

Instruction Manual

STRATOGEM[®] DELUXE



ATARI VOX
ENHANCED

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John Payson



AtariAge

For
Dawn Elizabeth Payson
1971-1999

SpeakJet driver courtesy Albert Herbert

Note: Always turn the console power switch off when inserting or removing a game cartridge, AtariVox, or MemCard device. This game uses a joystick plugged into the left controller port. If an AtariVox or MemCard is available, it should be plugged into the right controller port before powering on the console.

Use your Joystick Controllers to play this game. Make sure to plug the controller firmly into the left controller jack. Hold the controller so the red button is in the upper left corner.



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◆◆◆ Object of the Game ◆◆◆

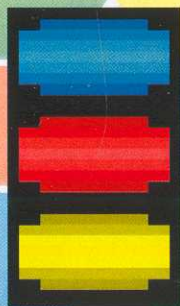
In Strat-O-Gems Deluxe, colored gems fall from the top of the screen in groups of three. Any time three or more adjacent gems of the same color line up vertically, horizontally, or diagonally they will disappear; any gems above them will fall down. If these create new groups of three or more gems, those too will disappear, leading to chain reactions.

Your job is to score as many reactions and chain reactions as possible before the gems reach the foul line. If any gems remain over the foul line after all reactions are complete, the game will end.

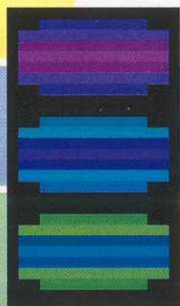
There are eight types of gems. The first six appear as stable colors: red, yellow, green, cyan, blue, or magenta. As mentioned, getting three or more of these in a row of matching color will make them disappear.

The next type of gem is the wild gem. These appear in threesomes and flash colors. Wild gems behave as a "wildcard" and can complete threesomes in any direction. Note that the three wild gems in a row vertically will always complete a threesome with each other, so wild gems will not remain on the screen after they are dropped.

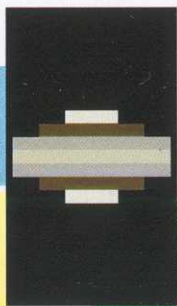
The last type of gem is a "bombergem." One of these will appear after every 63rd group of gems to mark the completion of a level. If a bomber gem hits another gem, all gems of that color will disappear. If it hits the bottom of the screen, the bottom row will be replaced with wild gems, possibly causing a chain reaction with other gems and awarding a special bonus.



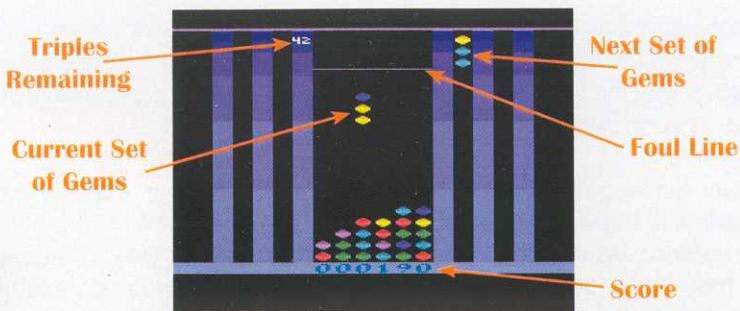
Stable Gem



Wild Gem



Bombergem



The maximum level number is 16; after every 63rd triple, a bombergem will appear (as on all other levels), but there will be no further increase in scoring or difficulty.

In addition to showing the current set of gems, the game will display the next set of gems to the right of the top of the playfield and the number of triples remaining to the left.

◆◆◆ Controls ◆◆◆

At startup, you may select the starting level 1-9 by pressing SELECT. Begin the game by pressing RESET or FIRE. To return to the level-selection screen, press and hold RESET or SELECT for at least a second.



Level Select



Pause Screen

Once the game has started, press left or right to steer the falling gems. Press down, if desired, to hasten their descent. Press fire to rotate the gems up or down (set the left difficulty switch according to your preference), and push up to swap between the current and "next" set of gems.

The latter function deserves some explanation. Suppose that the current set of gems is three red ones but there aren't any exposed red gems on the screen. When the three red gems are dropped, they'll disappear (since they "form" three matching gems vertically) but won't do anything else useful. Pushing up on the joystick will swap them for whatever gems would have come next. Once those are dropped, the red gems will reappear. If they're still not useful, they may be swapped again with whatever is next.

Note that wild gems may be swapped, but the bombergem cannot. The swap function is disabled whenever the bombergem is the current or next gem.

To pause the action at any time during play, press RESET briefly. You may also pause the game by pushing and holding FIRE during a gem reaction (keep FIRE held until the reaction is complete). In either case, exit pause mode by pushing RESET or FIRE again.

☆☆☆ Scoring ☆☆☆

The basic unit of scoring is the triple. Three gems in a row score one, four in a row score two, five score three, six score four, etc. A reaction involving a number of triples will award points according to the table on the following page.

When a gem is dropped, the value of the first reaction is multiplied by the level number (e.g. if a reaction on level 3 produces 2 triples, it will be worth 3×25 , or 75 points). If falling gems trigger another reaction (before the player drops the next gem) this reaction will score double (e.g. at level three, the second reaction is worth 6x). If a third reaction occurs, it will be worth triple, then quadruple, etc.

Example: on level 4, the player completes three triples. When those

NUMBER OF TRIPLES	MULTIPLIER TIMES
1	10
2	25
3	40
4	60
5	80
6	100
7	125
8	150
9	175
10	200
each additional	25

disappear, falling gems complete two more triples, and when those disappear, four more are created. This will score 4×40 for the first batch, 8×25 for the second, and 12×60 for the third (a total of $160 + 200 + 720$, or 980 points).

A bombergem that hits another gem will score ten points per gem destroyed, multiplied by the level number. A bombergem that hits the bottom will create six wild gems on the bottom of the screen, and any triples thus completed will score at $5 \times$ the level number (the set of six gems in a row will count as four triples, and the wild gems may complete more). Any chain reactions resulting from this will score $6 \times$ the level number, $7 \times$, $8 \times$, etc. This can be very lucrative.

The scoring multiplier is limited to $99 \times$; the value of any combination is limited to 9995. Both of these values, if reached, will "peg" rather than rolling over but reaching either would require unbelievably good play at very high levels.

If the player scores one million points, the last digit of the score counter will be incremented. Thus, a displayed score of 123456 would be in reality 1,234,455.

☆☆☆ Strategy ☆☆☆

There are a number of possible strategies in this game. What's most important is that any chosen strategy be executed well. Fumbling the controls can make a very good placement into a very bad one.

In the earlier levels, it is possible to put considerable thought into gem placement. Try to set up chain reactions, since they represent most of the possible scoring at the lower levels. If you can arrange things so that you have an open column and you can get multi-level chain reactions from a bombergem, that can be very lucrative even at the lower levels. One key goal should be to arrange to have many vertical or diagonal 'two-in-a-rows' on the second and third rows of the playfield. Because of the four "gimme" triples, these additional triples will each be worth 100 or 125 times the level number, so a good play may be worth 500 or even 750 times the level number. Further, if any additional reactions are triggered they'll score 6x (or 7x, 8x, etc.) allowing for some very impressive scoring. On the other hand, bombing an empty column without triggering any other reactions is only worth 300x the level number; even if an empty column is available it may sometimes be better to bomb a colored gem.

In the middle levels, there is less time to plan gem placements, but it's still possible to exercise some care. It's less likely that there will be any an open column available for a bombergem, but even if you can leave one it may not always be a good idea. In the middle levels, leaving an open column will often compromise your position in other ways, and even when bombing the open column would score a lot of points, it won't usually clear out as many gems as bombing a colored gem. Since the game becomes difficult when gems start stacking up too high, clearing away lots of gems may be more important than scoring points.

In the later levels, don't worry about fancy combinations. Just score any triples when you can get them. Be mindful of what color gem you'd most like to get rid of, and ensure that a gem of that color is exposed on top when the bombergem comes. If you can survive until the bombergem and can place it well, you may clear away more than half the board which

may in turn allow you to survive until the next bombergem. If the screen is nearly full and you poorly place the bomber gem, though, you may not survive to place the next one.

◆◆◆ Deluxe Features ◆◆◆

The Strat-O-Gems cartridge actually contains three programs:

1. Strat-O-Gems Deluxe PAL edition
2. Strat-O-Gems Deluxe NTSC edition
3. Strat-O-Gems minigame edition (NTSC only)



Selection Menu

By default, the cartridge will start the Strat-O-Gems Deluxe NTSC edition. If you wish to use a different version, push and hold SELECT or FIRE while powering on the machine and a selection menu will appear. This menu will be displayed alternately in NTSC and PAL mode; it is normal for the screen to roll while it's showing the wrong mode, but once the right mode is selected the screen will be stable. If an AtariVox or other EEPROM device is plugged into the right joystick port, a #1 or #2 selection will be saved there for future use.

In the Deluxe game, if you make a spectacular combination play (worth at least 100x level number) and the right difficulty switch is in the "B" position, Strat-O-Gems will display the depth and total value of the play,

along with the highest unmultiplied value within it.

If an AtariVox or other EEPROM device is installed, Strat-O-Gems will show an "Instant Replay". Pushing and holding the fire button during the instant replay will cause it to be repeated. Otherwise, it will segue directly into normal play. Additionally, if a play exceeds the previous record for combination depth, combination value, or maximum unmultiplied single play, it will be saved for display during "attract" mode. If no EEPROM device is available, leaving the "Great Play" screen will return to normal play following a one-second delay.

◆◆◆ Minigame Notes ◆◆◆

The Minigame version of Strat-O-Gems is quite similar to the Deluxe version. There are, however, a few items of note:

1. There is no display of triples remaining; instead, it's necessary to listen to the tones played when gems fall. Every eighth tone will drop back an octave, and the eighth group of eight tones marks the end of a level. Note that the first "leading tone" you hear will not be the 63rd gem, but the 56th. You're not out of the woods until the second leading tone.
2. Scoring is based upon one point per triple, times the depth multiplier and level number; the bombergem yields one point per gem destroyed, also times level number.
3. The maximum level number is nine, rather than sixteen.
4. The difficulty switches have no effect.
5. There is no AtariVox or instant-replay support.
6. The game may only be paused via the reset button.

◆◆◆ Programmer's Notes ◆◆◆

In 1994, I found out about the inner workings of the Atari 2600 on a newsgroup called rec.games.video.classic; I'd never actually had an Atari as a kid (I had an Odyssey2, a VIC-20, and a Commodore 64) but I was fascinated when I read about how it worked. I decided to try my hand at programming the beast, and sketched out a couple of rough designs for two games: Wormy and Col (just a temporary name--short for "Colors" and "Columns"). I managed to partially-hack out a title screen for Wormy and produced a kernel for Col, but abandoned the projects when I was unable to figure a reasonable way of handling computations that could take a variable length of time.

Although I still brought out the Atari to play with from time to time, and indeed enjoyed playing it in 1998 with my then-girlfriend (later wife) Dawn Elizabeth (who'd never played Millipede before but quickly got addicted) I made no efforts at programming between October of 1994 and May of 2005, when I discovered AtariAge.com. There I quickly filled in some of the small--but critical--gaps in my 2600 programming knowledge and also picked up both an emulator and a Supercharger loader (which allowed me to feed code from my laptop into a Starpath Supercharger for testing on a real machine).

After doing a few other demos and projects, I thought back to my earlier efforts and decided to dust them off. The partially-completed Wormy title screen didn't have anything particularly salvageable, but the kernel I'd done for Col was actually pretty nice. Although it's been improved, the basic display code from Strat-O-Gems is in fact ten years old.

A few things have changed from my original plans for this game.

continued...

EEPROM NOTE: If you wish to erase the high score and other records, push and hold SELECT or FIRE on power-up to bring up the selection menu. Then push and hold FIRE while tapping the joystick down, keep FIRE pressed while pushing and holding SELECT and RESET, then release FIRE while holding SELECT and RESET. The machine will beep to confirm the erasure. Note that this will not erase the saved attract mode plays, but those will be overwritten at the next "Instant Replay."

Originally, the game screen was to feature a "Greek temple" roof within which would appear the next group of gems to fall. The score would have been displayed by using the playfield to mask "seven-segment-style" score digits. My original planned sound effects would have been a "C C# D D#" ostinato in the background with some boomy echoey lowpitched notes when combinations were scored. And the original title screen would have been derived from my "Wormy" title screen code (assymetric playfield, with the letters of whatever five-character name I came up with individually color-stripped).

The first "finished" version of Strat-O-Gems was produced as an entry to the 4K Minigame Competition. The gameplay was fully developed, though the scoring differed from the later version. The game included a polished title screen, but little else in the way of decoration. The Deluxe version was then developed to take advantage of the speech and memory capabilities of Richard Hutchinson's "Atarivox." Supporting the "instant replay" function required expansion of the game engine to support palette-based animation; fortunately, the larger memory size allowed this and other features to be accommodated with relative ease.

Thus it is that a little game started in 1994, after languishing for a decade in a little-used hard-drive partition, comes to life. I hope you enjoy it.

--John Payson
December, 2005



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