Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Medium		
8	Find Jonesy Time	0 - 99	45		Time to finish this mission
9	Tunnel Hunt Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Medium		
10	Self Destruct Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Medium		
11	Combat Drop Time	0 - 99	45		
12	APC Shot Time	0 - 99	15		Time to reach the next waypoint
13	Bug Hunt Time	0 - 99	45		Time to finish this mission
14	Queens Nest Time	0 - 99	45		Time to finish this mission
15	Loader Battle Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Medium		
16	Hypersleep MB Diff.	Easy, Medium, Hard	Medium		
17	Hypersleep MB Ball Saver	0 - 99	18		Ball save time for Hypersleep Multiball
18	Sentry Guns MB Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Medium		
19	Sentry Guns Ball Saver	0 - 99	18		Ball save time
20	Sentry Guns Stack	Yes, No	Yes		Allow stacking of Sentry Guns Multiball
21	Ambush MB Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Medium		
22	Ambush MB Ball Saver	0 - 99	18		
23	Ambush MB Super JP Timer	0 - 99	24		Super Jackpot availability time
24	Save Newt MB Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Medium		
25	Save Newt MB Ball Saver	0 - 99	18		No. of Lifecycles to collect
26	Combo Time	0 - 99	7		Max. delay between combo shots
27	Chestbuster Lane Diff.	Easy, Medium, Hard	Easy		There are two switches in the lane, easy accepts the first one
28	Chestbuster Combo Diff.	Easy, Medium, Hard	Medium		
29	Revive Diff.	Ex. Easy, Easy, Medium, Hard, Ex. Hard	Easy		Single (Easy) or multiple shots to light "Revive"
30	Rescue Diff.	Easy, Medium, Hard	Medium		
31	Recharge Diff.	Easy, Hard	Easy		Multiple (Easy) or single usage per Multiball
32	Lifecycles To Lite EB	Off, 0 - 99	3		No. of completed lifecycles to light the upper ramp "Extra Ball"
33	Scene Wins/Lite Special	Off, 0 - 99	4		No. of completed mission to light the right outlane "Special"
34	Scoop Drain Saves	0 - 99	1		How often a ball is saved when the scoop kicks it straight out
35	Adult Content OK	Yes/No	Yes		Show violent or disturbing content - pay attention to your small children
36	Magnet Fling Delay	16 MS	16 MS		
37	Magnet Fling Min.	5 MS - 200 MS	45 MS		
38	Magnet Fling Max.	5 MS - 200 MS	55 MS		
39	Magnet Fling Pulses	0 - 99	2		
40	Magnet Toss Delay	0 MS - 500 MS	100 MS		
41	Magnet Toss Power	5 MS - 200 MS	40 MS		





No.	Configuration Item	Value(s)	Default	Custom	Explanation
42	Magnet Capture Time	0 - 99	10		
43	Disable Centre Magnet	Yes/No	No		
44	Disable Xenomorph	Yes/No	No		
45	Disable Left Post	Yes/No	No		
46	Disable Right Post	Yes/No	No		
47	Disable Beacon	Yes/No	No		
48	Disable Lock Post	Yes/No	No		
49	Disable Shaker	Yes/No	No		
50	Hypersleep Hold Power	10% - 50%	25%		
51*	Amode Beacon	Yes/No	Yes		NO - Beacons don't spin in attract mode, but remain functional during gameplay
52*	Swap L. Sling Flipper	Yes/No	No		Swap coil numbers for left slingshot and left flipper to eliminate buzzing noise

Tab. 7: General game settings

*These settings are only available from software version 1.3 and later.

"YOU NEED SERVICE, RIGHT?"





13.1.3 Pricing

Settings for Free Play

No.	Configuration Item	Default	Value(s)	Explanation
19	Free Play	No	Yes, No	(Factory Default)

Tab. 8: Price settings for Free Play

Settings for Coin Controller (Euros)

The following setting options apply to a pre-programmed Coin Controller with 0,50 Euro, 1,00 Euro and 2,00 Euro coins.

The values for a credit refer to the generally known default values:

- 1 x 0,50 Euro = 1 Credit
- 1 x 1,00 Euro = 2 Credits
- 1 x 2,00 Euro = 5 Credits

No.	Configuration Item	Default	Value(s)	Explanation
1	Pricing Type	1 Game/EUR 1	Custom	Activates the further setting options below
2	Coin 1 Units	1	1	1 coin with value No. 13 for 1 credit (1 x 0,50 Euro = 0,50 Euro = 1 Credit)
3	Coin 2 Units	1	2	1 coin with value No. 12 for 2 credits (2 x 0,50 Euro = 1,00 Euro = 2 Credits)
4	Coin 3 Units	1	5	1 coin with value No. 14 for 5 credits (5 x 0,50 Euro = 2,50 Euro = 5 Credits)
5	Coin 4 Units	1	1	(Factory Default)
6	Units/Credits	2	1	
7	Units/Bonus	0	0	(Factory Default)
8	Bonus Credits	0	0	(Factory Default)
9	Minimum Units	1	1	(Factory Default)
10	Coin Door Type	Coin Door 0	Europe	
11	Currency	1234,56\$ (USD)	1234,56 (EUR)	
12	Slot 1 Value	0,10	1,00	
13	Slot 2 Value	0,40	0,50	
14	Slot 3 Value	0,10	2,00	
15	Slot 4 Value	0,40	0,40	(Factory Default)
16	Maximum Credits	10	10	(Factory Default)
17	Buy-In Ball Price	Off	1	
18	Buy-In Balls/Player	3	3	(Factory Default)
19	Free Play	Yes	Yes, No	
20	Payment Type		Coin	(Factory Default)

Tab. 9: Price settings for Coin Controller





13.1.4 High Scores

No.	Configuration Item	Value(s)	Default	Custom	Explanation
1	High Score Table	On/Off	On		Switch the High Score Table on or off
2	High Score Award	Off, Credit, Extra Ball, Point, Ticket	Credit		Knocker will be activated
3	Score 1 Credits	0 - 4	1		
4	Score 2 Credits	0 - 4	1		
5	Score 3 Credits	0 - 4	1		
6	Score 4 Credits	0 - 4	1		
7	Score 5 Credits	0 - 4	1		
8	High Auto-Reset	Off, 250 Games - 20.000 Games	Every 3.000 Games	Off	Reset High Scores to default values

Tab. 10: Settings for High Scores

13.1.5 Coils

**Attention****Possible danger to the Pinball Machine!**

Pay attention to the power of the coils. It is not necessary to operate the components at 100 % or above.

- It's strongly recommended to adjust the strength of the coils in that way that as few airballs as possible are created and the balls will run around the ramps without stressing the components as much.
- The flow of the entire gameplay is much softer when the coils have been individually adjusted.

No.	Configuration Item	Value(s)	Default	Custom	Explanation
1	Left Jet	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
2	Right Post	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
3	Bottom Jet	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
4	Left Post	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
5	Right Jet	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
6	Scoop Kicker	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
7	Lock Post	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
8	Not Used				
9	Drop Reset	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
10	Upper Right Flipper	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
11	Not Used				
12	Centre Magnet	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
13	Not Used				
14	Left Eject	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
15	Not Used				
16	Not Used				
17	Trough Release	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
18	Left Sling	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
19	Right Sling	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
20	Right Flipper	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
21	Left Flipper	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
22	Upper Left Flipper	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
23	Auto Launch	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil





Service Menu

No.	Configuration Item	Value(s)	Default	Custom	Explanation
24	Not Used				
25*	Beacon Topper	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
26	Topper 2	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
27	Knocker	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
28	Not Used				
29	Shaker Motor	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
30	Not Used				
31	Backbox Lighting	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil
32	Cab. Side Lights	5% - 25% Weaker/5% - 25% Stronger	Normal		Weaker or stronger adjustment of the coil

Tab. 11: Coil settings

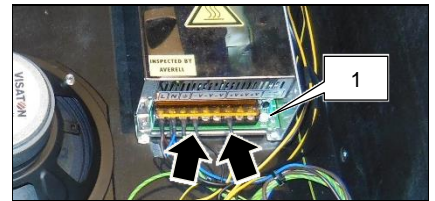
*An even weaker setting as 10% can cause the Beacon Topper to stop spinning.

13.1.5.1 Recommended coil settings

Please find Averell's non binding recommendation of coil settings in the following table.

All these settings have been made with an adjusted high power supply to 67 Volts.

Use a multimeter and set the voltage for the high power supply at the potentiometer (1) to 67 volts and measure the voltage directly at the output (arrows) of the high power supply.



No.	Configuration Item	Value(s)
1	Left Jet	25% Weaker
2	Right Post	25% Weaker
3	Bottom Jet	25% Weaker
4	Left Post	25% Weaker
5	Right Jet	25% Weaker
6	Scoop Kicker	Normal
7	Lock Post	15% Weaker
9	Drop Reset	Normal
10	Upper Right Flipper	25% Weaker
12	Centre Magnet	25% Weaker
14	Left Eject	15% Weaker
17	Trough Release	20% Weaker
18	Left Sling	20% Weaker
19	Right Sling	20% Weaker
20	Right Flipper	25% Weaker
21	Left Flipper	25% Weaker
22	Upper Left Flipper	25% Weaker
23	Auto Launch	25% Weaker
25	Beacon Topper	5% Weaker
26	Topper 2	Normal
27	Knocker	15% Weaker
29	Shaker Motor	Normal
31	Backbox Lighting	25% Stronger
32	Cab. Side Lights	15% Stronger

Tab. 12: Recommended coil settings





14 Amplifier Setup

These settings will:

- provide a range of volumes from soft to normal to very loud, adjusted from the front of the amplifier.
- create as flat a response as possible across the frequency range.
- provide a solid bass response without overwhelming the backbox speakers.

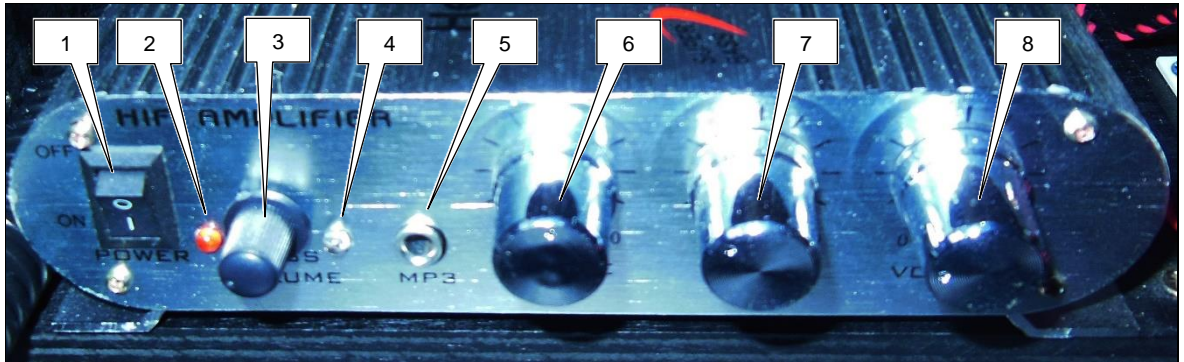


Fig. 17: Heighway Pinball Amplifier HP 838

Legend

- | | |
|-----------------------------|-----------------|
| 1 Switch ON/ OFF | 5 MP3 connector |
| 2 Power LED | 6 TREBLE |
| 3 BASS VOLUME | 7 BASS |
| 4 BASS VOLUME indicator LED | 8 VOLUME |

BASS VOLUME

The knob (3) on the left labeled BASS VOLUME controls the cabinet speaker. It should be set at 2. The setting is quite sensitive. 2.5 could be too much and 1.5 not enough.

TREBLE

TREBLE (6) attenuates the high frequencies of the backbox speakers. Straight up at 5 is a good setting.

BASS

BASS (7) attenuates the low frequencies of the backbox speakers. 3 is a setting which will create more clarity in the backbox speakers and increase the stereo imagery.

VOLUME

VOLUME (8) attenuates the overall contribution of the backbox speakers. For a good balance between bass and backbox speakers VOLUME should be set at 2.



15 Rubber Ring Map

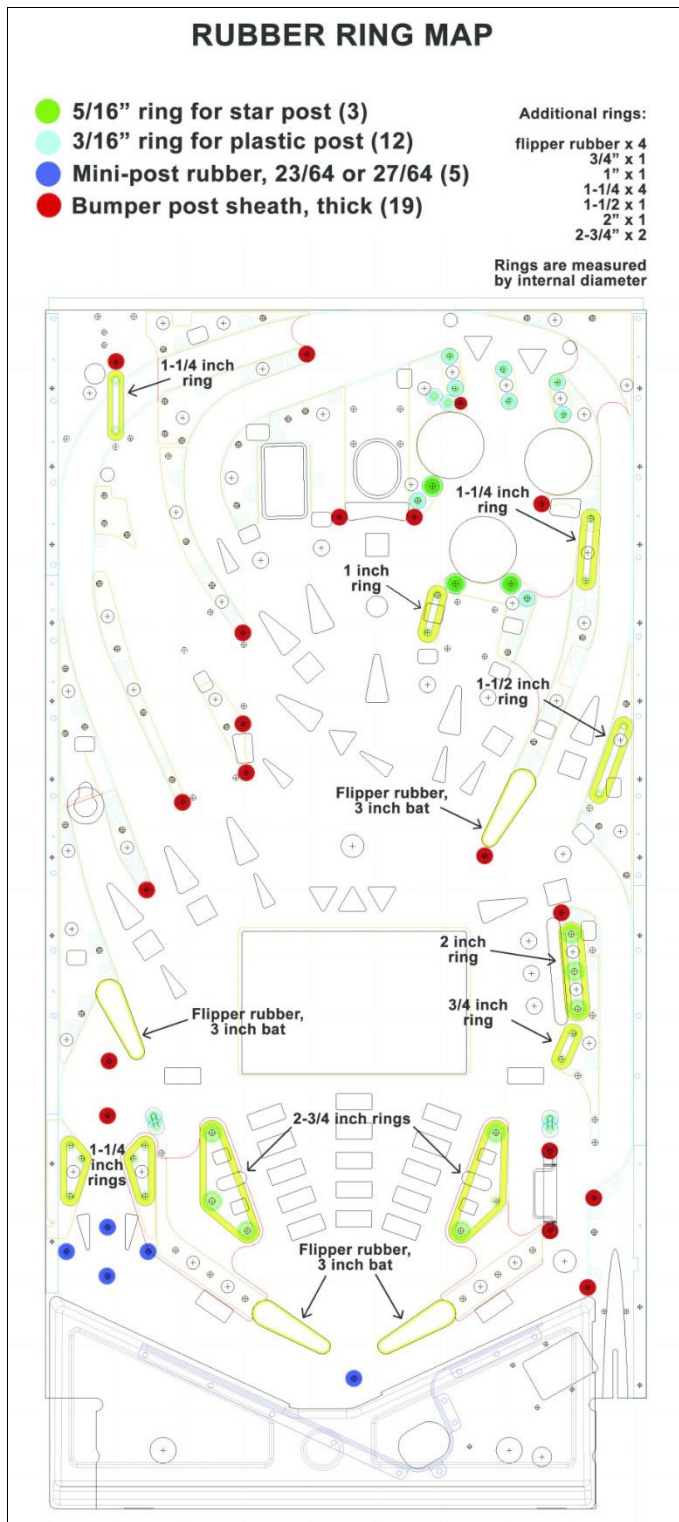


Fig. 18: Rubber ring map





16 Lamp Matrix

16.1 I/O Board 0 - Cabinet

I/O Board	Chain	Number	Lamp insert/ Description
0 Cabinet	Out	1	Start Button
		2	BuyIn Button (Extra Ball)
		3	Launch Button (Launch Ball)
		4	Aux Launch Button
		5	Coin Door
	X	6	Top PF. Lights (Not Used)
		7	Backbox Lighting
		8	Cab. Side Lights

Tab. 13: Lamp matrix I/O Board 0 - Cabinet

16.2 I/O Board 1 - Xenomorph

I/O Board	Chain	Number	Lamp insert/ Description
1 Xenomorph	A	1	GI Left Orbit Top
		2	GI Left Orbit Top Center
		3	GI Middle Orbit Center
		4	GI Subway
		5	GI Left Pop
		6	GI Lane Guide Left
		7	Top Lane 1
		8	GI Lane Guide Middle
		9	Top Lane 2
		10	GI Right Orbit Top
		11	Left Jet 1
		12	Left Jet 2
		13	Left Jet 3
		14	Left Jet 4
		15	Left Jet 5
		16	Right Jet 1
		17	Right Jet 2
		18	Right Jet 3
		19	Right Jet 4
		20	Right Jet 5
	B	1	GI Right Pop 1
		2	GI Right Pop 2
		3	GI Right Orbit Left
		4	Middle Orbit Upper Right
		5	GI Scoop Left
		6	GI Left Ramp
		7	GI Middle Orbit Low Right
		8	GI Middle Orbit Middle Right
		9	Super
		10	Standup 1
		11	Standup 2
		12	Centre Target Symbol
		13	Left Xenomorph Target
		14	Right Xenomorph Target
		15	Bottom Jet 1
		16	Bottom Jet 2
		17	Bottom Jet 3
		18	Bottom Jet 4
		19	Bottom Jet 5
		20	GI Left Xenomorph

Tab. 14: Lamp matrix I/O Board 1 - Xenomorph





Lamp Matrix

16.3 I/O Board 2 - Center Playfield

I/O Board	Chain	Number	Lamp insert/ Description
2 Center Playfield	A	1	GI Left Revive
		2	Weyland
		3	Mother
		4	Left Eject Symbol
		5	Vent 1
		6	Left Upper Flipper Lower
		7	Left Upper Flipper Higher
		8	GI Saucer
		9	Left Orbit Arrow
		10	Left Orbit Symbol
		11	Left Ramp Arrow
		12	Left Ramp Drop
		13	Bonus 4x
		14	Bonus 2x
		15	Bonus 6x
		16	Double Scoring
		17	Vent 2
		18	APC 1
		19	APC 2
		20	APC 3
		21	Yutani
	B	1	GI Bank Target Top
		2	GI Bank Target Middle
		3	GI Bank Target Bottom
		4	Side Loop Symbol
		5	Standup 5
		6	GI Weapon 5
		7	Right Orbit Symbol
		8	Upper Right Flipper High
		9	Right Orbit Arrow
		10	Right Upper Flipper Low
		11	Right Lane Symbol
		12	Standup 4
		13	Right Ramp Arrow
		14	Right Ramp Drop
	C	1	Host
		2	Extra Ball
		3	Lock Lit
		4	Recharge
		5	Recharge Target
		6	Centre Ramp Arrow
		7	GI Recharge
		8	GI Left Orbit Lower
		9	GI Left Eject
		10	Vent 3
		11	Airlock
		12	Left Loop Symbol
		13	Centre Target Arrow
		14	Standup 3
		15	GI Weapon Target 4
		16	Chestbuster Target
		17	GI Right Orbit Lower
		18	GI Right Flipper Top

Tab. 15: Lamp matrix I/O Board 2 - Center Playfield





16.4 I/O Board 3 - Apron

I/O Board	Chain	Number	Lamp insert/ Description
3 Apron	A	1	All Out War
		2	Save Newt MB
		3	Ambush MB
		4	Sentry Guns MB
		5	Hypersleep MB
		6	Destruct
		7	Left Mode 4 (Tunnel Hunt)
		8	Left Mode 3 (Find Jonesy)
		9	Left Mode 2 (Acid Burn)
		10	Left Mode 1 (Derelict Ship)
		11	Loader Battle
		12	Right Mode 4 (Queens Nest)
		13	Right Mode 3 (Bug Hunt)
		14	Right Mode 2 (APC)
		15	Right Mode 1 (Combat Drop)
		16	GI Left Flipper Low
		17	Scream
		18	GI Left Flipper High
		19	Revive Right
		20	Revive Left
	B	1	GI Revive Right
		2	GI Revive Left
		3	GI Right Flipper Low
		4	Again
		5	GI Right Flipper High
		6	Special
		7	GI Right Sling Bottom
		8	GI Right Sling Top
		9	GI Left Sling Bottom
		10	GI Left Sling Top

Tab. 16: Lamp matrix I/O Board 3 - Apron





17 Change Logs

In this section you will find all available logs or records of notable changes made in this project. This information can be helpful for troubleshooting and provides a better understanding of the many setting options.

Version 0.99

June ,2017

Checksum: unknown

Changes since 0.98:

Bug Fixes:

- Fix All Out War not qualifying after all requirements met.
- All Out War insert now lights after it has been played.
- Increased power to the hypersleep lock-up device.
- Improved ball search for the hypersleep lock-up device.
- Xenomorph tongue will now extend a little further in ball search.
- Increased flipper power settings slightly.
- Remove flipper coils from ball search.
- Ball search outside of a game, or while tilted, will not display a message now.
- Updated burnin test to activate more coils, similar to a ball search.
- Ignore some spurious switch activity during bonus, while queued up display effects drain out.
- If a spurious switch occurred at game start and validated the playfield, this would lock in your choice of which movie mode to play. This is now changed so that the movie is not locked in until launch is pressed, or until the right inlane is triggered.
- Fixed some system display effects (which use the blue test mode background) from not showing correctly while a video was running. In particular this bug was hiding the volume adjustment screen sometimes in attract mode.
- Increase main HSTD table to 5 entries, and added more team members' initials onto the defaults.
- Mode timers now pause briefly while the ball is in pop bumpers.
- Playfield GI changes color during movie selection.
- Multiball grace period now pauses while ball is being held up (for example, while the Mother award is being announced).
- Add multiball resurrection rules. Starting Sentry Guns will now restart any other multiball that was in its grace period. Likewise, starting any other multiball will now resurrect Sentry Guns from its grace period.
- Mother add-a-ball award now resurrects any multiball(s) in its grace period.
- Fix occasional pauses at endball before bonus started.
- Fix centre ramp not spotting letters towards SHIP if double scoring was already running.
- Fix occasional incorrect skill shot value display (it was correctly added to score).
- Fix mode going into grace period not displaying its timer or its hurry-up value correctly.
- Boosted priority of beacon effect during wizard modes, so that it is not interrupted as often.
- Adjust scoring for Sentry Guns to prevent some outrageous scoring possibilities.
- Ambush jackpot value now increases gradually as you progress through Lifecycles, rather than increasing all at once when a Lifecycle is finished.
- Added Scene Start Difficulty adjustment. Default now lights the scene start for free at the beginning of a game.
- Derelict Ship shots are now indicated by the main arrows, not the symbol inserts.





- Added more beacon effects.
- Fixed lamp effect for combos lit disappearing on ball launch.
- Revive lamp effect increased from 1 sec. to 2 sec.
- Improved Rescue mode more and added some display effects for it.
- Many updated sounds/ callouts.
- Fixed truncated Hudson callouts.

System Features:

- Add new audio clips to Loader Battle.
- Added correct sound for ball saver.
- Added new endgame callouts.
- Added sounds for weapon use.
- Adjusted volume for orbit shots.
- Added sounds for Super Pops.
- Improved sound on ball kickout from the airlock scoop.
- Added new callouts for "mode not ready".
- Added callouts on revived ball.
- Added audio and more lighting effects with more progress towards Ambush MB.
- Improved stacking/ priority of some callouts.
- Added callout for Save Newt ready to start.
- Added callouts for Chestburster Combos.
- Added new pop bumper sounds and mode fail sound to Derelict Ship.
- Added more orbit sounds.
- Add sounds to centre ramp.
- Add many callouts to Rescue mode.
- Add more Mother callouts.
- Misc. sounds updated/ cleaned.
- Modify timing for callouts related to xenomorphs hits remaining for Ambush.
- Add sounds to recharge.
- Changed egg bumper explosion sounds.
- Exclude some sounds when in family mod.

Version 1.00

Version 1.00 was never released to the public as a major bug was identified and fixed immediately before shipping games, thus the need to increase to 1.02.

Version 1.02

Aug 29, 2017

Checksum: unknown

Changes since 0.99:

This is basically the first release to production. There're no detailed release notes for this one available. Most of the changes between 0.99 and 1.02 are new callouts/ music and increased power to the coils.



**Version 1.1**

Jan 1, 2018

Checksum: D5005AE7

Changes since 1.02:

Bug Fixes:

- Fixed a bug where a player would not be able to enter initials for a high score, if another player had already entered initials.
- Fixed another bug when entering initials where the wrong player number would be announced.
- Fixed a display glitch after one player entered initials, if another player also made the high score table but hadn't entered initials yet. The "pending" entry was rendered incorrectly.
- Fix presentation of Host Value award.
- Fixed several bugs in the extra ball buy-in logic.
- Fixed "0 Credits, Press Start" message in attract mode.
- Fixed Airlock scoop switch from reporting the inverse of its switch level sometimes.
- Fixed Save Newt insert not blinking during its multiball.
- Fixed mismatch between display instructions, playfield lighting, and what shots actually scored during Derelict Ship. Everything should match now.
- Fixed infinite ball saver bug that would occur if ball saver was turned on after a "Revive" was started, but before the ball returned to the trough.
- Fixed ball saver bug if test mode started while a game was in bonus.
- Fixed multiball modes sometimes not ending after returning to 1-ball play.
- Fixed IO board firmware update failure if interrupted by pressing another coin door button.
- Increased duty cycle to the up posts as some machines were not holding reliably.
- Center magnet now activates sooner when attempting to grab the ball; this should eliminate some cases of the magnet missing the ball.
- Fix Xenomorph eating the ball when you had 1 more Lifecycle to go for Save Newt and multiple shots to be completed.
- Added a brief delay between knocker and shaker motor during replay/ match effects.
- Fixed the General Brightness adjustment. Setting it to 9 or 10 (the highest) would not turn on the backbox/ side panel lights at all. This now works.
- Reduced the factory default shaker motor power to 50%. Existing users will need to apply this adjustment manually.
- Reduced duty cycle on the center magnet when flinging the ball.
- Fixed entering test mode from within a game and returning all balls to the trough before the game resumes. Previously the game would wait forever. Now, the game will either end ball, or, if the playfield was never validated, put a ball back to the shooter. Note: setting adjustment OPEN DOOR SAVE to YES will ensure that balls get returned to play from the trough instead of ending the ball.
- Fixed a sound system bug that caused the bonus background to be louder than intended.
- Progress towards Ambush MB was counted if you entered test mode during a game and activated the center targets; this has been corrected.
- Ambush MB would continue advancing Xenos toward the center if you entered test mode during a game; this has been corrected.
- Fixed a system bug that would cause the game to reset, which was triggered during the Ambush multiball start sequence.



**System Features:**

- Added the coil adjustments menu. Each coil can be individually adjusted between 25% weaker and 25% stronger from the recommended value.
- Improved knocker sound plus increased its volume.
- Added knocker sound to sound test.
- Improved the communications between the CPU and the I/O boards in several ways, so that the game should feel more responsive than before.
- Added support for IO board firmware version 0.8.
- Improved the way that the front cabinet lights (start, launch) are strobed.
- Coin door lamp is now illuminated anytime credits can be added.
- Increased delay between ball launches slightly.
- Auto launch will now retry a few more times before going into panic mode.
- Auto launch will now wait a little longer before launching a ball just kicked from the trough. This should reduce failed attempts that bounce back because the ball had not settled.
- Added playfield coordinates to Coils Test.
- In tests which display the playfield map, the selected item is now highlighted with a blinking marker.
- Extra-ball buyin adjustments have changed. The on/ off adjustment now configures the price of an extra ball, and may be set to OFF (default), 1/2 CREDIT, or 1 CREDIT. Also added an adjustment BUYIN LIMIT which determines the maximum number of times a player may buyin when not set to OFF. Default is 3.

Game Features:

- Don't start background lamp effect for Mother award during multiball play, as it makes it harder to follow the other ball(s).
- Changed insert color for Drop Ship/ 2X scoring to differentiate from other similar colors.
- Smart Gun now much smarter about which shot to award, including considering an implied value of advancing towards or starting multiballs.
- Light Extra Ball at a certain number of Lifecycles (adjustable; default is 3).
- Light Special after a certain number of modes won (adjustable; default is 4).
- Extra Ball/ Special point awards added when they can't be awarded.
- Add Hypersleep MB difficulty adjustment, which controls how many ball locks are required to start the first Hypersleep MB. Subsequent Hypersleep MBs require an extra lock, to a limit of 3.
- Add Recharge difficulty adjustment, which controls whether Recharge can be used multiple times per mode/ multiball (Easy), or only once (Hard). Default is EASY.
- Add new rule for increasing the Host Value by making Combos.
- Add points when winning some modes, where nothing was awarded before.
- Drop targets no longer validate the playfield.
- Add additional sounds for the upper left loop.
- Pop bumpers no longer pause timers during multiball.
- Don't bring out the xenomorph toy if Ambush MB is started by activating a weapon. This is to prevent damage to the mechanism caused by a free ball on the playfield.
- Derelict Ship now shows progress towards completing the first phase on the display.
- Airlock LCD now shows more information during modes and multiballs.
- Added new sounds for the Vent 2 and Vent 3 shots.
- Added new sounds for Double Scoring.
- Added a sound for active ball saver.





- Changed how the Chestbuster shot is scored to improve tolerance for a bad inductive lane switch:
 - * If Chestbuster Lane Diff. is set to Easy, either the lane switch OR the standup will award the shot. This is now the default behavior.
 - * If Chestbuster Lane Diff. is set to Hard, the standup is required, and the lane switch is effectively ignored.
- Slightly reduce the ammo boost provided by the main shots towards qualifying Sentry Guns.
- During Queen's Nest, Vent 3 now diverts to the eggs, unless mode win is qualified.
- Add information about how to qualify Hypersleep locks to the status line.
- Improved choreography during Ambush MB.
- Scenes can now be resumed from grace periods correctly. This fixes the false awarding of "Add More Time" from Mother when the mode had expired due to the ball sitting in the eject for too long.
- Multiballs can now be resumed from grace periods correctly. This fixes the false awarding of "Add-A-Ball" from Mother when the multiball had drained out due to the ball sitting in the eject for too long.
- Combo lamp effects are reduced in priority.
- Improved lighting for Queen's Nest start.
- Mother Mystery now more likely to give "Reset Tilt Warnings".
- Mother Mystery "Special" now possible, though very low probability.
- Egg Value raised during Derelict Ship and Queen's Nest.
- Add +2X shot multiplier for completing drops sequentially during APC mode.
- Increased Rescue scoring; reduced frenzy timer.
- Added Rescue pot multiplier rule. Completing the APC targets in order during Rescue multiplies the pot collected. This can be repeated multiple times.
- Changes to All Out War:
 - * AOW now shows a simple background display with mode instructions.
 - * AOW now starts with 5 balls instead of 4.
 - * Completing all weapons targets now adds a ball if possible, else starts a ball saver.
 - * Completing all 6 "big arrows" now increases the shot multiplier for all "big arrow" shots.
- Bleeped a few more callouts when adult content turned off.
- Adjusted volume levels better at start of Acid Burn.

Version 1.2

May 9, 2018

Checksum: 07141244

Changes since 1.1:

Bug Fixes:

- Improved ball handling logic when an extra ball is kicked from a ball device by mistake. Fixed switch processing bug that could cause switch levels to become inverted when the switch bounces between states very rapidly.
- Fixed occasional lamp bug when entering test mode during a game. Sometimes the game lamps would remain on. They should now always be turned off, except for GI.
- Fixed bug that would cause status of modes played to be lost if test mode was entered during a game.
- Fixed Ambush MB Super Jackpot lights not going away correctly at the end of multiball. The jackpot could not be scored; this only fixes a lighting problem.





- Fixed skill shot not starting if a game is restarted and a ball is already on the shooter.
- Fixed some bugs in the high score table module that would cause a player to be skipped entirely, or for their initials to appear somewhere else in the table.
- Fixed the Reset HSTD action; it was not resetting the game-specific achievements.
- Added some retry logic into the Xenomorph tongue movements to fix occasional problems where it would get stuck until the next ball search.
- Fixed Mother's "Advance Combo Value" award so it actually advances the combo value.
- Fixed bug where aborting the Mother Mystery display effect would not score the mystery award itself.
- Fixed bug where ball would never end if a tilt occurred after a ball was requested from the trough, but before it was actually ejected.
- Fixed bug where incurring a tilt warning at the same time the ball drained would prevent bonus from being awarded.
- Cancelled ball save attempts when the ball is already tilted, or the playfield wasn't validated.
- Skill shot timer will not start until the playfield is validated.
- Increase beacon pulse time during test mode.
- Ball search now runs the xenomorph through a complete ball capture sequence. This should improve the chances that it will reset correctly if a ball is stuck in the jaw or on the magnet.
- Fixed bug that would sometimes clip some of the counters displayed during Ambush MB or Sentry Guns MB.

System Features:

- Added blinking marker on the playfield diagram during Switch Tests.
- Render Pound Sterling, Euro, and Yen currency symbols.
- In Tests > Coils, the Start button can also be used to activate coils.
- Prevent games from being started if the Tilt bob is stuck closed. An appropriate operator warning message will be shown if this situation occurs.
- Changed text of "Top Playfield Lighting" to "Not Used".
- Added "INSTALL QUAKER" preset to optimize shaker actions for Quaker brand shakers.

Game Features:

- Partial credits accumulated are now displayed on the Dashboard.
- Pressing and holding either flipper will now show the main dashboard while the ball is on the shooter. This is not permitted on ball 1 when the flipper buttons are needed to select a movie. This will allow the player to see status prior to launching the ball.
- Added adjustment "Magnet Fling Pulses", which controls the number of times that the magnet is pulsed after a center shot. Default is now 2 (previously it was 1). Also adjusted default values of other adjustments to improve magnet responsiveness.
- Display timer on Airlock LCD during Loader Battle and Self Destruct.
- Moved point countdown display for hurry-up modes to the Airlock LCD.
- Added "Ambush MB Super JP Timer" adjustment. If set to a non-zero time, this controls when the next Ambush attack wave begins if the Super Jackpot has not been collected. Super Jackpot remains lit but has reduced value. Setting this to zero enables prior behavior where the Super Jackpot must be collected to start the next attack wave.
- Changed behavior of Recharge during Hypersleep Multiball: it now spots a lit jackpot (not Super) instead of increasing shot multipliers.
- Tweaked Hypersleep Multiball scoring.
- More orbit shots are now diverted to the top lanes when Vent 3 is lit for a mode or multiball shot.





 Change Logs

- Improved display effect for combo awards.
- Changed text for some Mother and skill shot awards from "advance" to "increase".
- "Increase Combo Value" award now adds more value than before to make combos more lucrative.
- Combos and skill shots are now stopped on any ball drain.
- Skill shots are now stopped by shooting the Airlock.
- Reduced default strength of the Trough Release coil. This can still be customized via Adjustments > Coils.
- Increased duration when exercising the backbox beacons in Coil Test.
- Added Xenomorph loop test.
- Tweaked center magnet behavior to hopefully be better at catching the ball.
- Improved choreography of attract mode.
- Improved choreography of Mother Mystery awards.
- Improved choreography and callouts of Ambush Multiball.
- Improved choreography of Self Destruct.
- Improved choreography of Loader Battle.
- Added fanfares for All Out War lit arrows/ weapons/ vent shots.
- Added attack & repel lamp and display effects during All Out War.
- Increased brightness of GI lighting during modes, especially near the flippers.
- Rescue hurryup paused while the ball is held up.
- When collecting Extra Ball on the upper ramp, the ball will be briefly held during the Extra Ball animation.

Version 1.3

Jan 15, 2020

Checksum: ad9b51f1

Changes since 1.2:

Bug Fixes:

- Fixed a bug in the slingshot drivers that caused them to fire slightly later than they should have.
 - Beacons will not restart every time the coin door is opened in attract mode.
 - Lowered the maximum time that flippers are pulsed strongly when the EOS switch is not working.
 - Upper flipper EOS switches are now utilized (if present); previously, they were ignored. This should keep those flipper coils cooler.
 - Lamp flicker prevention code now accounts for upper flipper usage. Previously some LED glitching could be seen sometimes near the raised upper flippers.
 - When the shooter coil has trouble launching the ball, don't call the display/ speech effects on every single attempt.
 - Improved handling of coil adjustments for very short coil pulses. In some cases, the adjustments were not having any effect.
 - Add adjustment "AMODE BEACON" (default: YES). When set to NO, the beacons will not spin during attract mode. They will remain functional during gameplay.
 - Add adjustment "SWAP L. SLING FLIPPER" (default: NO), for owners who wish to rewire their games by swapping the coil numbers for the left slingshot and the left flipper. This eliminates the buzzing noise from the left flipper when held.
- [Updated Jan 15, 2020 - this adjustment does not work properly, please ignore.]





- Hide the Buyin Limit adjustment, if Buyin Price is set to OFF.
- Fixed display bug where changes to ball up/ player up in the "modify game" menu were not shown correctly after resuming the game.
- Fixed a bug where test mode would time out and return to attract mode prematurely in some cases.
- When entering test mode, announce if the xeno or magnet has been disabled by adjustment.
- Fixed a display bug where a score event might not be reflected on the display immediately.
- Fixed a bug with Ambush Multiball in tournament/ competition mode, which made it unlikely that the leftmost quadrant would ever be lit for jackpot.
- Fixed a lamp bug with Combat Drop. If the mode timed out during the target phase, the standup inserts would remain blue for the rest of the ball, instead of reverting back to their normal yellow color. This works as expected now.
- Airlock display now turned off during mode start animations, where it previously continued to indicate "shoot here" to start the mode.
- Changed the two hurryup scenes, Tunnel Hunt and Acid Burn, so that they do not last as long. When the hurryup value is increased, the value at which the mode ends is now also increased (unless it is the result of an "add time" award).
- When Save Newt multiball was re-qualified at the same time that All Out War was already qualified, a shot to the xenomorph would start both multiballs together. This has been changed to start All Out War only.
- When a scene was running and Sentry Guns was qualified, the left eject arrow would flash for the scene shot, but not indicate that multiball was ready. Now, the arrow prioritizes the multiball indicator over the mode.
- When the ball drained just after completing a Lifecycle, its display effect would have to finish before bonus would count up, which could take a long time. This video is now truncated early when the ball ends.
- Cancel all callouts when attract mode ends (either by entering test mode or starting a game), and at the start of each ball. Before, it was possible for some irrelevant speech to occur.
- Fixed bug during tilt which would occasionally leave some of the playfield LEDs on when they should have been off (typically the standup target inserts).
- Fixed priority of tilt warning, which could cause tilt lamp effect not to run if tilt occurred too quickly after the previous warning.
- Fixed buy-in button lamp sometimes not indicating that weapon change was permitted (i.e. it would be off even though weapon change was allowed).
- Weapon change is now also permitted while the ball is in the shooter lane.
- Fixed a bug where a particular weapon had been earned, but could never be selected when cycling through the awards with the buy-in button.
- Prevent weapon collect when pressing launch and there is a ball at/ recently at the shooter lane.
- Improved the Smart Gun logic to tend to start Hypersleep Multiball when only one more lock is needed. This was always intended, but a bug prevented it from actually happening.
- The lamp effect for All Out War being qualified won't run now if it can't be started (e.g. due to another multiball running).
- Center magnet now grabs the ball briefly at the start of All Out War.
- During All Out War, GI near the flippers is now kept on.
- Deferred the detection of all the multiballs being completed until after a multiball ends, not when a new multiball is started. When the column is complete, the inserts now strobe slowly, until All Out War has been played. Previously, when the last multiball was started, the insert column would clear, which was slightly confusing.
- Changed the layout of multi-player scores on the dashboard to be more traditional, with the player up score in a larger font, and the scores arranged consistently.





Change Logs

- When pressing the right flipper button while a ball is at the shooter to see the game status, the message block that normally cycles game hints was stuck at "Launch Ball". This now cycles as it does during game play. This now offers a way to see how many xenomorph shots are needed for Ambush multiball before launching a ball.
- Add new light shows for pop bumpers during scenes which use them.
- Added a 15 second ball saver when entering the multiball phases of Self Destruct or Loader Battle.

Known Issues:

- Jan 15, 2020 - Adjustment "SWAP L. SLING FLIPPER" has side effects for the other coils on the game. It should not be used.

Version 1.4

Jul 18, 2020

Checksum: 8f4cc7db db4b6b46

Changes since 1.3:

Bug Fixes:

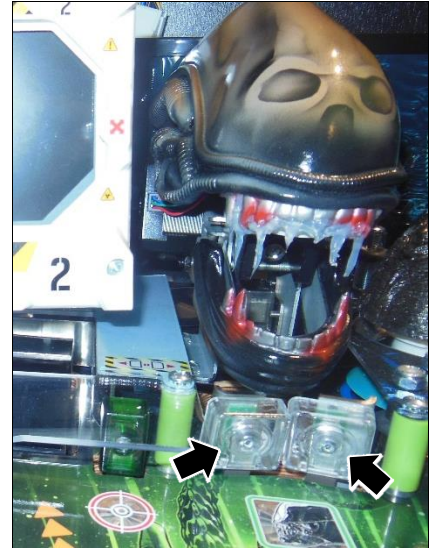
- Fixed the adjustment "SWAP L. SLING FLIPPER" introduced in 1.3, which did not work.
- Mark coil C-4 as Not Used.
- Audit "All Out War Qualified" is counted now.
- Added shaker motor effects to the burn-in test.
- Reduced power to the knocker coil.
- Added a lamp effect onto the APC targets during Hypersleep MB, to highlight the rule that completing the targets advances your jackpot multiplier. This was not apparent before.
- Fixed a bug with the flipper buttons during the sound test.
- Fixed a bug with hurryup modes that caused them to end too soon.
- Fixed the Extra Ball buyin feature.
- Removed the SET GAME CODE action, which was intended for game swap.
- Removed the SET DATE/TIME adjustment.
- Fixed the airlock display so that it shows mode timer/ hurry up values during multiballs, instead of a blank screen.
- Abbreviated some names of GI lamps to fit on test mode screen.
- Removed the ball save sound effect from running throughout Self Destruct, Loader Battle, and All Out War.



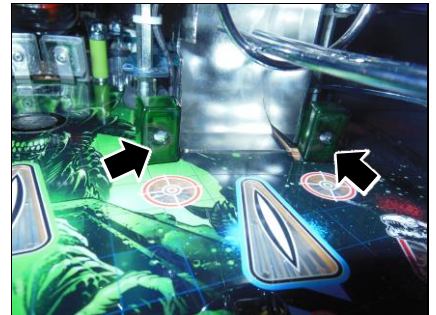
18 Troubleshooting

Quite independently of known and fixed software errors, malfunctions occur due to the following circumstances.

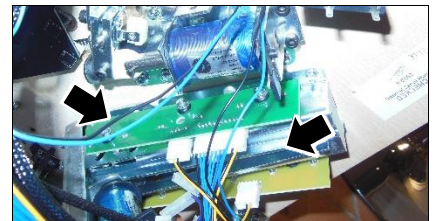
- If either of the two Xeno standup targets (arrows) becomes "almost stuck on", it will rapidly toggle active/ inactive and the game will think that you're making that shot over and over, which will take you into constant Ambush Multiball.
- Check the function of the standup target switches in the Service Menu and replace the switches if necessary.



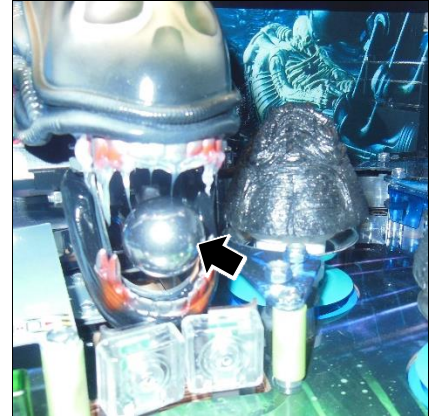
- If either of the two Weapon standup targets (arrows) at the right ramp becomes "almost stuck on", it will rapidly toggle active/ inactive and the machine may reset if a second or third ball will be fired into the shooter lane.
- Check the function of the standup target switches in the Service Menu and replace the switches if necessary.



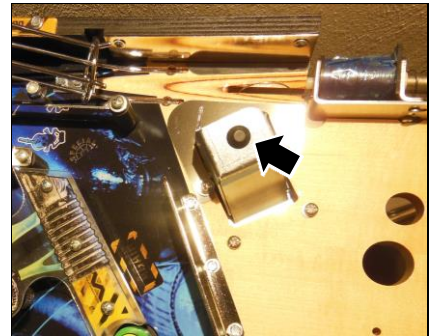
- Often bad trough optos (not connected, mis-aligned, wired in the wrong order) or broken connectors can cause malfunction and end a game with the message "Missing Ball".
- Check the function of the optos in the Service Menu and replace the optos if necessary.
- Check for bad wiring and broken connectors.



- Interference may occur due to magnetized balls. Sensors or switches are triggered incorrectly, which messes up the CPU.
- Check for magnetized balls and change if necessary.



- Hardened rubber on the top of the ball trough (arrow) causes the balls to reflect too much from the shooter lane and roll back into the ball trough. After three attempts the CPU starts searching for balls and the message "Missing Ball" appears.
- Only use soft rubber at the top of the ball trough.
- Use a recommended coil power setting for Trough Release from 15% - 20% (weaker).





In Loving Memory

<i>(1953-1992) Bolaji Badejo</i>	<i>ALIEN Actor Creature</i>
<i>(1939-2001) Ray Lovejoy</i>	<i>ALIENS Movie Cutter</i>
<i>(1929-2004) Jerrald „Jerry“ King Goldsmith</i>	<i>ALIEN Movie Music Composer</i>
<i>(1928-2005) Charles Gordon Carroll III</i>	<i>ALIEN Producer</i>
<i>(1952-2005) Adrian Biddle</i>	<i>ALIENS Movie Camera Operator</i>
<i>(1913-2007) Elizabeth Inglis</i>	<i>ALIENS Amanda Ripley</i>
<i>(1946-2008) Stan Winston</i>	<i>ALIENS Special Make-up Effects Creator</i>
<i>(1923-2009) Helen Horton</i>	<i>ALIEN Voice of „Mother“</i>
<i>(1946-2009) Daniel Thomas O'Bannon</i>	<i>ALIEN Scriptwriter</i>
<i>(1932-2010) Derek Vanlint</i>	<i>ALIEN Movie Camera Operator</i>
<i>(1925-2012) Carlo Rambaldi</i>	<i>ALIEN Movie Special Effects</i>
<i>(1938-2012) Jean Henri Gaston Giraud</i>	<i>ALIEN Space Suit Design</i>
<i>(1940-2014) HR (Hans Ruedi) Giger</i>	<i>ALIEN Creature Design</i>
<i>(1953-2015) James Roy Horner</i>	<i>ALIENS Movie Music Composer</i>
<i>(1926-2017) Harry Dean Stanton</i>	<i>ALIEN Engineering Technician Samuel Elias Brett</i>
<i>(1940-2017) John Hurt (CBE)</i>	<i>ALIEN Executive Officer Gilbert Ward "Thomas" Kane</i>
<i>(1955-2017) William Archibald „Bill“ Paxton</i>	<i>ALIENS Private First Class William L. Hudson</i>
<i>(1942-2018) Al Matthews</i>	<i>ALIENS Master Sergeant Al Apone</i>
<i>(1933-2019) Terry Rawlings</i>	<i>ALIEN Movie Cutter</i>
<i>(1931-2020) Ian Holm Cuthbert (CBE)</i>	<i>ALIEN Science Officer Ash</i>
<i>(1939-2021) Yaphet Frederick Kotto</i>	<i>ALIEN Chief Engineer Dennis Monroe Parker</i>



