

Zoid Hacking Guide

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Zoids Saga Zoid Hacking Guide v.0.8
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Section 1: Overview

Everyone always wants things 'their way'. Be it burgers, clothes, or mecha. Not happy with a Raynos that can't conduct sweeping attacks? Want to out-missile Leena Toros? Perhaps you'd like the Shadow OS ... but on an Ultrasaurus.

Not to fret. It's possible. Why not see what kind of customized Zoids can be constructed?

Section 2: Version History

0.8 (6/11/02): First draft.

Section 3: General Hacking Information

A disclaimer before we begin (as borrowed from my other hacking guides):

If you use any of these cheats, I'm not responsible for any 'weird' things happening to your game or your save data. You use these cheats at your own risk (to your game, your system, your enjoyment Zoids Saga).

I made this document as a sort of educational glimpse into how the game was put together. You can make the game easier. You can make it harder.

You can make it more fun. You can make it a bore. I think you get the point.

Secondly, this document is much more technical in nature than other things I have written. I cannot guarantee it's 100% correct. I cannot guarantee you'll understand it. Hopefully, both of those conditions will hold true.

Now, with the formalities over ...

There are two 'general' memory addresses of interest to most Zoids Saga players. The first is the location where your current money is stored. Money is stored as a 32-bit, unsigned value in address 2001884.

The second is your current total experience. This too is stored as a 32-bit unsigned value, and resides at 2001830.

About the usage of this guide. The whole point of the guide, and indeed, the point to memory hacking, is to find out 1) what memory address the value of interest resides in and 2) what value to place in that address. To find the memory address you need to alter, look in section 7 for the base address. Then go to section 5 and find the byte number. Add these two using hexadecimal math to arrive at the desired address. Then consult the correct section for the value to put in that address.

Section 4: Zoid Memory Block Basics

Zoids Saga uses a simple system for storing information on all of the 78 Zoids that you may have in your 'inventory'. Each Zoid is allocated 56 bytes of data which stores all the relevant information on that Zoid. The blocks begin at memory address 2001888; this is where the data for the Zoid that Atory chooses at the beginning of the game begins. Every new Zoid you construct is placed in the next block. (So Atory's Zoid and the 3 Command Wolves are stored in blocks 1-4, the next Zoid you construct is stored in Block 5, etc. etc.) Even if you sell a Zoid, the next Zoid is continually stored in successive blocks. Once you've built 78 Zoids, the game THEN goes back and over-writes blocks that are free.

Let's look at a typical memory block.

Section 5: Byte by Byte

Here's the breakdown for a typical Zoid's data block. Also, the Byte numbering is not random (you'll see why, eventually). The address data in parentheses indicates the memory address for Atory's first Zoid (a Raynos, Saber Tiger, or Shield Liger depending on which one you selected).

Bytes 0-5 (2001888): Unknown
Byte 6 (200188e): Type Code (see below)
Byte 7 (200188f): Zoid Present Toggle (see below)
Bytes 8-11 (2001890): Current HP
Bytes 12-15 (2001894): Current EP
Bytes 16-17 (2001898): VAS #1 Link (see below)
Bytes 18-19 (200189a): Variable Armament Slot #1
Bytes 20-21 (200189c): VAS #2 Link
Bytes 22-23 (200189e): Variable Armament Slot #2

Bytes 24-25 (20018a0): VAS #3 Link
Bytes 26-27 (20018a2): Variable Armament Slot #3
Bytes 28-29 (20018a4): FAS #1 Link
Bytes 30-31 (20018a6): Fixed Armament Slot #1
Bytes 32-33 (20018a8): FAS #2 Link
Bytes 34-35 (20018aa): Fixed Armament Slot #2
Bytes 36-37 (20018ac): FAS #3 Link
Bytes 38-39 (20018ae): Fixed Armament Slot #3
Bytes 40-43 (20018b0): Maximum HP
Bytes 44-47 (20018b4): Maximum EP
Bytes 48-49 (20018b8): Current Speed
Bytes 50-51 (20018ba): Current Defense
Byte 52 (20018bc): Current Growth
Byte 53 (20018bd): Size
Bytes 54-55 (20018be): Unknown

Okay! That's all 56 bytes (0-55). Now, what does all this mean?

Type Code - this determines what the Zoid looks like and is named. It also will alter whether or not this Zoid is considered an Aerial or Underwater Zoid. Note that the built-in armaments will NOT change if you only change this number. (This is great for cosmetic changes.) This also determines the number of Offensive or Defensive Armament slots your Zoid has.

Zoid Present Toggle - if this value is 0, then the Zoid has been sold and will not appear. If it is 1, it is in your inventory.

Current Speed/Defense - these values INCLUDE bonuses from any armaments pilot bonuses, and growth!

Maximum HP/EP - like Current Speed and Defense, this is the final value you will see in the status screens.

Variable / Fixed Armament Slots - Variable Armament slots refers to the armaments you can equip on a Zoid; Fixed refers to the built-in weapons systems. You can force any type of armament into any type of slot; the game does not check to see if the combination is valid. (E.G., you can put a Gravity Cannon on a Storm Sworder.)

VAS/FAS Link - As far as I can tell, for Variable Slots, the game sets this value to 2; for Fixed, the value is 0. This does NOT determine if the weapon is 'drawn' (e.g., you cannot simply set a Variable Armament's VAS Link value to 0 and make it disappear from the close up picture). I'm not sure why the values are 2 and 0, but they seem to consistently be 2 and 0.

Current Growth - This is only used to cap the bonuses the game gives to your Zoid due to growth. Increasing it or decreasing it has no effect on your other statistics.

Size - For small Zoids, this value is 0; for medium Zoids, this value is 1; for large Zoids, this value is 2. You can therefore make small Ultrasauri.

To find out the address for any other Zoid, add the byte number as given above to the base address given in Section 7, the Zoid Block Address Table. (This is why the bytes start at 0 ...). To find out what value to insert into the address, look it up in the appropriate section, or use common sense (e.g. Maximum HP).

Section 6: An Example / Advanced Information

Part A: Super Raynos Interceptor

Let's go ahead and make a customized Zoid, then. We'll use the addresses given for the first Zoid chosen, but we'll assume you took a Shield Liger (so we'll have to do the maximum number of alterations).

Our Super Raynos Interceptor, therefore, will have to be changed from a Shield Liger to a Raynos. The address for the Type Code is 200188e, so we need to look up the value for a Raynos. That's 92.

We won't worry about the current HP or EP, since we can visit a Zoids Construction Shop later to get a refill. Let's look at our armaments.

Let's give the Super Raynos Interceptor the following equipment:

2 Barrel Anti-Air Laser (from a Salamander)
Missile Pod (from a Hammerhead)
Severing Wing (from a Black Redler)

Our new Super Raynos Interceptor therefore has the ability to conduct fly-by attacks, shoot down opponents, and blast them with a barrage of missiles. To accomplish this, we put:

20018a4 - 476 (2 Barrel Anti-Air Laser)
20018a8 - 441 (Missile Pod)
20018ac - 270 (Severing Wing)

This puts them as built-in weapons systems, and still allows us to place armor and other defensive armaments on the Raynos.

What's next? Well, let's change the size of our Raynos to Small. (Why? Because we can.) That's 20018bd, value 0.

You can also change the maximum HP/EP (20018b0 and 20018b4, respectively), the speed (probably have to, if the former Zoid was a Shield Liger), and defense. You can also fix the Growth, but it's better to set it to 0 and then not permanently fix the value at 0. (This allows you to grow your Zoid from 0 to 100, getting the appropriate bonuses.) A good way to do that is to set the value, save the game, remove the cheat, then reset your game. Load from your saved game, and everything should be fine.

Part B: Game Logic

The only point of interest that I could find was concerning Zoid Growth. Growth is handled in a fairly interesting (some might say strange) manner. The Current Growth does not act (as one might expect) as a simple multiplier over the base statistics. Instead, it is just a convenience/book-keeping piece of data, primarily there for the gamer's benefit.

Where then, does the game store the 'base' values for the Zoid, over which the bonuses are added as the Zoid grows? It's possible the values are kept with the other, immutable information about the Zoid (it's Offensive/Defensive Slot configuration, it's name and picture, etc.) in the game itself. It might be in the data block, in the unknown areas.

Either way, Zoid Growth is best ignored if you are altering values in the data block. It's fairly useless, and changing it may have strange, unpredictable effects.

Section 7: Zoid Block Address Table

Remember, this is the beginning of each Zoid block. To find a particular address inside this block, add the byte number to the listed address. As this are memory addresses, they are in hexadecimal, and all hexadecimal math rules apply!

Also, I haven't tested very single one of these blocks. However, you can extrapolate their start addresses from the size of the blocks. I'm sure that blocks 1-22 should be working just fine.

Zoid #1 - 2001888
Zoid #2 - 20018c0
Zoid #3 - 20018f8
Zoid #4 - 2001930
Zoid #5 - 2001968
Zoid #6 - 20019a0
Zoid #7 - 20019d8
Zoid #8 - 2001a10
Zoid #9 - 2001a48
Zoid #10 - 2001a80
Zoid #11 - 2001ab8
Zoid #12 - 2001af0
Zoid #13 - 2001b28
Zoid #14 - 2001b60
Zoid #15 - 2001b98
Zoid #16 - 2001bd0
Zoid #17 - 2001c08
Zoid #18 - 2001c40
Zoid #19 - 2001c78
Zoid #20 - 2001cb0
Zoid #21 - 2001ce8
Zoid #22 - 2001d20
Zoid #23 - 2001d58
Zoid #24 - 2001d90
Zoid #25 - 2001dc8
Zoid #26 - 2001e00
Zoid #27 - 2001e38
Zoid #28 - 2001e70
Zoid #29 - 2001ea8
Zoid #30 - 2001ee0
Zoid #31 - 2001f18
Zoid #32 - 2001f50
Zoid #33 - 2001f88
Zoid #34 - 2001fc0
Zoid #35 - 2001ff8
Zoid #36 - 2002030
Zoid #37 - 2002068
Zoid #38 - 20020a0
Zoid #39 - 20020d8
Zoid #40 - 2002110
Zoid #41 - 2002148
Zoid #42 - 2002180

Zoid #43 - 20021b8
Zoid #44 - 20021f0
Zoid #45 - 2002228
Zoid #46 - 2002260
Zoid #47 - 2002298
Zoid #48 - 20022d0
Zoid #49 - 2002308
Zoid #50 - 2002340
Zoid #51 - 2002378
Zoid #52 - 20023b0
Zoid #53 - 20023e8
Zoid #54 - 2002420
Zoid #55 - 2002458
Zoid #56 - 2002490
Zoid #57 - 20024c8
Zoid #58 - 2002500
Zoid #59 - 2002538
Zoid #60 - 2002570
Zoid #61 - 20025a8
Zoid #62 - 20025e0
Zoid #63 - 2002618
Zoid #64 - 2002650
Zoid #65 - 2002688
Zoid #66 - 20026c0
Zoid #67 - 20026f8
Zoid #68 - 2002730
Zoid #69 - 2002768
Zoid #70 - 20027a0
Zoid #71 - 20027d8
Zoid #72 - 2002810
Zoid #73 - 2002848
Zoid #74 - 2002880
Zoid #75 - 20028b8
Zoid #76 - 20028f0
Zoid #77 - 2002928
Zoid #78 - 2002960

Section 8: Zoid Type Code Table

0, 1 - Iron Kong (however, there is no picture. Do not use these!)
2 - Iron Kong
3 - Iron Kong Mark II S
4 - Iron Mark Mark II
5 - Iron Kong PK
6 - Iron Kong SS
7 - Iron Kong MA
8 - Red Horn
9 - Red Horn BG
10 - Dark Horn
11 - Elephander
12 - Elephander SC
13 - Elephander CM
14 - Elephander AG
15 - Saber Tiger
16 - Zaber Tiger
17 - Zaber Tiger RS
18 - Zaber Tiger SS
19 - Zaber Tiger AT

20 - Zaber Tiger FT
21 - Helcat
22 - Lightning Saix
23 - Lightning Saix A
24 - Lightning Saix B
25 - Dark Spiner
26 - Gator
27 - Gator Radome S
28 - Death Saurer
29 - Bloody Demon
30 - Genosaurer
31 - Genobreaker
32 - Genobreaker RS
33 - Protobreaker
34 - Geno Scissors
35 - Geno Trooper
36 - Rev Raptor
37 - Rev Raptor PB
38 - Merda
39 - Iguan
40 - Redler
41 - Redler BC
42 - Black Redler
43 - Redler IC
44 - Zabat
45 - Brachios
46 - Brachios NEW
47 - Heldigunner
48 - Heldigunner DT
49 - Molga
50 - Cannory Molga
51 - Malder
52 - Saicurtis
53 - Death Stinger
54 - Wardick (Warshark in the US)
55 - Sinker
56 - Dibison
57 - Shield Liger
58 - Shield Liger DCS
59 - Shield Liger DCS-J
60 - Shield Liger Mark II
61 - Shield Liger BS
62 - Blade Liger
63 - Blade Liger BS
64 - Blade Liger AB
65 - Spark Liger
66 - Liger Zero
67 - Liger Zero SC
68 - Liger Zero JA
69 - Liger Zero PA
70 - Command Wolf
71 - Command Wolf NEW
72 - Command Wolf AS
73 - Command Wolf Urban Combat Variant
74 - Command Wolf AU
75 - Keroberos
76 - Climer Wolf
77 - Gojulas
78 - Gojulas Mark II S
79 - Gojulas Mark II

80 - Gojulas G Ogre
81 - Gojulas Gana
82 - Ultrasaurus
83 - Liger Cannon
84 - 'Dummysaurus'
85 - Gordos
86 - Gordos Long Range Attack Type
87 - Nothing (Zoid Deleted)
88 - Pteras
89 - Pteras Bomber
90 - Pteras Radome
91 - Storm Sworder
92 - Raynos
93 - Godos
94 - Heavy Armor Godos
95 - Gunsniper
96 - Gunsniper W2
97 - Barigator
98 - Stealth Viper
99 - Hammerhead
100 - Hammerhead VL
101 - Double Sworder
102 - Cannon Tortoise
103 - Cannon Tortoise Assault Type
104 - Cannon Tortoise BC
105 - Double Tortoise SC (removed)
106 - Guysack
107 - Heavy Armor Guysack
108 - Guysack Stinger
109 - Spinosapper
110 - Salamander
111 - Salamander F2
112 - Mad Thunder
113 - Black Rhimos
114 - Zaber Tiger AT G
115 - Zaber Tiger AT S
116 - Shadow Fox
117 - Nothing (Zoid Deleted)
118 - Storm Furher
119 - Berserk Furher Y
120 - Berserk Furher Z
121 - Berserk Furher
122 - Demantis
123 - Maccurtis
124 - Redler FS
125 - Salamander FS
126 - Zaber Tiger GS
127 - Gojulas GS
128 - Cannon Tortoise OS
129 - Death Stinger OS
130 - Geno Hydra
131 - Geno Hydra KA
132 - Super Genosaurer
133 - Command Wolf SM
134 - Dibison TS
135 - Blade Liger LS
136 - Gunsniper LS
137 - Gunsniper NS
138 - Dark Horn HS
139 - Gojulas AS

- 140 - Psycho Genosaurer
- 141 - Silver Liger Zero
- 142 - Konig Wolf
- 143 - Trinity Liger
- 144 - Trinity Liger BA
- 145 - Dark Spiner DCS
- 146 - Genobreaker GS
- 147 - Liger Zero Imperial Service Type
- 148 - Liger Zero X
- 149 - Genosaurer BS
- 150 - Genosaurer BS (not sure what the difference is)
- 151 - Death Saurer (not the regular DS ...)
- 152 - Berserk Furher Z (possibly for the Emperor)
- 153 - 'Atory' (no picture, takes the name from the main character, don't use)
- 154 - 'Regina' (no picture, don't use)

Beyond that, the game's reading from non-Zoid data (it's taking stuff from the character data block).

Section 9: Armaments Code Table

Okay, some notes on this table. First, the values listed are in decimal, so don't use the hexadecimal setting, otherwise you'll get a different weapon from the one you expect. This is 16-bit, unsigned data.

Secondly, the way the table is written. If an armament has (parentheses) afterwards, that indicates the Zoid which has this armament by default. If there's no name for the armament, only (parentheses), this means I haven't verified that weapon system yet; however, as you can see by the pattern of the table, every Zoid got 3 slots in a row for their built-in armaments (even if they are blank. A bit of a waste, but it made my job a lot easier). Eventually, I will go through the (long) list and add the missing names, until then, you can consult the Zoids Analysis and make a fair guess as to which weapon goes in which slot.

- 0 - Empty
- 1 - Particle Cannon
- 2 - Heavy Particle Cannon
- 3 - Hyper Particle Cannon
- 4 - Plasma Particle Cannon
- 5 - Photon Particle Cannon
- 6 - External Charged Particle Cannon
- 7 - Charged Particle Cannon
- 8 - Compact Laser
- 9 - 2 Barrel Laser
- 10 - 3 Barrel Laser
- 11 - 4 Barrel Laser
- 12 - Anti-Air Laser
- 13 - 2 Barrel Anti-Air Laser
- 14 - 3 Barrel Anti-Air Laser
- 15 - 4 Barrel Anti-Air Laser
- 16 - Laser Gun
- 17 - Pulse Laser Gun
- 18 - Beam Needle
- 19 - Gatling Beam
- 20 - Beam Rifle
- 21 - Assault Beam Cannon
- 22 - Linear Laser

23 - Beam Cannon
24 - Concentrated Beam Cannon
25 - Ray Storm
26 - Cannon
27 - Double Cannon
28 - Triple Cannon
29 - Linear Cannon
30 - Accelerator Cannon
31 - Ultra Cannon
32 - Rail Gun
33 - High Speed Rail Gun
34 - Short Range Rail Gun
35 - Long Range Ray Gun
36 - Linear Ray Gun
37 - Assault Cannon
38 - Heavy Cannon
39 - Empty
40 - Hybrid Cannon
41 - Shockwave Cannon
42 - 3 Barrel Shockwave Cannon
43 - Acceleration Shockwave Cannon
44 - Buster Cannon
45 - Gravity Cannon
46 - Machine Gun
47 - Vulcan Cannon
48 - Heavy Vulcan
49 - Hyper Vulcan
50 - Anti-Air Machine Gun
51 - Anti-Air Vulcan
52 - Anti-Air Mega Vulcan
53 - Gatling Cannon
54 - Heavy Gatling
55 - Acceleration Gatling
56 - Sonic Wave Cannon
57 - Sulphuric Acid Cannon
58 - Freezing Gas Cannon
59 - Flamethrower
60 - Ele Shot
61 - Hind Buster
62 - Poison Gas Sprayer
63 - 4 Barrel Missile
64 - 8 Barrel Missile
65 - 16 Barrel Missile
66 - Jumbo Missile
67 - Anti-Air 4 Missile
68 - Anti-Air 8 Missile
69 - Anti-Air 16 Missile
70 - Long Range Missile
71 - Self Guided Missile
72 - Napalm Missile
73 - Hyper Napalm
74 - Anti-Ballistic Missile
75 - Corrosive Gas Bomb
76 - Linear Cannon
77 - Hiblit Vulcan
78 - 105mm Beam
79 - Empty
80 - 105mm Beam
81 - 2 Barrel Beam
82 - 2 Barrel Beam

- 83 - 2 Barrel Beam
- 84 - 2 Barrel Accelerator Beam
- 85 - Pulse Laser Cannon
- 86 - Pulse Laser Cannon
- 87 - Beam Cannon
- 88 - Long Range Beam Cannon
- 89 - Long Range Beam Cannon
- 90 - Empty
- 91 - Empty
- 92 - 2 Barrel Beam Cannon
- 93 - 2 Barrel Beam Cannon
- 94 - Beam Cannon
- 95 - Armor Piercing Vulcan
- 96 - Chobham Armor
- 97 - Heavy Piled Armor
- 98 - Super Heavy Piled Armor
- 99 - E Shield Armor
- 100 - Conformal Armor
- 101 - Reinforced Conformal Armor
- 102 - Anti-Laser Armor
- 103 - E Protector
- 104 - Rare Metal Armor
- 105 - Laser Diffusion Equipment
- 106 - E Shield Generation Equipment
- 107 - Expanding System E Shield
- 108 - Smokescreen Generator Equipment
- 109 - Optical Camouflage
- 110 - Infrared Scope
- 111 - Infrared Scanner
- 112 - Decoy
- 113 - EM Jammer
- 114 - Accelerator Equipment
- 115 - High Mobility Thruster
- 116 - 3D Radar
- 117 - All-Weather Radar
- 118 - Laser Sensor
- 119 - Micro Sensor
- 120 - Composite Sensor
- 121 - GPS Sensor
- 122 - Magnetic Detector
- 123 - GPS Magnetic Detector
- 124 - E Reinforcer Unit
- 125 - Physics Reinforcer Unit
- 126 - Core Reinforcer Unit
- 127 - E Charger
- 128 - Ion Irradiation Equipment
- 129 - Self Repair Unit
- 130 - Empty
- 131 - Empty
- 132 - Empty
- 133 - Empty
- 134 - Float Unit
- 135 - Empty
- 136 - Empty
- 137 - Empty
- 138 - Empty
- 139 - Empty
- 140 - Concentrated Charged Particle Cannon (Geno Hydra)
- 141 - Concentrated Charged Particle Cannon (Geno Hydra KA)
- 142 - Five Blade (Liger Zero SC)

143 - Buster Claw (Berserk Furher)
144 - Long Range Cannon (Berserk Furher Y)
145 - Long Range Rifle (Konig Wolf)
146 - 4 Barrel Rifle (Genobreaker GS)
147 - Anti-Air Cannon (Trinity Liger BA)
148 - Empty
149 - Long Horn (Mad Thunder)
150 - Hammer Knuckle (Iron Kong)
151 - 6 Barrel Missile (Iron Kong)
152 - Empty (Iron Kong)
153 - Hammer Knuckle (Iron Kong Mark II S)
154 - Beam Launcher (Iron Kong Mark II S)
155 - Empty (Iron Kong Mark II S)
156 - Hammer Knuckle (Iron Kong Mark II)
157 - 6 Barrel Missile (Iron Kong Mark II)
158 - Empty (Iron Kong Mark II)
159 - Hammer Knuckle (Iron Kong PK)
160 - Beam Launcher (Iron Kong PK)
161 - Empty (Iron Kong PK)
162 - Hammer Knuckle (Iron Kong SS)
163 - Beam Gatling (Iron Kong SS)
164 - Empty (Iron Kong SS)
165 - Hammer Knuckle (Iron Kong MA)
166 - 6 Barrel Missile (Iron Kong MA)
167 - Extreme Manuever Unit (Iron Kong MA)
168 - Horn Crash (Red Horn)
169 - Empty (Red Horn)
170 - Empty (Red Horn)
171 - Horn Crash (Red Horn BG)
172 - Beam Gatling (Red Horn BG)
173 - Empty (Red Horn BG)
174 - Horn Crash (Dark Horn)
175 - Empty (Dark Horn)
176 - Empty (Dark Horn)
177 - Twin Tusk (Elephander)
178 - Empty (Elephander)
179 - Empty (Elephander)
180 - Twin Tusk (Elephander SC)
181 - Empty (Elephander SC)
182 - Empty (Elephander SC)
183 - Twin Tusk (Elephander CM)
184 - Empty (Elephander CM)
185 - Empty (Elephander CM)
186 - Empty (Elephander AG)
187 - AG Unit (Elephander AG)
188 - Empty (Elephander AG)
189 - (Saber Tiger)
190 - (Saber Tiger)
191 - (Saber Tiger)
192 - (Zaber Tiger)
193 - (Zaber Tiger)
194 - (Zaber Tiger)
195 - (Zaber Tiger RS)
196 - (Zaber Tiger RS)
197 - (Zaber Tiger RS)
198 - (Zaber Tiger SS)
199 - (Zaber Tiger SS)
200 - Empty (Zaber Tiger SS)
201 - (Zaber Tiger AT)
202 - (Zaber Tiger AT)

203 - (Zaber Tiger AT)
204 - (Zaber Tiger FT)
205 - (Zaber Tiger FT)
206 - (Zaber Tiger FT)
207 - (Helcat)
208 - (Helcat)
209 - (Helcat)
210 - Killer Fang (Lightning Saix)
211 - (Lightning Saix)
212 - (Lightning Saix)
213 - (Lightning Saix A)
214 - (Lightning Saix A)
215 - (Lightning Saix A)
216 - (Lightning Saix B)
217 - (Lightning Saix B)
218 - (Lightning Saix B)
219 - (Dark Spiner)
220 - (Dark Spiner)
221 - (Dark Spiner)
222 - (Gator)
223 - (Gator)
224 - (Gator)
225 - (Gator Radome S)
226 - (Gator Radome S)
227 - (Gator Radome S)
228 - (Death Saurer)
229 - (Death Saurer)
230 - (Death Saurer)
231 - (Bloody Demon)
232 - (Bloody Demon)
233 - (Bloody Demon)
234 - (Genosaurer)
235 - (Genosaurer)
236 - (Genosaurer)
237 - (Genobreaker)
238 - (Genobreaker)
239 - (Genobreaker)
240 - (Genobreaker RS)
241 - (Genobreaker RS)
242 - (Genobreaker RS)
243 - (Protobreaker)
244 - (Protobreaker)
245 - (Protobreaker)
246 - (Geno Scissors)
247 - (Geno Scissors)
248 - (Geno Scissors)
249 - (Geno Trooper)
250 - (Geno Trooper)
251 - (Geno Trooper)
252 - (Rev Raptor)
253 - (Rev Raptor)
254 - (Rev Raptor)
255 - (Rev Raptor PB)
256 - (Rev Raptor PB)
257 - (Rev Raptor PB)
258 - (Merda)
259 - (Merda)
260 - (Merda)
261 - (Iguan)
262 - (Iguan)

263 - (Iguan)
264 - (Redler)
265 - (Redler)
266 - (Redler)
267 - (Redler BC)
268 - (Redler BC)
269 - (Redler BC)
270 - Severing Wing (Black Redler)
271 - (Black Redler)
272 - (Black Redler)
273 - (Redler IC)
274 - (Redler IC)
275 - (Redler IC)
276 - (Zabat)
277 - (Zabat)
278 - (Zabat)
279 - (Brachios)
280 - (Brachios)
281 - (Brachios)
282 - (Brachios NEW)
283 - (Brachios NEW)
284 - (Brachios NEW)
285 - (Heldigunner)
286 - (Heldigunner)
287 - (Heldigunner)
288 - (Heldigunner DT)
289 - (Heldigunner DT)
290 - (Heldigunner DT)
291 - (Molga)
292 - (Molga)
293 - (Molga)
294 - (Cannory Molga)
295 - (Cannory Molga)
296 - (Cannory Molga)
297 - (Malder)
298 - (Malder)
299 - (Malder)
300 - (Saicurtis)
301 - (Saicurtis)
302 - (Saicurtis)
303 - (Death Stinger)
304 - (Death Stinger)
305 - (Death Stinger)
306 - (Wardick)
307 - (Wardick)
308 - (Wardick)
309 - (Sinker)
310 - (Sinker)
311 - (Sinker)
312 - (Dibison)
313 - (Dibison)
314 - (Dibison)
315 - Laser Saber (Shield Liger)
316 - E Shield (Shield Liger)
317 - Empty (Shield Liger)
318 - (Shield Liger DCS)
319 - (Shield Liger DCS)
320 - (Shield Liger DCS)
321 - (Shield Liger DCS-J)
322 - (Shield Liger DCS-J)

323 - (Shield Liger DCS-J)
324 - (Shield Liger Mark II)
325 - (Shield Liger Mark II)
326 - (Shield Liger Mark II)
327 - (Shield Liger BS)
328 - (Shield Liger BS)
329 - (Shield Liger BS)
330 - (Blade Liger)
331 - (Blade Liger)
332 - (Blade Liger)
333 - (Blade Liger BS)
334 - (Blade Liger BS)
335 - (Blade Liger BS)
336 - (Blade Liger AB)
337 - (Blade Liger AB)
338 - (Blade Liger AB)
339 - (Spark Liger)
340 - (Spark Liger)
341 - (Spark Liger)
342 - (Liger Zero)
343 - (Liger Zero)
344 - (Liger Zero)
345 - (Liger Zero SC)
346 - (Liger Zero SC)
347 - (Liger Zero SC)
348 - (Liger Zero JA)
349 - (Liger Zero JA)
350 - (Liger Zero JA)
351 - (Liger Zero PA)
352 - (Liger Zero PA)
353 - (Liger Zero PA)
354 - (Command Wolf)
355 - (Command Wolf)
356 - (Command Wolf)
357 - (Command Wolf NEW)
358 - (Command Wolf NEW)
359 - (Command Wolf NEW)
360 - Bite Fang (Command Wolf AS)
361 - Long Range Rifle (Command Wolf AS)
362 - Smokeshield Generator Equipment (Command Wolf AS)
363 - (Command Wolf Urban Combat Variant)
364 - (Command Wolf Urban Combat Variant)
365 - (Command Wolf Urban Combat Variant)
366 - (Command Wolf AU)
367 - (Command Wolf AU)
368 - (Command Wolf AU)
369 - (Keroberos)
370 - (Keroberos)
371 - (Keroberos)
372 - (Climer Wolf)
373 - (Climer Wolf)
374 - (Climer Wolf)
375 - (Gojulas)
376 - (Gojulas)
377 - (Gojulas)
378 - (Gojulas Mark II S)
379 - (Gojulas Mark II S)
380 - (Gojulas Mark II S)
381 - (Gojulas Mark II)
382 - (Gojulas Mark II)

383 - (Gojulas Mark II)
384 - (Gojulas G Ogre)
385 - (Gojulas G Ogre)
386 - (Gojulas G Ogre)
387 - (Gojulas Gana)
388 - (Gojulas Gana)
389 - (Gojulas Gana)
390 - Hyper Fang (Ultrasaurs)
391 - Linear Cannon (Ultrasaurus)
392 - 8 Barrel Missile (Ultrasaurus)
393 - Dummy Cannon (Liger Cannon) [See the Liger Cannon in background]
394 - Dummy Dakorya (Liger Cannon)
395 - Dummy's Heart (Liger Cannon)
396 - Dummy Cannon (Dummysaurus)
397 - Dummy Dakorya (Dummysaurus)
398 - Dummy's Heart (Dummysaurus)
399 - Bite Fang (Gordos)
400 - 20mm Laser (Gordos)
401 - (Gordos)
402 - (Gordos Long Range Attack Type)
403 - (Gordos Long Range Attack Type)
404 - (Gordos Long Range Attack Type)
405 - Nothing (Deleted Zoid)
406 - Nothing (Deleted Zoid)
407 - Nothing (Deleted Zoid)
408 - (Pteras)
409 - (Pteras)
410 - (Pteras)
411 - (Pteras Bomber)
412 - (Pteras Bomber)
413 - (Pteras Bomber)
414 - (Pteras Radome)
415 - 2 Barrel Missile (Pteras Radome)
416 - 3-D Radome (Pteras Radome)
417 - (Storm Sworder)
418 - (Storm Sworder)
419 - Nothing (Storm Sworder)
420 - Nothing (Raynos)
421 - 3 Barrel Beam Cannon (Raynos)
422 - 3-D Radar (Raynos)
423 - (Godos)
424 - (Godos)
425 - (Godos)
426 - (Heavy Armor Godos)
427 - (Heavy Armor Godos)
428 - (Heavy Armor Godos)
429 - (Gunsniper)
430 - (Gunsniper)
431 - (Gunsniper)
432 - (Gunsniper W2)
433 - (Gunsniper W2)
434 - (Gunsniper W2)
435 - (Barigator)
436 - (Barigator)
437 - (Barigator)
438 - (Stealth Viper)
439 - (Stealth Viper)
440 - (Stealth Viper)
441 - Missile Pod (Hammerhead)
442 - Hyper Beam Cannon (Hammerhead)

443 - (Hammerhead)
444 - Lance Attack (Hammerhead VL)
445 - 3-D Radome (Hammerhead VL)
446 - (Hammerhead VL)
447 - (Double Sworder)
448 - (Double Sworder)
449 - (Double Sworder)
450 - (Cannon Tortoise)
451 - (Cannon Tortoise)
452 - (Cannon Tortoise)
453 - (Cannon Tortoise AT)
454 - (Cannon Tortoise AT)
455 - (Cannon Tortoise AT)
456 - (Cannon Tortoise BC)
457 - (Cannon Tortoise BC)
458 - (Cannon Tortoise BC)
459 - (Double Tortoise SC)
460 - (Double Tortoise SC)
461 - (Double Tortoise SC)
462 - (Guysack)
463 - (Guysack)
464 - (Guysack)
465 - (Heavy Armor Guysack)
466 - (Heavy Armor Guysack)
467 - (Heavy Armor Guysack)
468 - (Guysack Stinger)
469 - (Guysack Stinger)
470 - (Guysack Stinger)
471 - (Spinosapper)
472 - (Spinosapper)
473 - (Spinosapper)
474 - Flamethrower (Salamander)
475 - Heavy Mounted Vulcan (Salamander)
476 - 2 Barrel Anti-Air Laser (Salamander)
477 - (Salamander F2)
478 - (Salamander F2)
479 - (Salamander F2)
480 - (Mad Thunder)
481 - (Mad Thunder)
482 - (Mad Thunder)
483 - (Black Rhimos)
484 - (Black Rhimos)
485 - (Black Rhimos)
486 - (Zaber Tiger AT G)
487 - (Zaber Tiger AT G)
488 - (Zaber Tiger AT G)
489 - (Zaber Tiger AT S)
490 - (Zaber Tiger AT S)
491 - (Zaber Tiger AT S)
492 - Laser Claw (Shadow Fox)
493 - Nothing (Shadow Fox)
494 - (Shadow Fox)
495 - Nothing (Deleted Zoid)
496 - Nothing (Deleted Zoid)
497 - Nothing (Deleted Zoid)
498 - (Storm Furher)
499 - (Storm Furher)
500 - (Storm Furher)
501 - (Berserk Furher Y)
502 - (Berserk Furher Y)

503 - (Berserk Furher Y)
504 - (Berserk Furher Z)
505 - (Berserk Furher Z)
506 - (Berserk Furher Z)
507 - (Berserk Furher)
508 - (Berserk Furher)
509 - (Berserk Furher)
510 - (Demantis)
511 - (Demantis)
512 - (Demantis)
513 - (Maccurtis)
514 - (Maccurtis)
515 - (Maccurtis)
516 - (Redler FS)
517 - (Redler FS)
518 - (Redler FS)
519 - (Salamander FS)
520 - (Salamander FS)
521 - (Salamander FS)
522 - (Zaber Tiger GS)
523 - (Zaber Tiger GS)
524 - (Zaber Tiger GS)
525 - (Gojulas GS)
526 - (Gojulas GS)
527 - (Gojulas GS)
528 - (Cannon Tortoise OS)
529 - (Cannon Tortoise OS)
530 - (Cannon Tortoise OS)
531 - (Death Stinger OS)
532 - (Death Stinger OS)
533 - (Death Stinger OS)
534 - (Geno Hydra)
535 - (Geno Hydra)
536 - (Geno Hydra)
537 - (Geno Hydra KA)
538 - (Geno Hydra KA)
539 - (Geno Hydra KA)
540 - (Super Genosaurer)
541 - (Super Genosaurer)
542 - (Super Genosaurer)
543 - (Command Wolf SM)
544 - (Command Wolf SM)
545 - (Command Wolf SM)
546 - (Dibison TS)
547 - (Dibison TS)
548 - Mega Romahksu (Dibison TS)
549 - (Blade Liger LS)
550 - (Blade Liger LS)
551 - (Blade Liger LS)
552 - (Gunsniper LS)
553 - (Gunsniper LS)
554 - (Gunsniper LS)
555 - (Gunsniper NS)
556 - (Gunsniper NS)
557 - (Gunsniper NS)
558 - (Dark Horn HS)
559 - (Dark Horn HS)
560 - (Dark Horn HS)
561 - (Gojulas AS)
562 - (Gojulas AS)

563 - (Gojulas AS)
564 - (Psycho Genosaurer)
565 - (Psycho Genosaurer)
566 - (Psycho Genosaurer)
567 - (Silver Liger Zero)
568 - (Silver Liger Zero)
569 - (Silver Liger Zero)
570 - (Konig Wolf)
571 - (Konig Wolf)
572 - (Konig Wolf)
573 - (Trinity Liger)
574 - (Trinity Liger)
575 - (Trinity Liger)
576 - (Trinity Liger BA)
577 - (Trinity Liger BA)
578 - (Trinity Liger BA)
579 - (Dark Spiner DCS)
580 - (Dark Spiner DCS)
581 - (Dark Spiner DCS)
582 - (Genobreaker GS)
583 - (Genobreaker GS)
584 - (Genobreaker GS)
585 - (Liger Zero Imperial Service Type)
586 - (Liger Zero Imperial Service Type)
587 - (Liger Zero Imperial Service Type)
588 - (Liger Zero X)
589 - (Liger Zero X)
590 - (Liger Zero X)
591 - (Genobreaker BS)
592 - (Genobreaker BS)
593 - Long Range Laser (Genobreaker BS)

Section 10: Supplement: Memory, Binary, and Hexidecimal

I've decided to plunk this in each one of the Hacking Guides that I release in an attempt to reduce the number of questions I get on how hexidecimal or binary works.

This information is probably covered in a much more professional manner in your local mathematics textbook and computer science course. Of course, since a lot of gamers are in high-school, they may not have a decent computer science department. Not to fret.

Let's start by talking about numbers. Most of us are familiar with this subject, but let's review a little, shall we? Numbers are made up of numerals (the representations of numbers, which in the English alphabet are written as 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. We could have just as well used different smiley faces, pictures of trees, or letters.) While there is no problem when writing a number from 0 to 9, what happens when we want to write a 10? Well, as you can see, we use the concept of digits. The '1' in the number '10' is in the tens place. In the number '42,375', the number 2 is in the thousands place, and so on.

You of course know this, otherwise ... well, you know all this. But what we really mean when we write '42,375' is:

"I want the number whose value equals $4 \times 10,000 + 2 \times 1,000 + 3 \times 100 + 7 \times 10 + 5 \times 1$." 10 is, of course, 10 to the first power; 100 is 10 to the

second power; 1000 is 10 to the third power, and so on and so forth.

This system of representing numbers is known as decimal. (From the Greek for 10.) But what if we don't want to use decimal?

To a computer, decimal is far too hard and inefficient. Computers understand two basic things: On (electrons flowing) and Off (electrons not flowing). If On = 1 and Off = 0, we can still represent any number we like. This is known as binary. So, we can write '27' in binary as 11011. (That's $1 \times 16 + 1 \times 8 + 0 \times 4 + 1 \times 2 + 1 \times 1$.) 16 is 2 to fourth power, 8 is 2 to the third power, etc. etc.

Hopefully, you understand binary now. Hexidecimal is similar, except instead of using 10 or 2 as a base, we use 16. In order to represent 10, 11, 12, 13, 14, and 15 in a single symbol, we use A, B, C, D, E, and F respectively. (16 in hexidecimal is, of course, 10.) So 100 in decimal is $6 \times 16 + 4$ or 64 in hexidecimal.

Why even bother with hexidecimal? Ahh ... well, historically, we group 8 binary switches into a single unit known as a byte. (10011011, for example.) Therefore, a byte can store values from 255 (1111111) to 0 (00000000). It so happens that 255 is equivalent to FF in hexidecimal. See where we're going with this?

A two-digit hexidecimal value, then, can represent all the values that a byte can. This is why we use hexidecimal extensively in computers.

Okay, so now we know about hexidecimal and why we use it in computers. Memory addresses are written in hexidecimal. Why? Well, a computer needs to be able to manipulate that address and store it. As a number. How does a computer store numbers? (If you said in binary, you are right.) What's the way we write binary numbers? (If you said in hexidecimal, you are again right.)

Now, we come to the interesting part. How is data stored in memory? (Not physically, but conceptually.) Well, we store all sorts of things in a game's memory. If we want to store a number, we usually store it in a single byte (if it runs from 0-255), or 2 bytes (0-65535) or 4 bytes (basically anything bigger, up to 4,294,967,295.) This is different if you want to store potentially negative values (and I won't get into it, we rarely run into negative numbers in game memory.) Things like HP, EN, how many lives you have left, the number of shots in that rifle, etc. are usually stored in this manner.

We could also store it, instead of in true hexidecimal, as though it were decimal (since hexidecimal includes 0-9. I believe this is referred to as Binary Coded Decimal.) This tends to waste space (you ignore the power of A-F), but sometimes this is done in games. Not so much nowadays, though. So, if I stored 142 in 2-bytes, in the 'value' I'm really storing is 1 in the first of those two bytes, and the decimal value of 66 in the second. (I omit a discussion of byte-ordering until another time, simply because there are two different ways to store a multi-byte number. Don't worry about it for the present.)

We can also store a value that corresponds to something else (like a pilot's background data.) If information is kept like this, the game knows (it's built-in) what, say, a 12 stands for. We have to plug in values to figure out what each value stands for and make long lists. Sometimes, in cases like these, a 0 is empty (doesn't correspond to something, like in Tactics Ogre: Knight of Lodis). Sometimes (like in Super Robot Taisen A) it

does stand for something (Pilot 0 is Lalah Sune.)

Finally, we can use memory in a BINARY fashion. Remember: FF is REALLY 11111111. Or 8 little switches in a row than can be ON or OFF. So if we want to look at things that can be on or off (like the Emblem Toggle), we can cram 8 of those things into one byte, instead of using 8 bytes. The 'Enable Bytes' are variations on this. Basically, a 0 stands for Off, and anything else is On. (The reason for this lies within the realm of assembly language, and will not be covered here. Sufficed to say, the game has a way of quickly checking if something is on or off, and only 0 stands for off.) This type of data, known as a bit field, is very commonly used for certain on-off purposes.

Well, this ends the brief supplement of Binary, Hexidecimal, and how memory is used in most games. Hopefully, this answers a few questions.

Section 11: Credits

There are several people without whose publicly available resources this document could have never been compiled:

GameFAQs (www.gamefaqs.com), for being the comprehensive game information site;

Channel Zi (www.artvilla.com/zoids), for having a ton of Zoid information, which helped me identify the Zoids and properly translate the names;

Jeffrey's J<->E Dictionary Server (linear.mv.com/), an excellent on-line dictionary;

Tomy, for making another anime-based RPG that's so appealing;

The knowledgeable folks on the Zoids Saga GameFAQs board, who have helped answer some of the myriad of questions directed towards me, and those who have contributed to my other Zoids Saga work;

Everyone who has sent positive comments, encouragement, and feedback.

Also, extra special thanks to www.angelfire.com/rpg2/zoidsbattleextreme, for agreeing to host the Zoids Graphics Pack on his website. Go, check it out! If you want to know what each Zoid looks like, this is the place to be.

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Section 13: Miscellaneous

Several sections of this guide are copied directly from my previous hacking guides for Super Robot Taisen A. (Especially the supplement.) If you really want to know more about how computer memory and hacking into it works, consult your local computer science professional, or try the local library.

Next?:

If there are certain game logic questions, I will be happy to answer them (and probably add an explanation in the guide.) I am NOT, however, going to answer questions on how to specifically apply these codes to get specific results, or on how to cheat in general - there are probably plenty of guides written on that subject.

I'll be filling in the blanks here in the Zoids Hacking Guide, then doing a revision and completion of the Zoids Analysis document. After that, there's basically nothing left to do for Zoids Saga ...

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