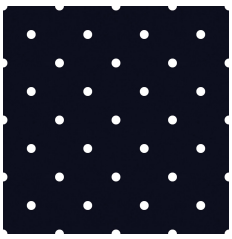
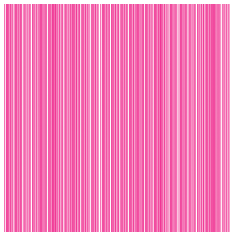
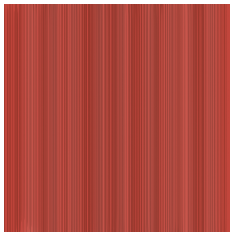
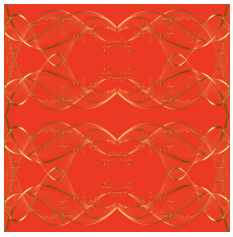
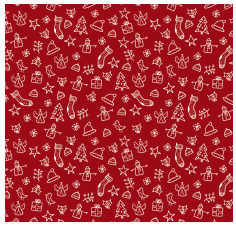
On the Subject of Christmas Presents

Looks like Cousin Bob has been gift-wrapping laundry detergent again...

THIS MODULE SHOWS PRESENTS UNDERNEATH A CHRISTMAS TREE

- It was Christmas Eve and the K'Tane family had all gathered around the Christmas tree.
- It was their first Christmas together in many years and they were very excited.
- However, every member of the family had a different idea about what time they should open presents the next day.
- Cousin Bob wanted to dive in as soon as he was awake. Auntie Marge and Uncle Simon liked to open their presents after church. Great Uncle Bertie was used to opening his presents after lunch. And Granny May liked to open her presents in the evening "to avoid all those awful soap operas".
- Since everybody had a different idea of what time the presents should be opened, and since they liked a good maths problem, the K'Tane family decided that they would look at how many presents were given by each family member and calculate the hour in which they would all open presents that way.

- Use the below table to determine which gift is from which family member.
- There are 13 gifts in total.

				
Auntie Marge	Uncle Simon	Cousin Bob	Granny May	Great Uncle Bertie

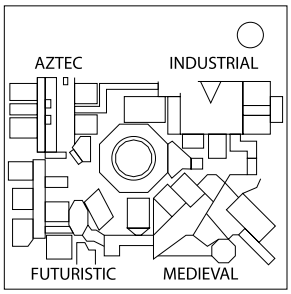
- Take the sum of Auntie Marge's and Uncle Simon's presents.
- Subtract the number of Cousin Bob's presents.
- If this value is negative, multiply by -1.
- Add the number of indicators to obtain value X.

- Take the difference between Granny May's and Great Uncle Bertie's presents.
- If this value is 0, use 1.
- Add the number of ports to obtain value Y.

- Add the number of batteries to the product of X and Y.
- Modulo 14 and then add 7 to obtain value Z.

- Click the clock when the hour time is equal to value Z to disarm the module.
- Clicking the clock at the wrong time will cause a strike.

On the Subject of The Crystal Maze (TP)



Will you start the fans, please!

- Welcome cohorts, Reckless Rick at your service! Our cohort of intrepid adventurers are daring to challenge the Crystal Maze in the hope of winning a fabulous prize - the disarming of the module.
- You will face a series of challenges across four worlds: Aztec, Industrial, Futuristic and Medieval. The challenges you face will make or break you my fearless friends, as you contend with skill, physical, mental and mystery games.
- Succeeding at games will win you time crystals. Each time crystal buys you five seconds of time within the Crystal Dome, where you will face your final challenge.
- Remember cohorts, you may travel the world in any order you wish and attempt the Crystal Dome as soon as you have at least one time crystal. But beware, you may only attempt each world once and failure to win any crystals will reset the game.

Aztec World

- The unforgiving heat of the Aztec world makes for a perfect physical game. You have one minute and 40 seconds to balance the scales.
- Add weight to the sand bag on the left by hammering the buttons. Keep your eye on them though; the buttons will switch around after the offset number of presses presented on the offset board. The offset number of presses before a switch will remain consistent.
- Beware adding too much weight, for it cannot be removed once added.
- When you have added enough weight, press the add button to tip the scales.
- Balancing the weight exactly will unlock a crystal.

Industrial World

- The sunken and ruined Industrial world will test your cerebral faculties with this mental game. You have one minute and 30 seconds to reverse the machine.
- Take the serial number of the machine and pay heed to these formulae:
- X = letter 1 + letter 5. Y = letter 2 + letter 4. Z = (X × Y) modulo letter 3.
- Enter Z into the screen to reverse the direction and unlock a crystal.
- Here's a handy little table for you to get a better grasp of those letters.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
7	15	20	5	12	19	9	18	1	16	11	6	23	13	22	4	21	24	3	26	10	25	14	8	17	2

Futuristic World

- Welcome to this Futuristic world and this cunning little mystery game. You have one minute to select your three colours.
- Three coloured words will cycle each of the three screens along with their own corresponding digit.
- Each of the screens will contain one anomaly; either only one word will match its colour or only one word will differ.
- Press each screen when the anomaly and its digit are displayed to unlock a crystal.

Medieval World

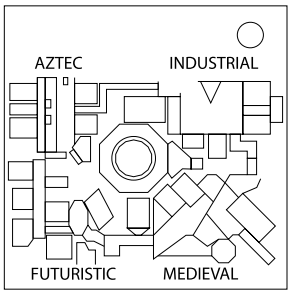
- And into the past we gallop to the Medieval world and this tricky little skill game. You have one minute and 30 seconds to press the target at the right time.
- The target contains four rotating concentric cirles.
- Take note of the colour and rotation direction of each circle and look up their corresponding numbers in the table below.
- Sum all four numbers and modulo 10. Press the target when the last digit of the game timer equals that number to unlock a crystal.

	Blue	Brown	Green	Purple	Red	Yellow
Clockwise	2	31	5	23	11	17
Counter-clockwise	37	3	29	7	19	13

The Crystal Dome

- Well cohorts, here we are at the Crystal Dome. I certainly hope you've brought enough crystals with you.
- Upon entering the Crystal Dome, the fans will begin. At the whistle, gold and silver tokens will start adding up.
- Any silver tokens collected will be deducted from the total gold, which must be 15 or greater after deduction in order to disarm the module.
- Collecting fewer than 15 gold tokens will result in a full reset.
- If you have all 4 time crystals you will are guaranteed to get enough gold tokens. However, keep in mind that chances of getting enough worsen the less time crystals you have when you enter the dome!
- Good luck cracking the Crystal Maze, cohorts!

On the Subject of The Crystal Maze (TP)



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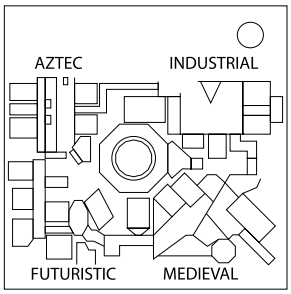

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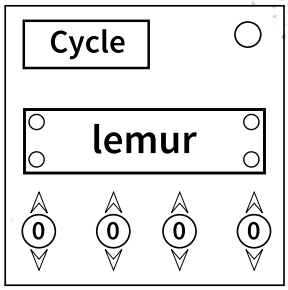
- Good luck cracking the Crystal Maze, cohorts!

On the Subject of Homophones



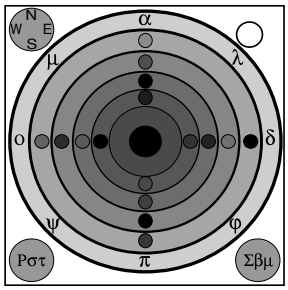
English is a stupid language.

- The module shows four coloured buttons, each with a cyclable number, a larger cycle button, a screen with a word and four indicators.
- Each of the four words will determine the number that should be on each of the buttons.
- The first button's number (left to right) is determined by the first stage's word, the second button's number by the second stage's word etc. Use the table to match the given word to the correct number.
- The first stage is indicated by the top left indicator. Subsequent stages are in reading order. Press the cycle button to show the other stages.
- The four words are variants on the letters/number I, C, L and l.
- Only one of each type of word will appear on the module.
- Once you have set the correct labels on each button, push the buttons linked to each word in the order they appear in the four stages.
- The colour references for each of the word types is shown in the table.
- You must set all the numbers correctly before entering the button sequence.
- Pressing a button with the numbers set incorrectly will immediately cause a strike and reset the module.
- Pressing the buttons out of order will cause a strike and reset the module when you have completed the sequence of four buttons.

	Displayed Word			
Button Label	I-words	C-words	L-words	l-words
0	i	C	L	l
1	I	ce	l	One
2	aye	se	el	one
3	ay	see	ell	won
4	eye	sea	hell	wun
5	high	sees	lema	run
6	hi	seas	lima	on
7	aye-aye	say	leaner	un
8	eye-eye	she	leemer	win
9	ii	icy	lemur	wan

- A lower-case 'L' will have a distinct tail. The digit 'l' will have a distinct peak. An upper-case 'I' will be a straight line.

On the Subject of The Jewel Vault



How did the Ancient Greeks make such an advanced lock? It must be aliens!

- The module consists of a locked five-wheel door, a compass rose, a reset button (bottom left) and a submit button (bottom right).
- The outermost-wheel contains eight Greek symbols and cannot be directly controlled. The other wheels each contain four different coloured jewels and can be rotated.
- There are eight potential jewels that you may encounter. Each jewel can only appear once on any given wheel:
  - Amethyst (purple)
  - Emerald (green)
  - Glass (silver/clear)
  - Onyx (black)
  - Poudretteite (pink)
  - Ruby (red)
  - Sapphire (blue)
  - Scapolite (yellow)
- To solve the module, set the correct jewels to the correct orientation and press the submit button.
- Submitting an incorrect configuration of jewels will cause a strike, shuffle the wheels and change the orientation.
- Turning the wheels a total of thirteen times without resetting will shuffle the wheels and change the orientation.
- Pressing the reset button will return the wheels to their original orientations.
- The central orb of the door changes colour depending on the action currently being undertaken:
  - White = stationary
  - Yellow = manual movement
  - Blue = manual reset
  - Pink = limiter shuffle
  - Red = strike shuffle
  - Green = solved

Wheel Mechanics

- The four rotatable wheels will be referred to by one of two names:
  - Wheels 1-4 refer to the physical locations of the wheels (1 being the outermost, 4 being the innermost).
  - Wheels A-D refer to the mechanics of how the wheels affect each other and are assigned randomly.
- The mechanics of the lettered wheels are as follows:
  - Wheel A will turn itself clockwise.
  - Wheel B will turn itself clockwise and wheel A counter-clockwise.
  - Wheel C will turn itself clockwise and wheel B counter-clockwise.
  - Wheel D will turn itself clockwise and wheel C counter-clockwise.

Greek Letters

- The eight letters are used to determine the correct jewel on each wheel.
- Each wheel has two letters associated with it. Use the below tables to determine which priority list to use.
- The highest priority jewel that is present on the wheel is correct.
- Note: the below tables refer to **wheels 1-4.**

Wheel 1						
Letter	**α**	**β**	**γ**	**δ**	**ε**	**ζ**
Alpha (α)	1	9	3	11	6	7
Beta (β)	9	5	6	1	9	2
Gamma (γ)	3	6	2	7	10	8
Delta (δ)	11	1	7	12	4	5
Epsilon (ε)	6	9	10	4	10	12
Zeta (ζ)	7	2	8	5	12	4

Wheel 2						
Letter	**η**	**θ**	**ι**	**κ**	**λ**	**μ**
Eta (η)	5	8	3	9	7	4
Theta (θ)	8	2	7	1	5	10
Iota (ι)	3	7	11	6	12	2
Kappa (κ)	9	1	6	4	3	8
Lambda (λ)	7	5	12	3	11	12
Mu (μ)	4	10	2	8	12	9

Wheel 3						
Letter	ν	ξ	ο	π	ρ	σ
Nu (ν)	12	5	10	1	5	3
Xi (ξ)	5	2	6	5	11	8
Omicron (ο)	10	6	8	3	12	2
Pi (π)	1	5	3	11	1	10
Rho (ρ)	5	11	12	1	4	9
Sigma (σ)	3	8	2	10	9	6

Wheel 4						
Letter	τ	υ	φ	χ	ψ	ω
Tau (τ)	9	4	1	10	6	2
Upsilon (υ)	4	3	7	4	12	8
Phi (φ)	1	7	8	11	9	3
Chi (χ)	10	4	11	1	10	6
Psi (ψ)	6	12	9	10	5	11
Omega (ω)	2	8	3	6	11	7

Target Orientation

- The target orientation of the four correct jewels is determined by the most abundant jewel.
- If there is more than one jewel in equally high abundance, take the last digit of the serial number and use that priority list to determine which of the most abundant jewels you should reference.

Target Orientation	Jewel Type
North	Glass
	Poudretteite
East	Amethyst
	Emerald
South	Onyx
	Sapphire
West	Ruby
	Scapolite

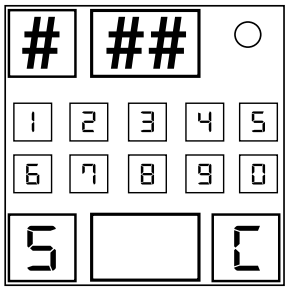
Priority Lists

- Priority order is read from left to right.

List #	Jewel Type							
1	Po	Ru	Sa	Em	On	Am	Sc	Gl
2	Am	On	Em	Sc	Sa	Po	Gl	Ru
3	On	Sa	Ru	Am	Sc	Gl	Em	Po
4	Em	Sc	Po	Sa	Gl	Ru	On	Am
5	Ru	Am	Sc	Gl	Em	Sa	Po	On
6	Sc	Em	Gl	Ru	Po	On	Am	Sa
7	Sa	Gl	On	Po	Am	Em	Ru	Sc
8	Gl	Po	Am	On	Ru	Sc	Sa	Em
9	On	Sc	Em	Sa	Po	Am	Ru	Gl
10	Po	Am	Ru	Gl	On	Sc	Em	Sa
11	Gl	Em	Am	On	Sa	Ru	Sc	Po
12	Sa	Ru	Sc	Po	Gl	Em	Am	On

- Am = Amethyst
- Em = Emerald
- Gl = Glass
- On = Onyx
- Po = Poudretteite
- Ru = Ruby
- Sa = Sapphire
- Sc = Scapolite

On the Subject of Modulo



For those wanting a crash course in the modulo operation, fill yer boots!

- The module shows two numbers and a keypad.
- Take the larger central number (n) modulo the smaller number in the corner (m).
- To perform the modulo operation, subtract m from n until n < m. Whatever you have left is the correct answer.
- Alternatively, divide n by m and take the remainder.
- Whichever method you prefer to use, once you have calculated the correct answer, enter it into the keypad and press the green submit button.
- To clear your answer, press the red clear button.
- Entering the correct answer will disarm the module. Entering an incorrect answer will cause a strike and reset both m and n.

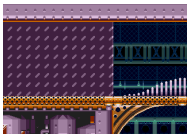
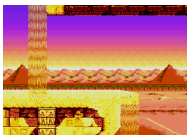
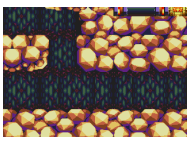
On the Subject of Sonic & Knuckles

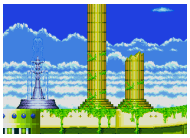
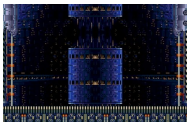
Sonic the Hedgehog was a popular 16-bit video game from... Wait a minute; this isn't Sonic the Hedgehog. Are SEGA on commission or something?

- The module will show the SEGA logo. Click it to start a game of Sonic & Knuckles.
- To disarm the module, defeat Dr. Robotnik.
- There are two stages to the module.
- At the first stage, one of six zones will be displayed (see the below table).
- Additionally, three objects will be interactable: a hero, a badnik and a monitor. Each of these objects will play a sound.
- To progress to the second stage, you must press the sound which is not featured on the chosen zone's sounds when the difference between the number of rings and the seconds timer on the module is a multiple of 20.
- Pressing an incorrect object at this time will cause a strike and reset the module.
- Pressing any object at any other time will play the sound and vanish the pressed object. The previously pressed object will return.

- At the second stage, you must hit Dr. Robotnik a specific number of times.
- To calculate the correct number of hits, use the following steps:
  - Take the base code (see the below table) of the object you pressed.
  - Multiply it by the score.
  - Find the digital root.
  - Add the base codes of the objects you didn't press.
  - Modulo 10 and add 1.
- Perform all but the final hit on an even-numbered second.
- Perform the final hit on an odd-numbered second.
- If the hero was Knuckles and/or the badnik was a ghost and/or the monitor was running boots, inverse the hits (odd to even; even to odd).
- Hitting Dr. Robotnik at the wrong time will cause a strike and reset the module to the first stage.
- Once you have successfully defeated Dr. Robotnik, the module will disarm.

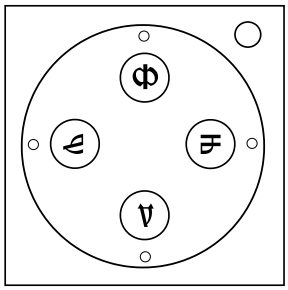
- Due to the 16-bit era, you only have 9.59 to complete the module. Failing to complete the module within this time will cause a strike and reset the module. This will also cause a "Time Over" and reset the timer.
- Every time you incur a strike on this module, you will lose a life. Losing three lives will cause a "Game Over", which will lock out the module for 30 seconds before resetting to the SEGA logo.
- Losing a life other than through a "Time Over" will revert the timer to a lower count than it was previously. The latest the timer will start after losing a life is 3.30.

Zone/Image	Featured Sounds	Description
 Mushroom Hill	Blue Sphere	0.25s: Two wobbly sounding notes, the first one higher than the second.
	Invincibility Theme	2.6s: Fast snare hits followed by catchy melody.
	Jump	0.5s: A short, upward-sliding note.
	Lightning Shield	0.7s: Two short and spiky, electric sounding notes.
 Flying Battery	Boss Theme	3.3s: Nine short notes followed by two long ones. Intense and dramatic.
	Flag Bump	2.4s: Like twinkling stars gradually decreasing in pitch and volume.
	Not Enough Rings	0.9s: Two abrupt buzzing notes, the second one longer. Like a "wrong answer" buzzer.
	Special Stage	1.5s: A rapidly tremolo-ing, shimmery sound. Dissipates immediately.
 Sandopolis	Antigrav Funnel	3.2s: Fourteen identical pulses. Like a wave monitor.
	Flying Battery	3.2s: Like a large steamer coming into port.
	Mushroom Bounce	0.9s: Like bouncing off a giant jelly. Rises in pitch.
	Teleport	1.1s: A piercing, high pitched sound. Shimmers and echoes.
 Lava Reef	Badnik Kill	0.4s: Like a tiny explosion.
	Breathe	0.4s: Two short high-pitched squawking sounds.
	Lamppost	0.5s: Two distinct tones; like a futuristic doorbell.
	Spikes	0.8s: A tinny, high-pitched sound that slides even higher.

Zone/Image	Featured Sounds	Description
 Sky Sanctuary	Alarm	2.4s: It's an alarm.
	Bridge Up	0.8s: Like a slightly mechanical chain, rising slightly in pitch.
	Flying Battery Zone Theme	4.4s: A long start note followed by a funky riff and a super cool bassline.
	Regular Shield	0.7s: A single twanging sound.
 Death Egg	Bumper	0.6s: A single metallic ringing sound; like a dull bell.
	Drown Warning	0.8s: Two ringing bell-like notes, identical in pitch. The first is shorter.
	Ring Cash-in	1.7s: The sound of an old-style shop till.
	Spin	1.2s: Like a dentist's drill attacking a filling.

Heroes			Badniks			Monitors		
Name	Image	Base Code	Name	Image	Base Code	Name	Image	Base Code
Sonic the Hedgehog		17	Butter-droid		6	Running Boots		7
Miles "Tails" Prower		4	Cluckoid		14	Fire Shield		13
Knuckles the Echidna		12	Ghost		16	Invin-cibility		2
			Spike Bonker		8	Knuckles Extra Life		9
			Techno-squeak		3	Lightning Shield		11

On the Subject of Spinning Buttons

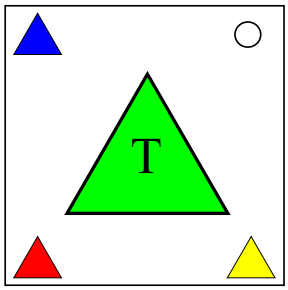


You spin me right round baby, right round!

- The module shows four spinning coloured buttons on a spinning turntable.
- To disarm the module press all four buttons in the correct order in accordance with the rules below.
- Each button will contain one of six Cyrillic characters and be one of six colours.
- The combined character and colour gives each button a value as defined in the table below.
- Find the value of each button and then press them in ascending order.
- If two or more buttons have the same value, their order is interchangeable.
- Pressing an incorrect button will reset the buttons and cause a strike.

Button Colour	Button Character					
	Ф	**Л**	**Љ**	**Њ**	**Й**	**Д**
Red	0	1	2	3	4	5
Purple	1	2	3	4	5	6
Orange	2	3	4	5	6	7
Grey	3	4	5	6	7	8
Green	4	5	6	7	8	9
Blue	5	6	7	8	9	10

On the Subject of The Triangle



Continuing with the shape theme, now in just two dimensions...

- The module shows a rotating and three smaller triangle buttons, all set against a piece of triangular art.
- Use the below tables to calculate the correct colour triangle to press.
- After clicking a triangle, all variables will reset.
- Click all four triangles to disarm the module.
- You may have to press some triangles more than once.
- Clicking an incorrect triangle will cause a strike.

"Picasso"

"Cool"

"Concentric"

CW = clockwise. CC = counterclockwise.

Rotation Direction	CW	CW	CW	CW
Artwork	Picasso	Picasso	Picasso	Picasso
Letter	T	R	N	G
Correct Triangle Colour	Green	Red	Blue	Yellow

Rotation Direction	CW	CW	CW	CW
Artwork	Cool	Cool	Cool	Cool
Letter	T	R	N	G
Correct Triangle Colour	Red	Yellow	Blue	Green

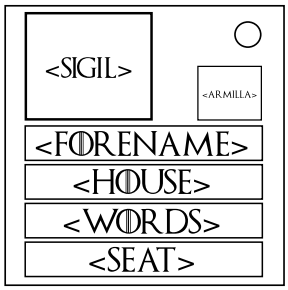
Rotation Direction	CW	CW	CW	CW
Artwork	Concentric	Concentric	Concentric	Concentric
Letter	T	R	N	G
Correct Triangle Colour	Blue	Green	Red	Yellow

Rotation Direction	CC	CC	CC	CC
Artwork	Picasso	Picasso	Picasso	Picasso
Letter	T	R	N	G
Correct Triangle Colour	Yellow	Blue	Green	Red

Rotation Direction	CC	CC	CC	CC
Artwork	Cool	Cool	Cool	Cool
Letter	T	R	N	G
Correct Triangle Colour	Green	Red	Yellow	Blue

Rotation Direction	CC	CC	CC	CC
Artwork	Concentric	Concentric	Concentric	Concentric
Letter	T	R	N	G
Correct Triangle Colour	Red	Blue	Yellow	Green

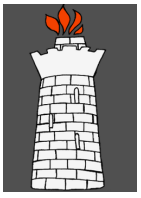
On the Subject of Westeros



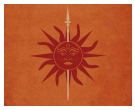
An explosion is coming...

- The module shows four cyclable text displays, a cyclable sigil display and an armilla submit button.
- Set the displays so that they show the sigil, forename, house name, words and ancestral seat of the same Westerosi house. Cycle the displays by clicking them.
- Press the armilla button when they are set correctly to disarm the module.
- Pressing the armilla button with incorrect information will cause a strike and reset the module.

The Great Houses of Westeros

House Name	Sigil	Words	Ancestral Seat	Notable Family Members
Arryn		As High as Honour	The Eyrie	Jon, Robin, Elbert, Rowena, Jasper
Baratheon		Ours is the Fury	Storm's End	Robert, Stannis, Renly, Joffrey, Shireen
Bolton		Our Blades are Sharp	The Dreadfort	Roose, Ramsay, Domeric, Bethany, Belthasar
Cerwyn		Honed and Ready	Castle Cerwyn	Medger, Jonelle, Cley, Robard, Vivian
Frey		We Stand Together	The Twins	Walder, Roslin, Walda, Lothar, Olyvar
Greyjoy		We Do Not Sow	Pyke	Theon, Victarion, Euron, Balon, Aeron
Hightower		We Light the Way	Hightower	Gerold, Leyton, Lynesse, Garth, Baelor
Hornwood		Righteous in Wrath	Hornwood	Halys, Berena, Daryn, Hallis, Donella

The Great Houses of Westeros (cont.)

House Name	Sigil	Words	Ancestral Seat	Notable Family Members
Karstark		The Sun of Winter	Karhold	Rickard, Harrion, Torrhen, Alys, Arnolf
Lannister		Hear Me Roar	Casterly Rock	Tyrion, Cersei, Jaime, Tywin, Kevan
Marbrand		Burning Bright	Ashemark	Damon, Addam, Darlessa, Lorent, Denys
Martell		Unbowed, Unbent, Unbroken	Sunspear	Oberyn, Doran, Arianne, Trystane, Elia
Mormont		Here We Stand	Bear Island	Jorah, Jeor, Lyanna, Maege, Alysane
Penrose		Set Down Our Deeds	Parchments	Lucinda, Ronnel, Laena, Jocelyn, Joy
Royce		We Remember	Runestone	Yohn, Andar, Robar, Waymar, Ysilla
Stark		Winter is Coming	Winterfell	Eddard, Arya, Robb, Brandon, Benjen
Targaryen		Fire and Blood	Dragonstone	Daenerys, Viserys, Rhaegar, Aerys, Aemon
Tarly		First in Battle	Horn Hill	Randyll, Samwell, Dickon, Talla, Sansara
Tully		Family, Duty, Honour	Riverrun	Hoster, Edmure, Lysa, Catelyn, Brynden
Tyrell		Growing Strong	Highgarden	Olenna, Loras, Mace, Luthor, Margaery

BOMB DEFUSAL MANUAL

Modified Vanilla Rules

Rules are based on Seed #: 6502

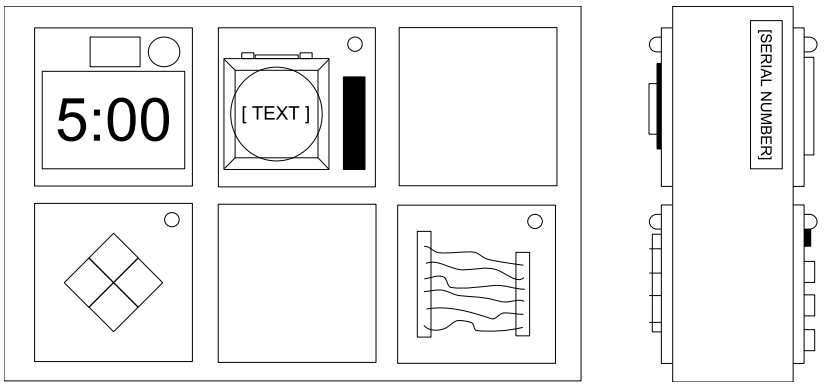
Welcome to the dangerous and challenging world of bomb defusing.

Study this manual carefully; you are the expert. In these pages you will find everything you need to know to defuse even the most insidious of bombs. And remember — One small oversight and it could all be over!

Defusing Bombs

A bomb will explode when its countdown timer reaches 0:00 or when too many strikes have been recorded. The only way to defuse a bomb is to disarm all of its modules before its countdown timer expires.

Example Bomb



Front Side

Modules

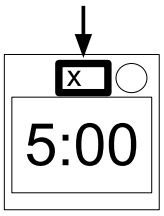
Each bomb will include up to 11 modules that must be disarmed. Each module is discrete and can be disarmed in any order.

Instructions for disarming modules can be found in Section 1. "Needy" modules present a special case and are described in Section 2.

Strikes

When the Defuser makes a mistake the bomb will record a strike which will be displayed on the indicator above the countdown timer. Bombs with a strike indicator will explode upon the third strike. The timer will begin to count down faster after a strike has been recorded.

Strike Indicator

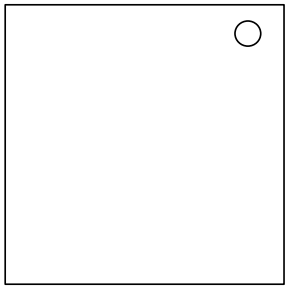


If no strike indicator is present above the countdown timer, the bomb will explode upon the first strike, leaving no room for error.

Gathering Information

Some disarming instructions will require specific information about the bomb, such as the serial number. This type of information can typically be found on the top, bottom, or sides of the bomb casing. See Appendix A, B, and C for identification instructions that will be useful in disarming certain modules.

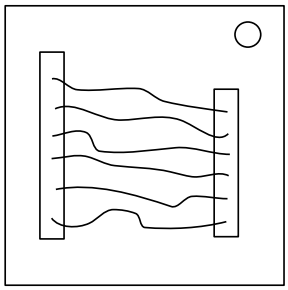
Section 1: Modules



Modules can be identified by an LED in the top right corner.
When this LED is lit green the module has been disarmed.

All modules must be disarmed to defuse the bomb.

On the Subject of Wires



Wires are the lifeblood of electronics! Wait, no, electricity is the lifeblood. Wires are more like the arteries. The veins? No matter...

- A wire module can have 3-6 wires on it.
- Only the <u>one</u> correct wire needs to be cut to disarm the module.
- Wire ordering begins with the first on the top.

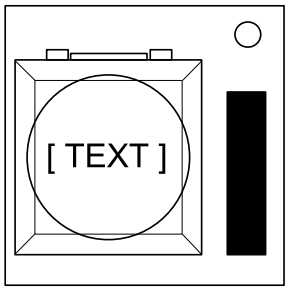
<u>3 wires:</u>
If there is exactly one red wire and there are no white wires, cut the red wire.
Otherwise, If the last wire is black, cut the last wire.
Otherwise, If there is more than one black wire, cut the last black wire.
Otherwise, cut the first wire.

<u>4 wires:</u>
If the last wire is black and there is an empty port plate present on the bomb, cut the third wire.
Otherwise, If there are no white wires and there is a RJ-45 port present on the bomb, cut the last wire.
Otherwise, If there is more than one blue wire, cut the last blue wire.
Otherwise, cut the second wire.

<u>5 wires:</u>
If there are no black wires and there is a serial port present on the bomb, cut the second wire.
Otherwise, If there is more than one white wire and there is a DVI-D port present on the bomb, cut the first wire.
Otherwise, If the last wire is black, cut the second wire.
Otherwise, If there is exactly one blue wire, cut the blue wire.
Otherwise, cut the third wire.

<u>6 wires:</u>
If there is exactly one black wire, cut the fifth wire.
Otherwise, If the last wire is yellow, cut the last wire.
Otherwise, If there is more than one black wire, cut the first black wire.
Otherwise, If there are no white wires, cut the third wire.
Otherwise, cut the last wire.

On the Subject of The Button



You might think that a button telling you to press it is pretty straightforward. That's the kind of thinking that gets people exploded.

See Appendix A for indicator identification reference.
See Appendix B for battery identification reference.
See Appendix C for port identification reference.

Follow these rules in the order they are listed. Perform the first action that applies:

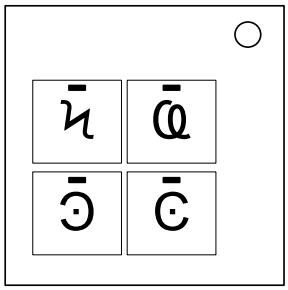
1. If the button is yellow and the button says "Detonate", hold the button and refer to "Releasing a Held Button".
2. If there is a parallel port present on the bomb, press and immediately release the button.
3. If the button is blue and there is a lit indicator with label IND, hold the button and refer to "Releasing a Held Button".
4. If the button is white and there is a lit indicator with label SIG, press and immediately release when the two seconds digits on the timer match..
5. If there is an empty port plate present on the bomb and the button says "Hold", press and immediately release when the two seconds digits on the timer match..
6. If there is a RJ-45 port present on the bomb and the serial number starts with a letter, press and immediately release the button.
7. If none of the above apply, hold the button and refer to "Releasing a Held Button".

Releasing a Held Button

If you start holding the button down, a colored strip will light up on the right side of the module. Based on its color you must release the button at a specific point in time:

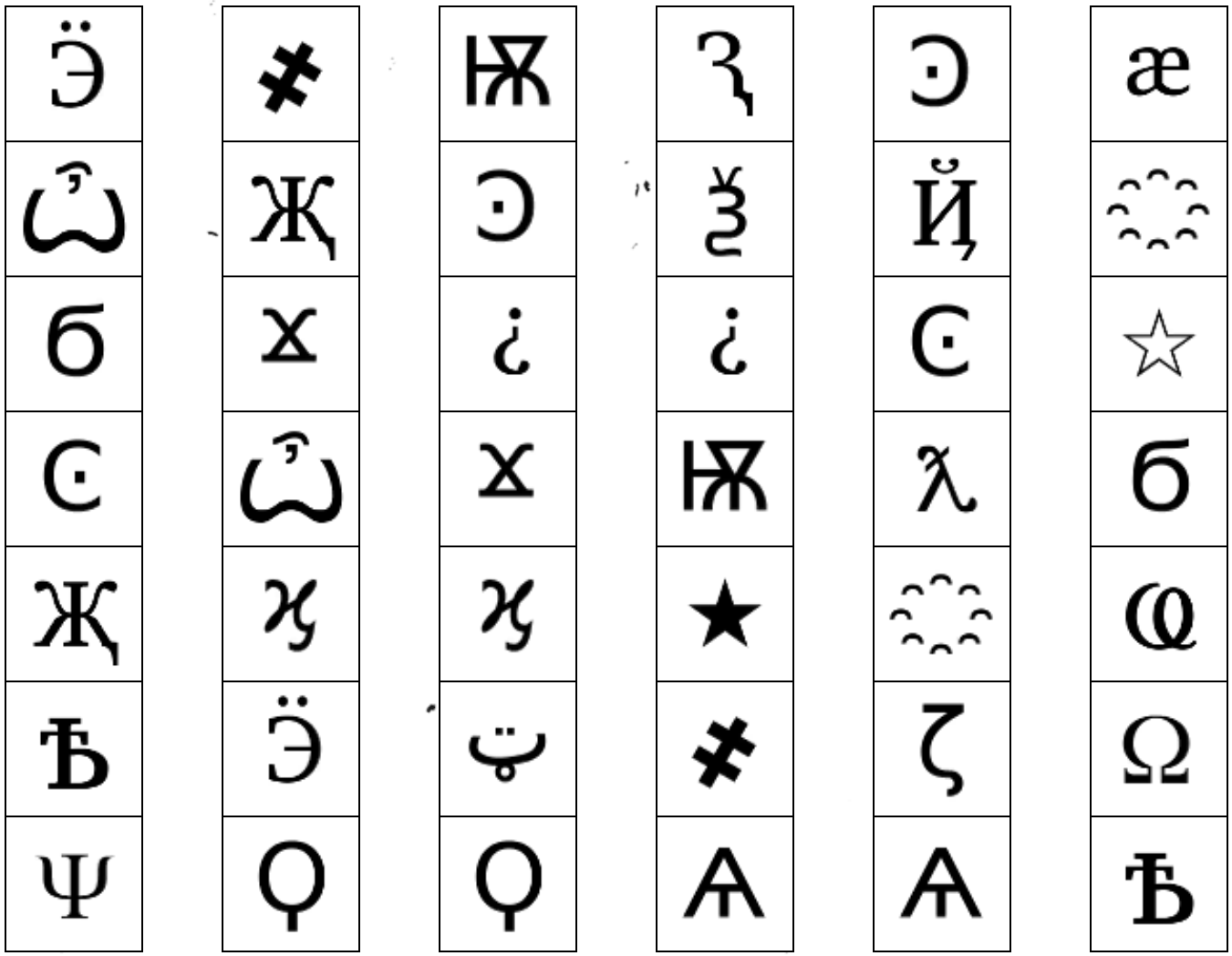
- Yellow strip: release when right most seconds digit is 9.
- Red strip: release when right most seconds digit is 6.
- Blue strip: release when right most seconds digit is 8.
- Any other color strip: release when the countdown timer has a 3 in any position.

On the Subject of Keypads

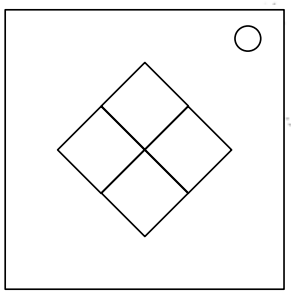


I'm not sure what these symbols are, but I suspect they have something to do with occult.

- Only one column below has all four of the symbols from the keypad.
- Press the four buttons in the order their symbols appear from top to bottom within that column.

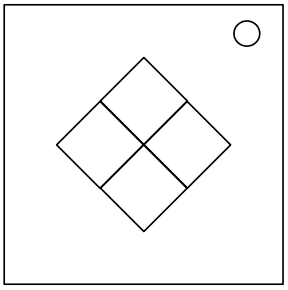


On the Subject of Simon Says



This is like one of those toys you played with as a kid where you have to match the pattern that appears, except this one is a knockoff that was probably purchased at a dollar store.

1. One of the four colored buttons will flash.
2. Using the correct table below, press the button with the corresponding color.
3. The original button will flash, followed by another. Repeat this sequence in order using the color mapping.
4. The sequence will lengthen by one each time you correctly enter a sequence until the module is disarmed.



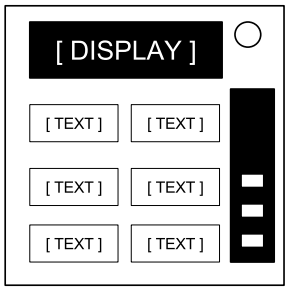
If the serial number contains a vowel:

		Red Flash	Blue Flash	Green Flash	Yellow Flash
Button to press:	**No Strikes**	Blue	Blue	Green	Red
	1 Strike	Yellow	Green	Red	Green
	2+ Strikes	Blue	Green	Yellow	Red

If the serial number does <u>not</u> contain a vowel:

		Red Flash	Blue Flash	Green Flash	Yellow Flash
Button to press:	**No Strikes**	Blue	Red	Yellow	Blue
	1 Strike	Blue	Blue	Yellow	Blue
	2+ Strikes	Yellow	Yellow	Yellow	Red

On the Subject of Who's on First

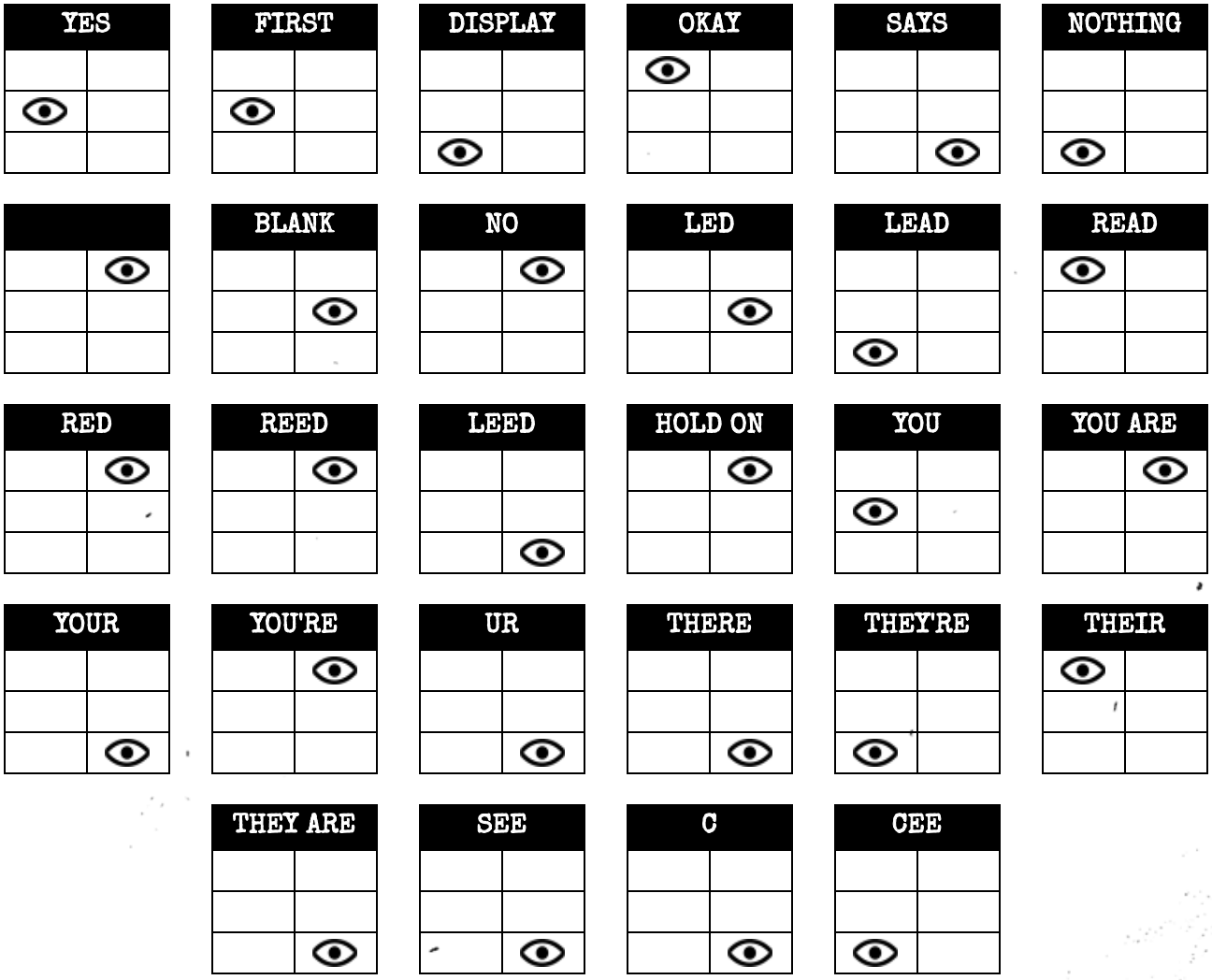


This contraption is like something out of a sketch comedy routine, which might be funny if it wasn't connected to a bomb. I'll keep this brief, as words only complicate matters.

1. Read the display and use step 1 to determine which button label to read.
2. Using this button label, use step 2 determine which button to push.
3. Repeat until the module has been disarmed.

Step 1:

Based on the display, read the label of a particular button and proceed to step 2:

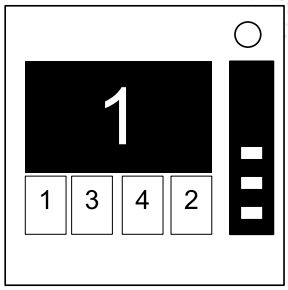


Step 2:

Using the label from step 1, push the first button that appears in its corresponding list:

READY	NOTHING, UHHH, READY, PRESS, BLANK, RIGHT, OKAY, YES, FIRST, WHAT, NO, WAIT, LEFT, MIDDLE
FIRST	LEFT, READY, PRESS, YES, WHAT, MIDDLE, WAIT, NO, FIRST, NOTHING, OKAY, UHHH, RIGHT, BLANK
NO	NO, OKAY, WAIT, LEFT, READY, YES, RIGHT, BLANK, UHHH, NOTHING, WHAT, MIDDLE, PRESS, FIRST
BLANK	LEFT, BLANK, PRESS, YES, WAIT, FIRST, MIDDLE, NOTHING, OKAY, READY, NO, WHAT, UHHH, RIGHT
NOTHING	YES, OKAY, LEFT, WHAT, PRESS, UHHH, WAIT, NO, MIDDLE, FIRST, RIGHT, NOTHING, BLANK, READY
YES	MIDDLE, YES, PRESS, LEFT, OKAY, NOTHING, UHHH, BLANK, NO, FIRST, WHAT, RIGHT, WAIT, READY
WHAT	LEFT, YES, OKAY, WHAT, NOTHING, WAIT, RIGHT, FIRST, PRESS, UHHH, MIDDLE, NO, READY, BLANK
UHHH	LEFT, NOTHING, UHHH, NO, RIGHT, WHAT, YES, MIDDLE, PRESS, OKAY, BLANK, FIRST, WAIT, READY
LEFT	YES, NOTHING, READY, LEFT, WHAT, PRESS, NO, MIDDLE, RIGHT, OKAY, UHHH, WAIT, FIRST, BLANK
RIGHT	YES, READY, WAIT, FIRST, NO, UHHH, WHAT, PRESS, LEFT, NOTHING, MIDDLE, OKAY, BLANK, RIGHT
MIDDLE	WAIT, OKAY, BLANK, YES, NOTHING, READY, RIGHT, NO, PRESS, MIDDLE, FIRST, WHAT, LEFT, UHHH
OKAY	WHAT, PRESS, LEFT, NO, READY, BLANK, WAIT, YES, MIDDLE, NOTHING, FIRST, RIGHT, OKAY, UHHH
WAIT	MIDDLE, WHAT, YES, WAIT, NO, PRESS, FIRST, NOTHING, UHHH, LEFT, BLANK, RIGHT, OKAY, READY
PRESS	NOTHING, LEFT, PRESS, OKAY, READY, FIRST, UHHH, BLANK, WAIT, MIDDLE, YES, RIGHT, NO, WHAT
YOU	HOLD, UH HUH, U, YOUR, NEXT, SURE, WHAT?, LIKE, YOU'RE, YOU, UH UH, UR, YOU ARE, DONE
YOU ARE	LIKE, YOU ARE, UH UH, DONE, HOLD, U, WHAT?, UH HUH, SURE, UR, YOUR, YOU, NEXT, YOU'RE
YOUR	YOU, U, YOU'RE, SURE, HOLD, NEXT, LIKE, YOU ARE, YOUR, WHAT?, UH UH, UH HUH, DONE, UR
YOU'RE	NEXT, U, UH HUH, UH UH, YOUR, YOU, DONE, LIKE, UR, YOU'RE, SURE, YOU ARE, HOLD, WHAT?
UR	YOUR, U, YOU ARE, YOU'RE, SURE, UH UH, DONE, LIKE, UH HUH, YOU, UR, WHAT?, HOLD, NEXT
U	YOU ARE, DONE, UH HUH, HOLD, SURE, NEXT, UH UH, YOU, UR, YOUR, LIKE, YOU'RE, U, WHAT?
UH HUH	YOU, HOLD, YOU'RE, YOU ARE, LIKE, DONE, WHAT?, UH UH, UR, YOUR, SURE, NEXT, UH HUH, U
UH UH	DONE, U, LIKE, YOU ARE, YOUR, HOLD, UH UH, YOU'RE, NEXT, WHAT?, SURE, UH HUH, YOU, UR
WHAT?	UH HUH, WHAT?, HOLD, U, SURE, YOUR, LIKE, UH UH, YOU, DONE, YOU'RE, YOU ARE, UR, NEXT
DONE	UR, YOUR, LIKE, WHAT?, UH UH, DONE, NEXT, YOU ARE, SURE, YOU, HOLD, U, UH HUH, YOU'RE
NEXT	UR, WHAT?, YOU, UH UH, UH HUH, DONE, YOUR, HOLD, SURE, U, YOU'RE, YOU ARE, LIKE, NEXT
HOLD	NEXT, LIKE, UR, DONE, YOUR, HOLD, YOU'RE, YOU, UH UH, WHAT?, UH HUH, U, YOU ARE, SURE
SURE	YOU, NEXT, DONE, YOUR, U, SURE, WHAT?, LIKE, UH UH, YOU ARE, HOLD, UR, UH HUH, YOU'RE
LIKE	HOLD, DONE, YOUR, YOU, LIKE, UH HUH, UH UH, UR, WHAT?, SURE, U, YOU'RE, NEXT, YOU ARE

On the Subject of Memory



Memory is a fragile thing but so is everything else when a bomb goes off, so pay attention!

- Press the correct button to progress the module to the next stage. Complete all stages to disarm the module.
- Pressing an incorrect button will reset the module back to stage 1.
- Button positions are ordered from left to right.

Stage 1:

If the display is 1, press the button in the third position.
If the display is 2, press the button in the first position.
If the display is 3, press the button labeled "4".
If the display is 4, press the button in the fourth position.

Stage 2:

If the display is 1, press the button in the same position as you pressed in stage 1.
If the display is 2, press the button in the first position.
If the display is 3, press the button in the second position.
If the display is 4, press the button in the third position.

Stage 3:

If the display is 1, press the button with the same label you pressed in stage 1.
If the display is 2, press the button with the same label you pressed in stage 2.
If the display is 3, press the button labeled "4".
If the display is 4, press the button in the fourth position.

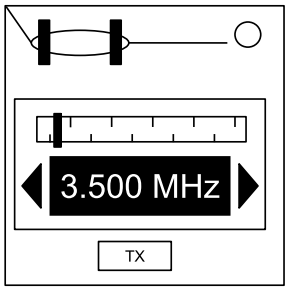
Stage 4:

If the display is 1, press the button in the same position as you pressed in stage 2.
If the display is 2, press the button in the same position as you pressed in stage 2.
If the display is 3, press the button in the same position as you pressed in stage 1.
If the display is 4, press the button in the same position as you pressed in stage 2.

Stage 5:

If the display is 1, press the button with the same label you pressed in stage 2.
If the display is 2, press the button with the same label you pressed in stage 3.
If the display is 3, press the button with the same label you pressed in stage 2.
If the display is 4, press the button with the same label you pressed in stage 4.

On the Subject of Morse Code

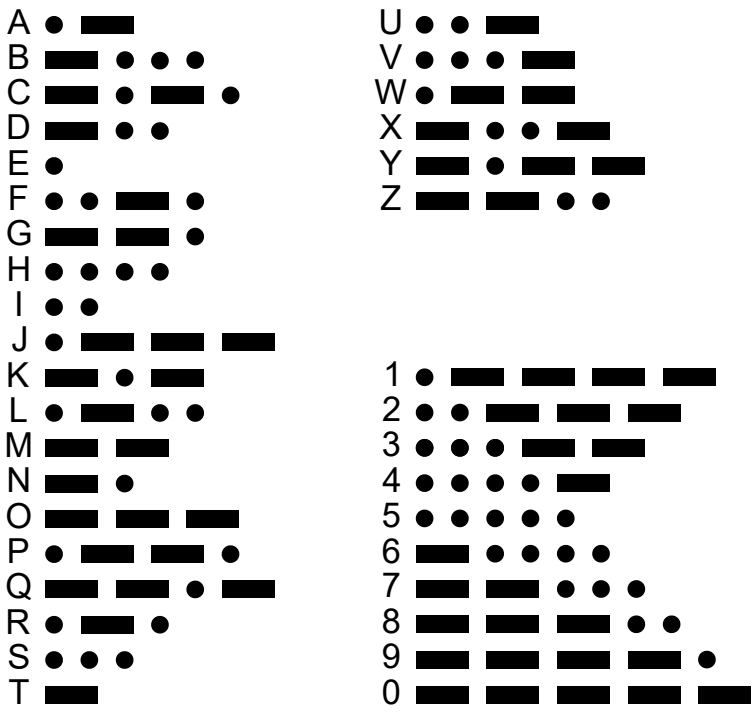


An antiquated form of naval communication? What next? At least it's genuine Morse Code, so pay attention and you might just learn something.

- Interpret the signal from the flashing light using the Morse Code chart to spell one of the words in the table.
- The signal will loop, with a long gap between repetitions.
- Once the word is identified, set the corresponding frequency and press the transmit (TX) button.

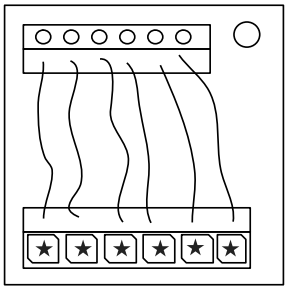
How to Interpret

1. A short flash represents a dot.
2. A long flash represents a dash.
3. There is a long gap between letters.
4. There is a very long gap before the word repeats.



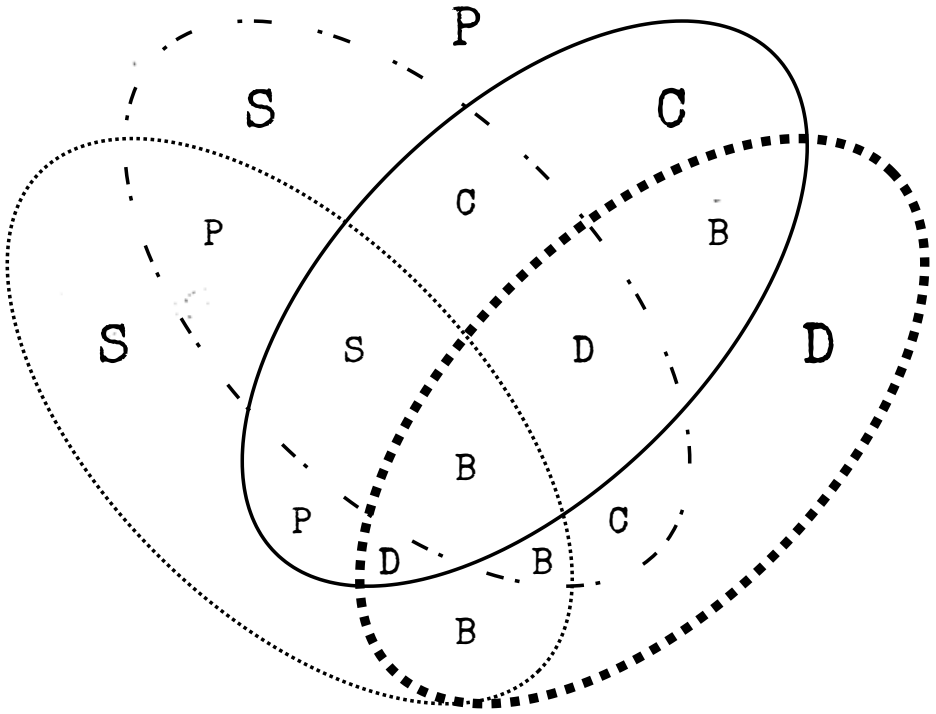
If the word is:	Respond at frequency:
saving	3.502 MHz
rails	3.505 MHz
faster	3.512 MHz
gazing	3.515 MHz
after	3.525 MHz
march	3.532 MHz
marsh	3.535 MHz
hardy	3.542 MHz
altar	3.545 MHz
varied	3.555 MHz
leave	3.562 MHz
raids	3.565 MHz
varies	3.575 MHz
laying	3.582 MHz
alter	3.585 MHz
parent	3.595 MHz

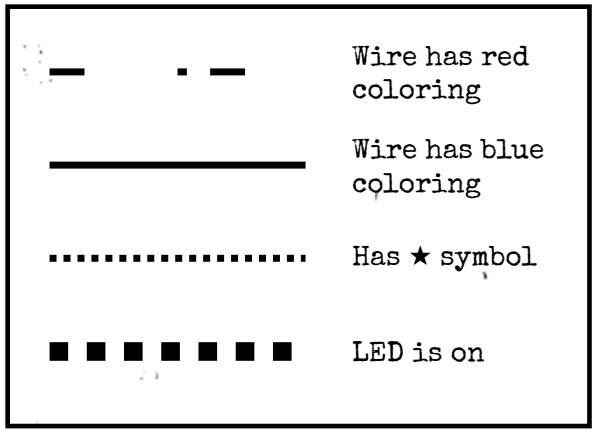
On the Subject of Complicated Wires



These wires aren't like the others. Some have stripes! That makes them completely different. The good news is that we've found a concise set of instructions on what to do about it! Maybe too concise...

- Look at each wire: there is an LED above the wire and a space for a "★" symbol below the wire.
- For **each** wire/LED/symbol combination, use the Venn diagram below to decide whether or not to cut the wire.
- Each wire may be striped with multiple colors.

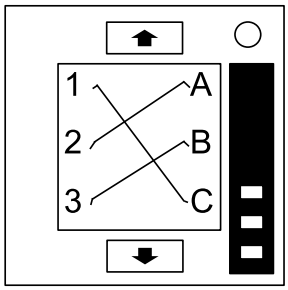




Letter	Instruction
C	Cut the wire
D	Do not cut the wire
S	Cut the wire if the last digit of the serial number is even
P	Cut the wire if the bomb has a parallel port
B	Cut the wire if the bomb has two or more batteries

See Appendix B for battery identification reference.
See Appendix C for port identification reference.

On the Subject of Wire Sequences



It's hard to say how this mechanism works. The engineering is pretty impressive, but there must have been an easier way to manage nine wires.

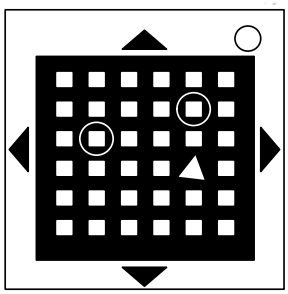
- Within this module there are several panels with wires on them, but only one panel is visible at a time. Switch to the next panel by using the down button and the previous panel by using the up button.
- Do not switch to the next panel until you are sure that you have cut all necessary wires on the current panel.
- Cut the wires as directed by the following table. Wire occurrences are cumulative over all panels within the module.

Red Wire Occurrences	
Wire Occurrence	**Cut if connected to:**
First red occurrence	C
Second red occurrence	B or C
Third red occurrence	Never Cut
Fourth red occurrence	A or B
Fifth red occurrence	C
Sixth red occurrence	Never Cut
Seventh red occurrence	A or C
Eighth red occurrence	A or B
Ninth red occurrence	A, B or C

Blue Wire Occurrences	
Wire Occurrence	**Cut if connected to:**
First blue occurrence	A, B or C
Second blue occurrence	A or C
Third blue occurrence	B
Fourth blue occurrence	B or C
Fifth blue occurrence	B
Sixth blue occurrence	A, B or C
Seventh blue occurrence	Never Cut
Eighth blue occurrence	A or C
Ninth blue occurrence	A or B

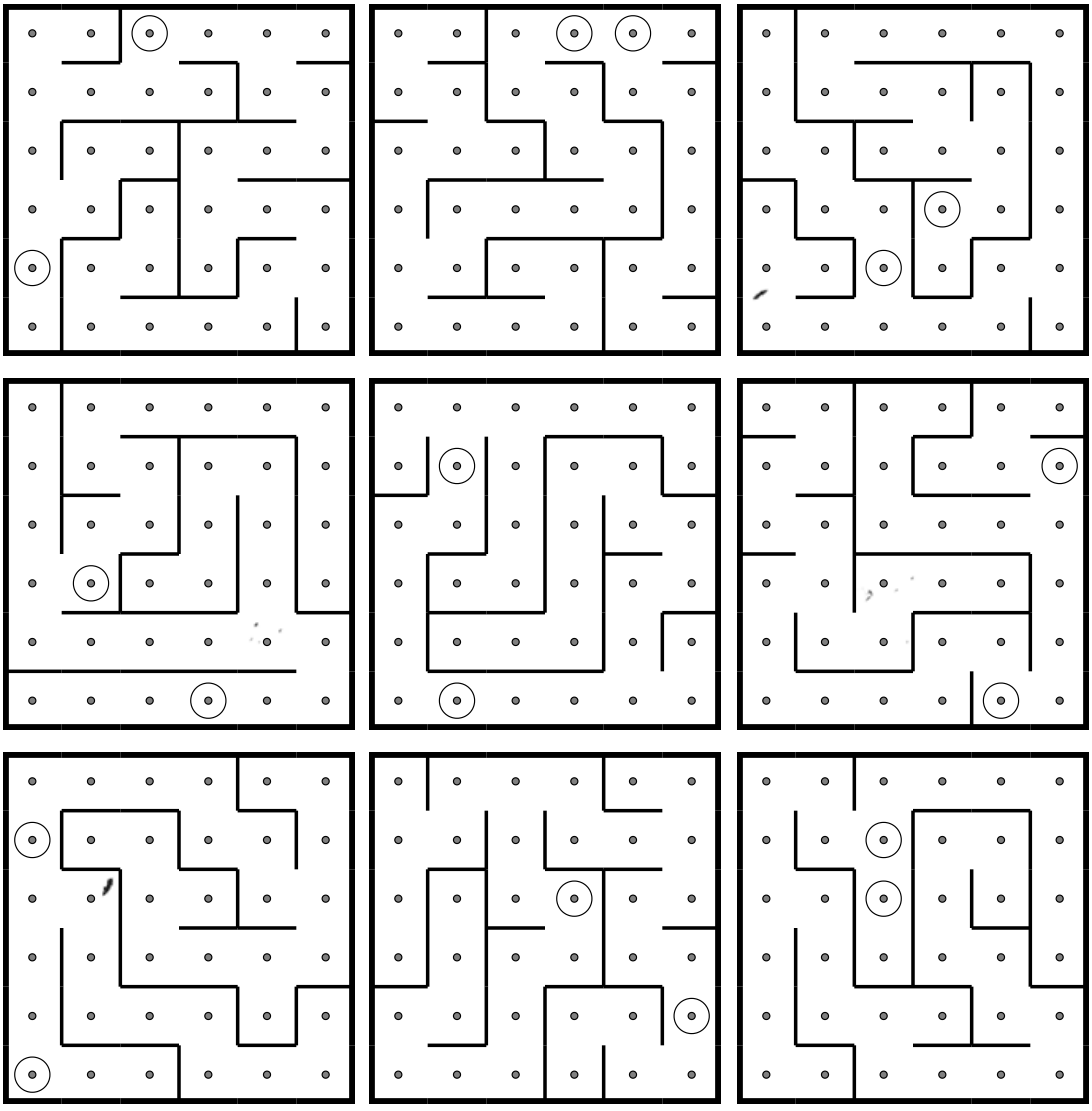
Black Wire Occurrences	
Wire Occurrence	**Cut if connected to:**
First black occurrence	C
Second black occurrence	A or C
Third black occurrence	B or C
Fourth black occurrence	B or C
Fifth black occurrence	B
Sixth black occurrence	Never Cut
Seventh black occurrence	A
Eighth black occurrence	B
Ninth black occurrence	B

On the Subject of Mazes

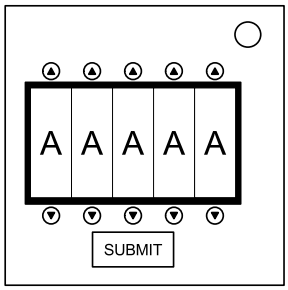


This seems to be some kind of maze, probably stolen off of a restaurant placemat.

- Find the maze with matching circular markings.
- The defuser must navigate the white light to the red triangle using the arrow buttons.
- **Warning:** Do not cross the lines shown in the maze. These lines are invisible on the bomb.



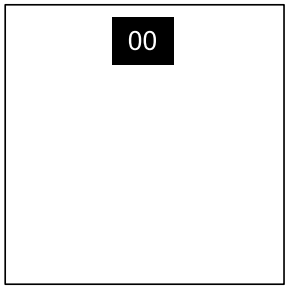
On the Subject of Passwords



Fortunately this password doesn't seem to meet standard government security requirements: 22 characters, mixed case, numbers in random order without any palindromes above length 3.

- The buttons above and below each letter will cycle through the possibilities for that position.
- Only one combination of the available letters will match a password below.
- Press the submit button once the correct word has been set.

bacon	baron	basic	bonds	books
boots	chief	fists	forth	hooks
looks	loops	loses	lover	loves
menus	mines	minus	mouse	myths
naval	novel	panic	patio	pools
press	riots	rooms	roots	roses
socks	taxes	toons	vocal	vowel



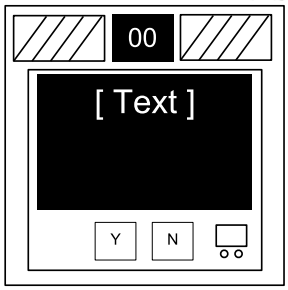
Section 2: Needy Modules

Needy modules cannot be disarmed, but pose a recurrent hazard.

Needy modules can be identified as a module with a small 2-digit timer in the top center. Interacting with the bomb may cause them to become activated. Once activated, these needy modules must be tended to regularly before their timer expires in order to prevent a strike.

Stay observant: needy modules may reactivate at any time.

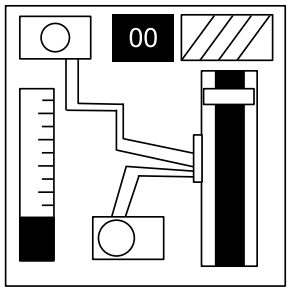
On the Subject of Venting Gas



Computer hacking is hard work! Well, it usually is. This job could probably be performed by a simple drinking bird pressing the same key over and over again.

- Respond to the computer prompts by pressing "Y" for "Yes" or "N" for "No".

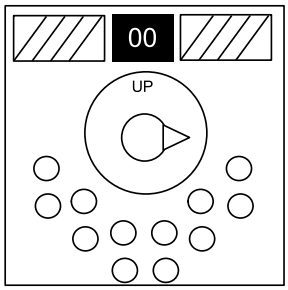
On the Subject of Capacitor Discharge



I'm going to guess that this is just meant to occupy your attention, because otherwise this is some shoddy electronics work.

- Discharge the capacitor before it overloads by holding down the lever.

On the Subject of Knobs



Needlessly complicated and endlessly needy. Imagine if such expertise were used to make something other than diabolical puzzles.

- The knob can be turned to one of four different positions.
- The knob must be in the correct position when this module's timer hits zero.
- The correct position can be determined by the on/off configuration of the twelve LEDs.
- Knob positions are relative to the "UP" label, which may be rotated.

LED Configurations

Up Position:

X			X		
X	X	X	X	X	X

				X	X
	X	X		X	

Down Position:

X			X		X
X					

X			X		
		X	X		X

Left Position:

	X				X
X	X	X	X		

					X
	X	X		X	

Right Position:

X			X		X
		X		X	X

	X			X	
X	X	X	X		

X = Lit LED

Appendix A: Indicator Identification Reference

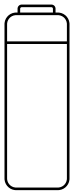
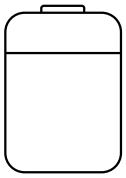
Labelled indicator lights can be found on the sides of the bomb casing.

Common Indicators

- SND
- CLR
- CAR
- IND
- FRQ
- SIG
- NSA
- MSA
- TRN
- BOB
- FRK

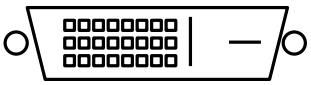
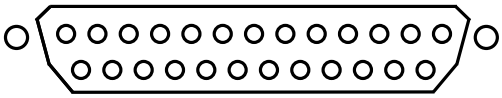
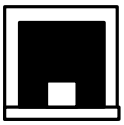
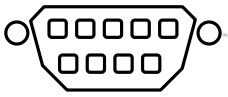
Appendix B: Battery Identification Reference

Common battery types can be found within enclosures on the sides of the bomb casing.

Battery	Type
	AA
	D

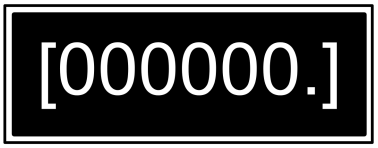
Appendix C: Port Identification Reference

Digital and analog ports can be found on sides of the bomb casing.

Port	Name
	DVI-D
	Parallel
	PS/2
	RJ-45
	Serial
	Stereo RCA

Appendix Two Factor: Two Factor Identification Reference

Digital displays can be found on sides of the bomb casing showing a serial number.



The display shows up to a six digit number for two factor authentication. The number rotates every 60 seconds for security. When the serial number changes, three audio tones will sound.