Text Anarchy 2.0

Plug-ins for Adobe After Effects and compatible applications

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Introduction and Overview

From Elements: Text to Text Anarchy

Annouching Text Anarchy 2.0, a set of eight filters for After Effects and Final Cut Pro. Based on the best selling Elements of Anarchy: Text 1.0 package, Text Anarchy dramatically expands the software's functionality and potential.

Two years ago, Elements was created primarily to address the need for text 'elements', animated text for use as background design elements. Our customers pushed the three Elements plug-ins, though, to look as much towards titling as texture creation. We've had a lot of requests to take the Elements of Anarchy filter set farther. So, we did.

The five new plug-ins added to Text Anarchy 2.0 are designed for artists doing work in which text characters will be in the forefront and used as a main component of the design.

Whether its visual background noise, text as a texture, Flash–like titling, or flashing words to reinforce concept, text is an important element of your composition, and our goal too bring you inexpensive, powerful, fun filters. Text is traditionally one of the more difficult tasks to animate in most applications. We aim to simplify that with these eight tools.

Support and Stuff

We hope that you find Text Anarchy to give you all the control you could want, while simple enough that you can set everything up in a few minutes. It's our desire to make sure you're satisfied with your purchase, and if you have any questions, comments, or whatever, we'd love to hear them.

If there's anything you'd like to see added to any of the filters, perhaps a completely different effect that you'd like to see a plug-in for, or would just like to say hello...definitely send an email to us at info@digitalanarchy.com.

If you have any technical problems or questions related to the filters, please send an email to support@digitalanarchy.com. Or, you can contact us at +001-415-621-0991, US Pacific Time.

Installation and Registration

Macintosh (After Effects)

Launch the Text Anarchy installer. In the main window, you'll see a pop-up in the upper left corner that asks you to select your version of After Effects. Text Anarchy supports versions 5.0 and up. It is important that you select the correct version for OS 9 or X. Only the version for After Effects 5.5 is OS X native.

Once you've selected the correct version, in the lower part of the window is the installation destination. Click on 'Select Location' and navigate to your After Effects 'Plugin' folder. You are now ready to install. Click the Install button.

Macintosh (Final Cut Pro)

Once you've launched the installer, this process is slightly different for users of Final Cut Pro under OS X. You'll need to find the Final Cut 'Plug-ins' folder in your Shared Library or User Preferences folder, and put the plug-ins in there.

If you're installing to the shared resources, your path will be something like this: Hard Drive> Library> Application Support> Final Cut Pro System Support> Plugins. Or, if you're installing for a particular user, the path will read: Hard Drive> Users> [User Name]> Library> Preferences> Final Cut Pro User Data> Plugins. Check your Final Cut Pro manual for more help.

Windows (After Effects)

Launch the Text Anarchy installer and click the 'Next' button until you get to the 'Locate Destination' screen. Click on 'Browse' and select the After Effects plug-in folder. Click 'Next'.

The next screen asks you which version of After Effects you'll be installing for. Select the appropriate version and click Next. If you don't select the appropriate version, the plug-in may crash or not perform as expected.

You are ready to install. The installer will show a screen informing you of this. Click the 'Next' button to begin installation.

Registration

Registration occurs when you purchase the filter. We register you in our database using the contact information you supplied upon purchase, and the serial number we've given you.

Section I : Options Box

The Options Box is where Text Anarchy filters begin. You choose the font (or fonts) you're going to use. You'll type text into the empty Text Field. Import an ASCII-based text file via the Load or Import button. Or copy/paste from that file into the text field.

For some filters, like Text Hacker, filling this Text Field in a specific way is essential to the plug-in performing properly. For others, such as Text Grid, you may want to leave that field blank to take advantage of their 'Random Characters' option [see Common Parameters].

Multiple Fonts pop-up

When you apply some of the filters, the initial dialog box that appears will have five font pop-up boxes. These pop-ups allow you to choose and use multiple fonts with the filters. Any pop-up left blank will be ignored.

Multiple Fonts, basically, takes the functionality of the Font Changer filter, and stuffs it into the dialog box of other filters like Cool Text.

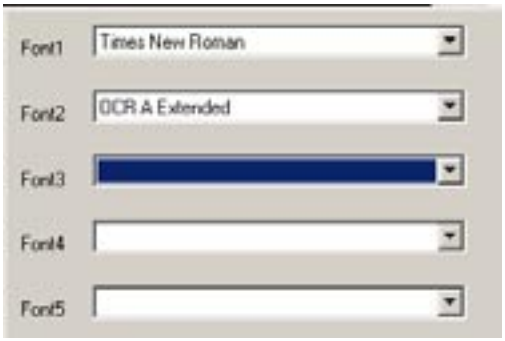
In your filter parameters, if Font Rate of Change is set to 0, then the filter will randomly cycle through the fonts that you've specified. See Font ROC in this section for more details.

If Font Rate of Change is set to anything other than 0, the filter will cycle through the fonts in order. All characters will change from one font to another. There's no way to have only some of the characters change. The only exception to this is the Text Hacker filter [see that section for more details].

Import or Input

The text characters can either be generated randomly, hand-entered by yourself, or imported from an ASCII-based text file.

To input text, type the text you'd like to use in the initial dialog box. To import text, click the Load button to navigate to a .TXT file as you'd create in MS Word or Notepad or TextEdit.



Note: The 5 popups can cause a delay in applying the filter. If you have a lot of fonts it can take a little while for the filter to launch. Use something like Adobe Type Manager or Suitcase to load and unload fonts you don't use often.

Sequential Fonts checkbox

For filters with the Multiple Fonts option, If the Sequential Fonts checkbox is selected, the characters will change fonts in a sequential order. Going

down the list of Multiple Fonts, the animation will start off as Font 1, change to Font 2, then to Font 3, and so on.

If Sequential Fonts is not selected, then a font will be chosen randomly from the fonts that have been selected.

Whole Lines checkbox

Whole Lines tells the filters wth this parameter to by default sequentially display whole lines. Whole Lines are identified by a 'hard return'. The filter goes through the text field or file, identifies a complete lines, displays it, then begins a new line.

If Whole Lines is turned OFF, then words are displayed. With words, filters like Text Matrix look for spaces between the words.

Sequential Lines checkbox

There's also a checkbox for reading the text sequentially. This is turned on by default. This means that the file is read from beginning to end, with no random jumping around. If Sequential Lines is OFF, words or lines are picked at random to be displayed.

If 'Whole Lines' is checked as well, the result will be, in the case of Text Matrix, that the first stream displayed gets the first line, the second stream gets the second line of text, the third streams gets the third line, and so on. Otherwise, words just get inserted into the streams sequentially, with no attention paid to where the lines begin and end.

The 'Lock' Buttons

For filters that use a particle system, each stream, line, or character can have its own set of attributes. The 'Lock' buttons determine if these attributes change over time, or whether they're 'Locked' in place when the stream, line, or character is created and first displayed on the screen.

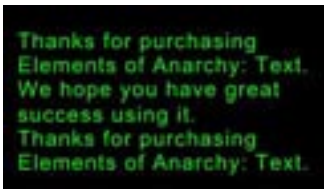
If 'Lock' is NOT selected (e.g. Lock Color), as you animate a parameter (say, Color), everything on the screen will change. Animating from red to green to blue will cause all the characters on the screen to change from red to green to blue.

However, if 'Lock' IS selected, then whatever value the stream or line was created with, will stay with it. Only new streams/lines will be affected by the keyframed value. In the case of Color, that means the streams created first would be red, streams created a little later would be green, and streams created last would be blue.

Option Checkboxes

The TOP example has both Whole Lines and Sequential Lines turned on. This results in the filter just playing back the text you entered.

The BOTTOM has both turned off. This gives us randomly selected words.



Section II : Common Parameters

Overview

Many of the filters share common parameters. These parameters behave the same regardless of what filter they're in. To avoid having to repeat these in each filter, we'll cover them once here.

If any of the parameters have special attributes in one filter or another, they will be mentioned again under that parameter and further explained. Any parameter listed in this section which appears elsewhere will have a note attached to it telling you under what filters it has special features.

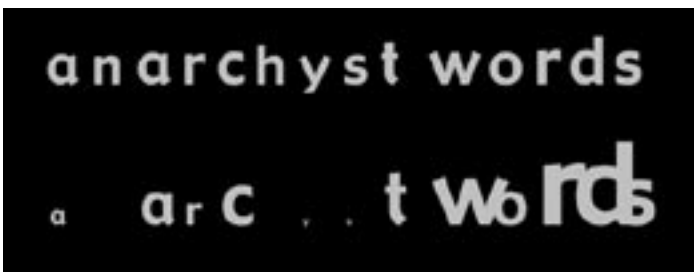
In each section devoted to a specific filter, look for the 'Covered in the Common Parameters' section. This will give you a list of parameters to refer back to this Common Parameters section for their specifics.

Randomness

You'll see many Randomness parameters. They usually look something like SBL Randomness or TBS Randomness. The 'SBL' or 'TBS' simply refer back to the parameter that the Randomness slider affects. For example, SBL is Space Between Lines, and TBS is Time Between Streams. This will usually be obvious, since the Randomness slider appears directly below the parameter it affects.

Randomness allows certain attributes to vary. This plays a bigger role in filters like Text Matrix where text is generated randomly. However, even in filters like Cool Text, which uses specific text input, there are some attributes that are affected by Randomness.

Each character (and/or stream) is assigned a different value when Randomness is set to anything other than 0. This is easy to see in the Font Size Randomness paramter. As you increase the FS Randomness parameter, some characters grow larger, some smaller. Each character is being assigned a different Font Size.



Font Size is 48 points. TOP: Font Size Randomness set to 10. BOTTOM: Font Size Randomness set to 100.

Play with Your Text

You can use almost any Truetype or Postscript Type 1 font, including dingbats. Here we've chosen a font that has Chinese characters.

Also, be sure to experiment with typing in special characters – like our favorite %#*@&?! – when the computer crashes, for interesting results.

Think about playing with monospaced fonts, too. Here's an example in Text Grid of mono-spaced fonts vs. regular fonts. Notice the spacing irregularities in the regular font image.

How Randomness Works

The Randomness slider sets a percentage. This creates a range around the associated parameter's value. Say Font Size is set to 16, and Randomness is set to 50%. This would create a range of 16 +/- 50% or 8 to 24. Each character is then assigned a value within this range.

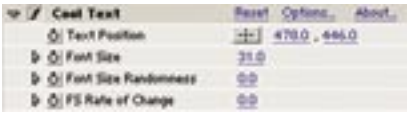
You can set the Randomness to more than 100%. If a parameter can go negative then this will result in a range of something like –8 to 40. In the case of something like Font Size, 3 is the lowest minimum value, so the range is limited on the lower end, but not on the higher end. Font Size set to 16 and Randomness set to 600% would result in a range of 3 to 96.

Hey, not only did you get a filter set, but you get a FREE algebra lesson as well. What a deal! We'll be offering Ginzu knifes in no time.

Text Position

This sets where the text will appear on the screen. You can move this Position point anywhere, including off the layer in case you want to animate the text coming in from off screen, stage left.

Text Position sets the starting point of the text regardless of whether a path has been assigned to it or not. The text on a path will start from this point NOT from where the first point in the path is. Text will follow the path shape from the Text Position point, so where you drew the first point in the path is irrelevant.



In the example above, you'll notice that the text is following the shape of the path, but it's not starting from the position of the first point on the path. The text is starting at the Text Position point.

Rate Of Change and ROC Randomness

These are extremely important properties. They controls how often the characters change. By default Rate of Change is set to change every frame (1.0). There are plenty of instances where you might not want the characters to change so rapidly, however.

The value of Change is in frames, so if you set it to 3.0, the characters will change every 3 frames. Set it to 30, and the characters will change every second (assuming a 30fps movie). Very useful if you don't want characters changing so quickly that you're viewers can't make out what they are. Particularly important if you're using a 'symbol' or 'clip art' font.

The Randomness varies how frequently each character changes. The Rate of Change will fall in a range around the value that the Rate of Change is set to +/- a percentage of the Rate of Change value. See the chart in the appendix for more information on how this works.

Font Size and FS Randomness

Font Size is pretty self-explanatory. It's simply how big the letters are. If you're familiar with any word processor or graphics application that handles text, this should be old hat. The larger the point size, the bigger the character.

Font Size will impact other parameters, like the spacing of the streams. The larger the font size, the more space that is put between streams, characters, rows, columns.

Font Size Randomness, like all the 'Randomness' sliders you'll run into, controls the variation in the point size of each character.

Rate of Change Isn't Fractional

Setting Rate of Chnage to less than 1 has no real effect, as it's impossible to change the characters more often than once a frame.

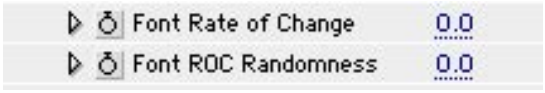
Well, it's possible, but you won't see any difference between 1 and .5 (or whatever), so not much point to it.

Of course, if you really feel the need to get your money's worth, and want to make that thar software work like it's never worked before, well then, 'you go, girl' (or boy or whatever).

Font Size Rate Of Change and FS ROC Randomness

Use this if you want the Font Size of your character or words to vary over time. This parameter sets how frequently you want the size to change, measured in frames. If you set it to something like 4, then every 4 frames the font size will change for all characters.

Font Size Rate Of Change and its Randomness param work in conjunction with the Font Size Group pop-up.



Font Size Group pop-up

When the font size changes, this pop-up determines what changes. If characters are selected then each character gets it's own font size. If 'words' is selected each word is given a font size and the characters within that word all get that font size. If 'lines' are selected then all words and characters on that line get the same font size.

Color

As will no doubt come as a surprise to many of you, this sets the color the text. That's it. No fancy crazy tips, tricks, secret uber-moves or anything else. Just makes your text pretty colors.

Wiggle Your Text

To add movement to a composition, make your text wiggle. It's really easy to create this animation in any of the filters using only one parameter: Font Size Randomness.

For instance, set the Font Size to 48 pixels. Then keyframe Font Size Randmness at 15-30 percentage. Let the randomness get higher, lower, then high again. Your fonts will change size.

These stills are captured with Font Size Randomness set to 37, then 9.

Alt Color and Alt Color Tolerance

This causes some characters to get a different color than other characters. You control how much of the text is this second color by adjusting the Alt Color Tolerance. If Alt Color Tolerance is set to 100% then all the text will be colored by the Alt Color. If Alt Color Tolerance is set to 50%, then half the characters of the text will be the Alt Color and so on.

Alt Color Rate of Change and Randomness

Alt color provides a way to add color randomly to the text. If left alone, it'll cause characters to turn a different color randomly every frame.

The Rate of Change parameter allows you to control how frequently characters change color. It is set in frames. This determines how frequently the characters change between one color and another. You can have the Alt Color change which characters it's affecting, creating a blinking effect.

Invisible Colors

This composition has the Random Color set to the Background color, Black, which makes some characters invisible.

Tracking

This is a characterisitc that everyone should be familiar with from Photoshop, Illustrator, or your favorite page layout program. Tracking sets a uniform space between each letter. Increasing this value spreads the characters farther apart, decreasing it pushes them closer together.

In fact, if you decrease Tracking enough, you can go negative and move the characters in the opposite direction. Tracking can produce some very interesting animations, especially with Text Spiral.

Exponential Tracking and ET Position Point

Exponential Tracking acts as a multiplier to regular Tracking. By adjusting this parameter, characters towards the end of a sentence will have more space in between them than characters at the beginning of the sentence. Take a look at an example:

You'll notice how things are much more spaced out towards the right side of the image. Also notice that the first 3 characters seem to be spaced normally.

This is due to the ET Position Point, which sets the character that the effect will start at. All characters after this point will have a multiplied tracking, all characters before it will be unaffected by the Exponential Tracking multiplier. This can create some interesting animations, especially if you go from positive to negative.

ET Position Point will not help you locate extra-terrestrials, Entwives, or your keys.

Kerning

Another parameter that should be familiar from the page layout world. Kerning allows you to adjust the spacing between individual letters. This can be very important for titles, or any composition that needs precise typography.

You select which pair of letters you wish to adjust, then use the Kerning Amount slider to make the adjustment. This section is comprised a few parameters, as follows.

Show Kerning Pair

This turns on a cursor (a yellow line) that allows you to visually see what characters you're kerning between.

Kerning Pair

Kerning Pair is, of course, the pair of letters you're kerning. If you have Show Kerning Pair turned on, you'll see a yellow line between these two letters. Position the yellow line between the two characters you want to kern, and then adjust Amount.

Kerning Amount

This sets the amount of space between the characters. It can either be negative or positive. If it's negative, then characters may overlap. In fact you can make it so negative that the last character in the line becomes the first. That's not usually the use for kerning, but you can certainly use it that way if you're so inclined.

You may have noticed that the Amount slider is not animatable. That's because the Amount slider only relates to the specific pair you have it pointed at. Its not possible for the After Effects interface to account for all the possible pairs and allow you to set keyframes for them.

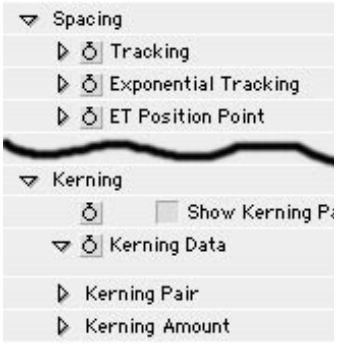
Kerning and Tracking

Many of you are familiar with these terms, but they deserve a brief explanation, since the Text Anarchy filters treat these parameters differently in terms of animation.

Tracking sets the space between all characters in a line/paragraph. Fully animatable.

Exponential Tracking takes and multiples the Tracking value, beginning at the Position Point specified. ET has built-in animated properties, since its value increases over time.

Kerning is the term given to specific spacing adjustments performed on individual pairs of characters within the same font, usually to enhance readability. By default, Kerning isn't made for animation, but you can get around this using Kerning Data, Amount, and Pair together.



Kerning Data

First things first. Kerning is not really meant to be animated. Its purpose is to provide precise spacing between letters that might sit too close or too far away from each other.

But if you really want to do animte Kerning, you can. Selecting the Kerning Data button activates an underlying spreadsheet that allows you to animate Kerning. Essentially, Kerning Data is the keyframe switch for Kerning Amount, which refers back to Kerning Data for its values.

For example, if you take the word 'Digital' and look at it in most fonts, but Arial specifically, you'll notice the space between the 't' and the 'a' appears to be less than the space between the 'a' and the 'l'. You might want to add a little bit more space before the 'a', and you would do this by kerning. Finding a way to allow you to do that was the first priority, animating that was a distant second. That said...

All the kerning data is saved in a table (like a spreadsheet). Every time you adjust kerning, change the pair, adjust kerning again, and so on you're just updating this table. So, you can animate it, but it's fickle and may not give you the results you expect or want.

Leading

Leading sets the distance between lines in a paragraph. This is only of consequence if you have multiple lines of text.

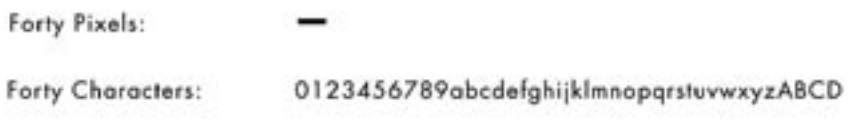
Length Of Lines pop-up, Length of Lines slider

These parameters allow you to set the length of lines in your paragraph. This is very similar to setting the margins in a word processor. In fact this behaves much like a word processor. If a word doesn't fit onto a line, it will be wrapped to the next line.

The Length of Lines pop-up determines what unit of measurement you're going to use. You have the option of pixels or characters. If you select Characters, then once a line has reached the specified limit, the word that goes over the limit will be wrapped to the next line. If you select Pixels then the filter will calculate how many characters will fit into the given number of pixels and wrap any word that goes over to the next line.

The big difference here is that if you specify Characters, then the lines won't change if you change the Font Size, Tracking, or any other parameter that affects the amount of real estate a given line will take up. If Pixels is selected then changing any of those parameters will result in different words getting wrapped and your paragraphs will have more or less lines than it did before any changes.

Pixels can be very useful if you're trying to stay within a specified area, such as the Title Safe area for television broadcast.



Baseline Shift

The Baseline is the invisible line that the characters sit on and descenders, like the tail of a 'y' hang below. This allows you to adjust the text up or down off the baseline. Since the layer that the filter is applied to can be moved about as well as the overall text position, Baseline Shift has limited value as it would normally be used.

When animated, especially with text on paths, it can produce some interesting effects. Try using Baseline Shift with Text Spiral.

Alignment

This determines what alignment your paragraph will have. Just as you're familiar with from word processors:

- Left lines the text up along the left margin (the left margin is a line that goes straight up from the Text Position point)
- Right lines the text up along the right margin (set by the Length of Lines parameter)
- Center centers the text between the Text Position and the boundary set by Length of Lines
- Justify tries to evenly space the text out between the Text Position and Length of Lines boundary.

Character Rotation and Rotation Randomness

This is the orientation of the characters. Unless this is animated it results in no movement. The characters will all be rotated by whatever the value is. If it's set to 45, then each character will be rotated by 45 degrees.

Use Character Rotation to precisely control the spin of characters. If you just want to rotate the character by 180 degrees, it's much easier to do it with this than Character Spin. Just set a keyframe for 0 at one point in time, and a keyframe for 180 at another point.

As elsewhere, the Randomness varies the amount of rotation among the different characters.

Different Kinds of Spins

Character Rotation rotates all characters by the amount specified. Note that this is different than Character Spin, which is the amount that each character gets rotated per frame.

Hinting

Traditionally, Hinting is the process by which small variations in character shapes are encoded into a typeface to create visually pleasing relationships between characters. For instance, a 'y' fits better next to an 'i' if both characters have been hinted for this relationship. Hinting also facilitates accurate printing, but that's not a motion graphics concern.

Turn on Hinting to enable smoother motion in some cases, especially when characters are being rotated.

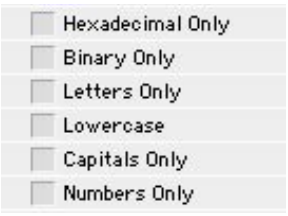
Using ASCII Presets

Here we've limited the character set between the ASCII values of 48 (the 0 character) and 57 (the 9 character). The result is that we only get numbers, 0 through 9.

Vertical Writing

This will display your text going from top to bottom, instead of left to right. The text is automatically centered along the center of the stream. There's no way to change this, although any other alignment generally results in difficult to read text and is not very useful.

Since most English fonts are not designed to be displayed this way, turning this option on can produce serious problems with readability. If you're concerned about this, try using a mono-spaced font, all capitals, or a font designed for being read vertically. You'll probably also need to adjust tracking to make the text as readable as possible.



Preset Characters

In the Preset Characters section, there are checkboxes you can select to automatically limit the characters that are generated. This gives you quick and easy access to some of the most requested types of characters.

The Preset options vary a bit between filters.

- Capitals Only displays only capital letters.
- Numbers Only displays only numbers.
- Letters Only displays only letters.
- Binary Only displays only 0's and 1's.
- Hexadecimal Only refers to the Hexadecimal numbering system, which has 16 digits (0-F), instead of the 10 (0-9) that we're used to. When this is selected, 0-9 and A-F will be displayed.
- Full Byte doubles the size of each column, enabling you to create the look of computer code which is displayed in Bytes. It generally looks something like this: FF 0A 45 9C D3 or 8A 8B 5E 00 20

Lower and Upper Character Limit

You can also customize the range of characters that are used when random characters are generated. You do this by setting Lower and Upper Character Limit parameters.

These set the range of the characters (in decimal ASCII code) that the random characters will be selected from. The really nice benefit of this is that you can select exactly the range of characters you want to use.

This also lets you select special characters in the 'upper' ASCII range. Many fonts have symbols of all sorts in the ASCII slots above 127. You can use the Lower and Upper limits to access these symbols.

For example, say you're using the boring old Arial font. Setting Lower to 48 and Higher to 57, would result in only numbers being produced in the streams. Setting Lower to 65 and Higher to 90, would result in only capital letters being shown.

For more about ASCII and what it means to you (and our plug-ins), turn to Appendix A at the end of this manual. There is a complete table for a basic ASCII typeface. This will give you a sample of what most fonts look like in ASCII and the unusual icons you can find in the upper reaches.

Random Characters

IMPORTANT! This applies to Text Matrix, Text Grid, and Screen Text. It's an essential parameter, because if you don't enter any text into the dialog, and don't turn on Random Characters, nothing will appear onscreen.

Reach for Your Limits

Take advantage of the Lowe and Upper Character Limits by designing your own typeface.

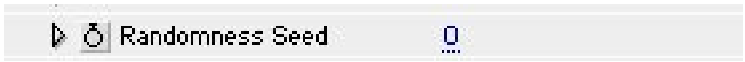
Create vector art and put them into your font. You can even save out a logo at different sizes and specify those as font characters. Then tell Text Anarchy which characters to recognize.

There are also many 'clip art' or dingbat fonts that are pictures instead of characters. You might wish to only use a few of the available images – do this, of course, by specifying their ASCII position. It opens up all sorts of interesting possibilities.

Aside from making these filters appear to work, what does this do? Glad you asked. Random Characters fills your grid with characters that are randomly selected from the range that you define with the Lower Character Limit and the Upper Character Limit. This range is the ASCII representation of characters in your font.

Randomness Seed

This sets the seed, or germination point, that all the Randomness values in a particular filter use. If you change this seed, any part of the animation that uses randomness will be changed. However, it'll be changed in a predictable way. If Randomness Seed is set to 50 and you change it 98, the animation will change. If you then set it back to 50, the animation will revert back to exactly what it was.



This can be very useful for creating different animations by changing, literally, only one parameter. Depending on how many other parameters are affected by randomness, you could have a substantially different animation occur because of changing the seed.

Section III : Cool Text

Introduction

Cool Text is designed to allow the animation of text on a letter by letter basis. You can animate Scale, Opacity, Blur, Color (creating gradients), and Rotation. This allows you to create text effects that would be extremely difficult otherwise. Usually you would need to break text up into individual layers to achieve many of these animations.

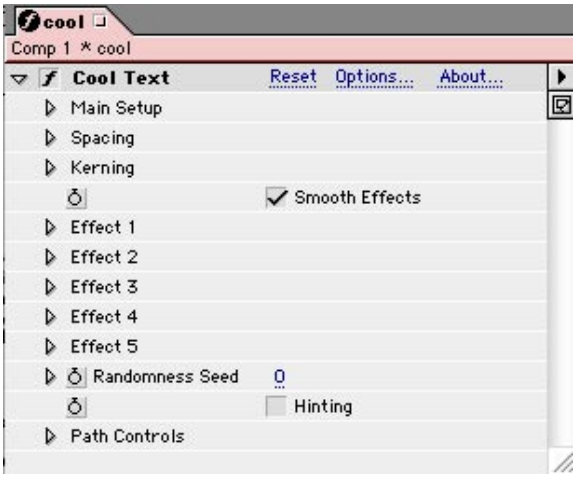
It is more of a full featured titling tool than any of the Elements of Anarchy: Text filters were, with kerning, tracking, baseline adjustment, and different alignments.

You create effects by first entering the text in and adjusting the parameters like Font Size or Kerning to get it looking the way you want. You then select and set up one or all of the five sets of effects controls. If just one effect isn't what you want, effects can be combined together or you can have multiple instances of the same effect. This allows for all sorts of combinations and complex effects.

Options Dialog

This is where you enter your text in. With Cool Text there's no way to generate random text (as some of you might expect if you're already familiar with our text filters), so you NEED to enter something in here for the filter to do anything.

The five Font pop-ups and the Sequential Fonts checkbox are explained in the Common Parameters section. Basically, Cool Text can change the font of your text and this is where you set it up.

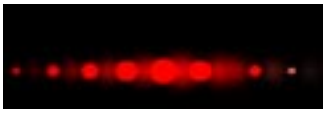


Cool Text versus Text Spiral

Cool Text and Text Spirl have overlapping functionality as 'text-on-path' filters. But, the heart of these plug-ins makes each one distinct.

Cool Text allows you to set an effect in motion that spans the text much like a wave or ripple. By combining several of the available effects such as Color and Blur and changing their Positions in tandem, you could create a moving element, with definable properties, within words or lines of text. These effects can also be set to Affect All and to fade up or down.

Here we've created a Battlestar Galactic graphic (fondly called 'Cylon') using Cool Text and the period '.' character.



(cont. on next page)

Covered in the Common Parameters Section

- Text Position
- Font Size and Font Size Randomness
- Font Size Rate of Change and Randomness
- Font Size Groups
- Font Rate of Change
- Vertical Writing
- Color
- Alt Color and Randomness
- Alt Color ROC and Randomness
- Tracking
- Exponential Tracking
- ET Position Point
- Kerning (all Kerning parameters)
- Leading
- Length of Lines
- Baseline Shift
- Alignment
- Character Rotation and Randomness
- Randomness Seed

Effect Parameters

These are the heart and soul of Cool Text. Yes, just that dramatic. The Effect parameters allow you to create most of your cool effects. By moving the Position point along the length of your text, you can create a variety of interesting animations and effects.

You select the type of effect you want to use, then set a maximum amount, set the length of time that each character will animate to the maximum amount, and then animate the Position point across the characters you want to affect.

You can combine these in any combination. You can have the same Effect applied multiple times and stack and layer them. See the Using Multiple Effects section for more info.

Now let's take a closer look at each parameter.

Type of Effect pop-up

There are five types of Effects: Scale, Rotation, Opacity, Blur, and Color.

IMPORTANT: The Amount parameters function and limits will vary between effects. For example, Opacity only has a functional range of 0

Cool Text versus Text Spiral

(cont.)

In contrast to Cool Text, Spiral Text allows you to 'blend' geometric and/or color properties over the length of the specified text.

By setting different properties for Beginning and Ending params, each character lying between the Beginning and End takes on a unique value. Subsequently animating the Beginning and/or Ending Params sets into a motion a wave or ripple of the animated effects.

to 100. Conversely, Rotation can be –25,000 to 25,000. A big difference and something to be very aware of. In the text below, each effect has its Amount limits listed.

Effect: Scale

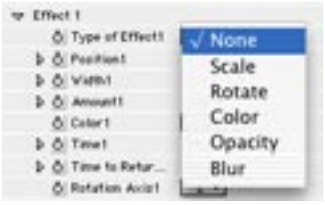
The text is scaled up from it's normal point size. The Amount parameter sets the maximum scale amount. If this is set to 300% then the text will be scaled up 3 times larger than normal.

Amount values between 0 and 99 will result in the characters being scaled down. Negative values result in the character being flipped upside down and inverted. Sort of like a backwards mirror reflection. If you actually want a mirrored reflection, you can rotate the characters around the X axis.

Where's the Hide Effect Button?

There isn't an OFF button to temporarily hide the Cool Text Effects while working on a composition. Instead, simply switch to None in the pop-up.

When you're ready to see your Effect again, choose that same option you had turned off. Your parameters will appear correctly.



Effect: Rotate and Rotation Axis

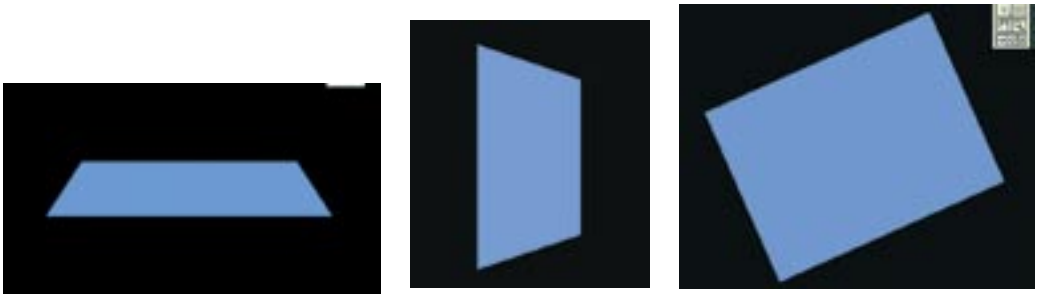
This allows you to rotate the text around any axis. The Amount sets the maximum rotation and can either be negative (counter-clockwise) or positive (clockwise).

You set the Rotation Axis to determine what axis the characters will rotate around. If you're familiar with any basic 3D system, these axes should be pretty common knowledge.

Rotating around the X axis will give the effect of the characters falling over or swinging like a hanging sign.

Rotating around the Y axis will make it look like the characters are turning away from you. As if they are turning to show you their side. Of course, the letters aren't in 3D, so as they turn, they get flat and will eventually disappear at 90 degrees.

Rotating around the Z axis is like spinning the characters around the face of a clock. If you can imagine those spinning newspaper intros in old movies, they would have been spinning around the Z axis.



Setting the Amount to more than 360 will result in the characters doing a full revolution. You can set them up to do as many revolutions as you'd like.

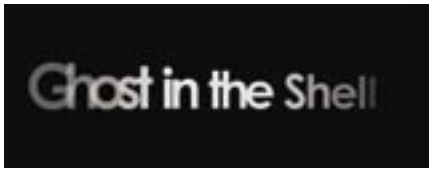
Effect: Opacity

This sets the opacity of the characters allowing them to fade in or out.

This Effect probably benefits from the ability to combine effects slightly more than the others. Allowing you to combine opacities and have different regions fade in/out.

The opacity of the letters defaults to 100. If you want the characters to start off at zero opacity and fade in you'll need to set another Opacity Effect that will cover all the text and set it to zero. See the Instant Effect Sidebar for how this works and how to set it up. It's easy and only takes a few seconds.

The Amount range for Opacity is 0 to 100.



Effect: Blur

The effect allows you to apply a Guassian blur on a letter by letter basis. The blur starts off at 0 and animates to whatever amount you set. By using multiple Blur Effects you can have letters become unblurred or have sections of the text stay 'in focus' by using two blurs on either side of the text you want in focus.

By setting the Blur to a negative amount you can cause the 'unblur' effect. The values will add together, the negative number subtracting from the positive. In the image above, the 'l' and 'a' are unblurred as a regular blur travels across the words.

Cool Columns of Opacity

Instead of animating the text itself, we've created an animated effect that runs through the text. To make these energetic lines, we've created a semi-transparent column that moves back and forth over text like a thin vertical mask.

First, set the Effect to Type= Opacity. Then adjust its Width to 1 and Time to 1. This set the width of the moving column to one character, and ensured that the column will stay at a width of 1, instead of spreading it across additional characters.

The only keyframes necessary are for Position. At 00:00, set Position to 1 to start the Opacity Effect at the first text character of your lines. Then set a keyframe at the end of your longest line. Finally, pull back to an earlier frame and lower the Position. This moves the one-character wide column back and forth along your rows of text.

Read the online tutorial 'Cool Opacity' for more about this technique. www.digitalanarchy.com

Effect: Color

This allows you to animate the color of individual characters. This will create a gradient across the text as the characters animate. The gradient will blend between the main color and the Effect color or two Effect colors if they overlap.

The main, default color is set by the Color parameter in the main setup (see the Common Parameters section) and you set the Effect Color by changing the color chip in the Effect section. You can animate the Effect Color as you would any other Effect, but Amount has no function here. The color is either on or it's off.

In the example above, the main color of the text is blue, and there are two Color Effects applied to it, one a goldenrod color and the other a green color.

Scale Characters One by One

If you want a string of characters to gradually scale up one by one, animate Position from 1 until the end character of the text (15 in the Digital Anarchy example to RIGHT).

Set Width to 1. With Width set to 1, only one character will be affected at a time. As the Position moves across the text, the characters that have already been passed over continue to animate. This is so even though the text isn't directly being affected by the Effect range, which is only 1 character wide.

Position and Width

Allows you to select the characters that will be affected. Each character has a number assigned to it depending on where it's at in the string of text. The first character is 1, the second 2, and so on.

The Position lets you set the Effect for a specific character and the Width determines how many other characters will be affected at the same time.

The Position and Width parameters set a range. Unless a character falls into this range, it will not have the Effect applied to it. By animating either parameter, you affect characters over time.

Once a character is affected, it will continue to animate until it reaches the Amount value, even if it falls out of the range. This is because the Time parameter, not Position, sets how long it takes to reach the Amount.

If we wanted all the characters to scale up at the same time (using the Digital Anarchy example above), we would set Position to 8 and Width to 15. The Effect range would then encompass all the letters so they all will start and stop scaling at the same time.

Amount

What Amount does is highly dependant on what is chosen in the Type of Effect pop-up. This is the maximum amount of whatever Effect is being applied. The character that is specified by the Position slider will receive this value for the Effect.

This has different limits depending on which Effect is select. For something like Opacity, the range is 0 to 100. For Scale it's 0 to 25000. For Rotation it's –25000 to 25000. For Blur it's 0 to 25,000 and for color it's ignored. Color takes its value from the Effect Color color chip and doesn't use this parameter.

Going Outside the Amount

You can enter in –25000 to 25000 for any of the Effects, but the effects only recognize numbers in the range mentioned for each Effect. Anything outside of that range is clipped to the minimum value or max value depending on which end of the range it falls out of.

For example, if Opacity = 100, it's fully opaque. You can't get any more fully opaque, no matter how hard you try. If you're 25,000% opaque, you're not any more difficult to see through than if you're at 100% opaque, so any value over 100 is clipped to 100.

Time

This sets the length of time it takes for a character to go from it's normal state to whatever Amount is set for the Effect.

For example, if the Scale Effect is applied with an Amount of 200, Time sets the number of frames it'll take to go from having no Scale applied (just the regular font size) to having the full 200% Scale applied.

If you set it 30 frames, assuming a 30 frame/sec comp, it'll take one second to go from normal to scaled up 200%.

As you move the Position point from one character to another, each character will start to animate. The Time parameter doesn't kick in until each character is affected. If a group of characters gets affected at the same time, they'll all animate in unison. If they're affected at different times, the animation will be staggered... they'll start and FINISH the animation at different times.

This also means that if you animate the Time parameter, as different characters are affected, they can have different Times. The first character may take 30 frames to animate, but the second one may take 10 frames, so it may finish before the first one.

Time To Return To Original Value checkbox

Once a character has gone through it's animation from it's normal state to the full Effect Amount you need to figure out what to do with it.

If you turn on the Don't Return to Original Position checkbox, then the characters will stay at whatever the Effect has them set to. If they're scaled to 200% they'll stay that way, and never scale back down.

Don't Return to Original Position checkbox

However, what if you want them to go back to their original state? If you want the characters to fade in and then fade back out, then you'll need to set a value for Time To Return To Original.

Baseline For Effect

This only affects Scale and Rotate around the X or Z axes. It moves the center point that the effect is rotating or scaling around. This can produce some very interesting animation.

If you're familiar with the Anchor Point in AE, this is very similar. If you want a layer to rotate around the upper left corner, you can move the Anchor Point from it's normal position in the center of the layer to the upper left corner. When you change the Layer Rotation, lo and behold, the layer rotates around that corner.

Baseline works the same way. If you want all the characters to rotate around their center point (say with Rotate Z axis) instead of around the normal baseline (the bottom of the letters), you would adjust this upwards slightly.

Affected Letters Only checkbox

If this is selected only characters that have the Effect applied to them will be rendered.

The character will appear as soon as the Position parameter calls it's number and the animation starts. Once the animation finishes it'll disappear again. If the Don't Return to Original Position checkbox is selected, the character will stay in it's affected state and permanently remain visible. If that is not selected, then the character will animate back to it's original state and disappear once it gets there.

yes

no

Subtracting Effects: De-Blur

Effects can be added together, but they can also be subtracted. This allows you to create a variety of complex effects, where text has one effect applied, then a second effect that removes the first effect from some of the characters. Make sense?

Let's use blur as an example. First we'll apply a nice heavy blur to the entire word. Take a look at the TOP word 'Anarchy'.

We can now come in and apply a second blur that's set to a negative value. The negative value causes focus on the characters it's applied to. If no blur has been applied already, then a negative value has no effect.

This negative blur is only applied to the 'rch' in the BOTTOM 'Anarchy'. It's also applied over time and moved across the characters, so the 'h' is more un-blurred than the 'r'. This creates a de-blur or focus effect. Just one instance of how negative values can be used to create cool effects.

Using Multiple Effects

A really cool attribute of the Effects is that they can be used multiple times and stacked on each other. Combine a Blur with a Color change. Or, stack two Color changes together.

The Effects are applied sequentially, meaning that Effect 1 is applied first, Effect 2 is applied second, and so on. To Scale all the layers down then scale them back up, you'd Scale them down with Effect 1, and Scale them up with Effect 2

This is less important if you're just combining Effects like a Rotation and a Blur that are going to happen at the same time. However, there can still be small difference depending on the order of the Effects.

Using Expressions

If you are combining Effects that happen at the same time you can tie the parameters together using Expressions. This can be particularly useful for the Position parameter. Since you want all the Effects to happen in sync, you can just link Effects 2 through 5 to Effect 1. Adjustments made to Effect 1 would then propagate to the other Effects, making changes easier.

All parameters are usable with Expressions. This opens up the possibility of using other layers or filters to drive the Effects created with Cool Text. Look for the sidebar explaining this.

Repeat the Same Effect for Effect

You can create some interesting animations by combining Cool Text Effects. Eespecially if you use the same Effect.

For example, you can use one Opacity Effect to set all your characters to a low opacity or invisible and then use other Opacity Effects to make them visible. The other Opacity Effects will see the initial one and use the character opacity that was set by it.

You can do that with any of the Effects, use multiple Blur effects to create 'in focus' areas or areas with more blur.

Path Controls

One of the great things about Cool Text is that you can use a path to control it. Create a mask on the layer that Cool Text is applied to and that mask can be used to guide the text. Make a mask of a star or wave and the streams will happily follow around the outline.

Cool Text also supports animated paths, so you could animate the wave and the streams will follow it along, undulating with the wave motion.

One thing to note is that the first point in the path doesn't determine where the text on a path begins. That is defined by the Text Position parameter. The text follows the path shape from the Text Position. See the Text Position parameter in the Common Parameters section for more info.

Path

This pop-up simply allows you to select which path you want to use. Since it recognizes any path, you can create a variety of paths and try them with a given animation, or use the same animation to follow different shapes.

Orient Character to Path

This adjusts the rotation of characters to the angle of the path, keeping each character perpendicular to the path.

Path Start/End Point

Normally, the text will start out from the first point you draw on the path. If this parameter is set to 0, that is in fact where the text starts out – right at the first point (taking the Text Position parameter into consideration).

However, there are many times when that default is not desirable. Or you may wish to animate the text along the path. This is where Path Start/End Point comes in. It adjusts where the text starts and ends on a path. You can make adjustments to account for not placing the first point at the correct location. Or, you can simply animate the text, and it will travel around the path.

We used a dial to simulate a closed path. If you move the dial around in a full revolution, the text will end up back where it started, at the first point of the path. With open paths, a full revolution will move all the text off the path, so it disappears.

You can also move the text in the negative direction, making the text go off the start point of the path. This behaves exactly the same as going past the last point... the text continues in a straight line in the direction it was traveling when it when past the start point.

Know Where You Start and End

It's important to know this information when creating the path, since it determines how your text is flowed. This is especially true with closed paths.

Paths, even closed paths like a circle, have a start point, end point, and direction. The start point is the first point you create. The end point is either the last point in the path (in open paths like a sine wave), or it's the same point as the starting point (if the path is closed).

A common rookie mistake is to create a closed path, and get the impression that Text Spiral or Cool Text places its text randomly, because the text doesn't travel as expected.

Reverse Direction checkbox

This causes the text to follow the path in the opposite direction. Usually a path has a direction. It goes from the first point created to the last point. Text will be flowed according to that, with the first character of the text by the first point created.

Reverse Direction switches that, so that the first character appears by the last point creating and flows towards the beginning of the path.

NOTE TO USERS OF AE 'COMPATIBLE' APPLICATIONS: Paths don't work in anything but After Effects. Most of AE-compatible applications don't support that part of the AE API.

Section IV : Font Changer

Introduction

Font Changer is a fairly simple plug, allowing you to take a string of text and animate the font. You can select up to 5 different fonts and have the text string change from one to the other either sequentially, as they're listed, or in random order.

The Font Changer controls are available in other filters as well, such as Cool Text and Text Hacker.

Options Dialog

This is where you enter in your text and set the fonts that you want to use. As you would probably expect, the 5 font pop-ups are where you select the various fonts you want to use.

Covered in the Common Parameters Section

- Text Position
- Font Size and Font Size Randomness
- Font Size Rate of Change
- Font Size Groups
- Font Rate of Change (see additional info below)
- Color
- Alt Color and Randomness
- Alt Color ROC and Randomness
- Tracking
- Exponential Tracking
- ET Position Point
- Kerning (all parameters)
- Leading

Illustrator and Photoshop Paths

Did you know that you can paste paths from Photoshop and Illustrator directly into After Effects? You can paste a path into a layer or to a Position parameter.

To do either, select all the points on your path in either Photoshop or Illustrator, then switch over to After Effects and paste.

If you select a layer, the path gets applied as a mask shape in the layer you paste to. You can then use the path to control Cool Text or Text Spiral.

If you select a Position parameter in the Timeline, like Text Position, the path gets pasted into the Timeline as keyframes for that parameter. its a fast way to animate complex motion.

Pasting paths is a great way to use sophisticated shapes that may exist in the other applications, or to create paths with Illustrator's more powerful and complex mask tools.

- Length of Lines
- Baseline Shift
- Alignment
- Character Rotation and Randomness
- Hinting
- Randomness Seed

Sequential Fonts checkbox

The checkbox Sequential Fonts determines whether the text string changes into these fonts sequentially, going from Font 1 to Font 2 to Font 3, etc. or if they just change randomly. If the checkbox is selected the fonts change sequentially, if not, they change randomly.

The text field is where you enter the text you want displayed. If you have a paragraph of text, you don't need to worry about entering in carriage returns for each new line. There are parameters to let you set the length of lines, leading, kerning, and other basic word processing features.

Shifting Text

One issue that you'll run into with FROC is that most fonts are sized differently and have different built in Kerning. This results in the text shifting around a bit as the font changes. There's really not much you can do about that.

One workaround is to animate the tracking to coincide with each font change. Have the tracking set up to compensate for different spacing, basically. This will allow you to keep the text string the same length, but it's a bit of work.

Font Rate of Change

This is the key parameter for Font Changer, so we'll delve a little deeper than we did in the Common Parameters section. Rate of Change sets the speed at which the fonts change over. It's set in frames, so at a value of 15, the font will change every 15 frames.

Depending on whether you have the 'Sequential Fonts' checkbox selected in the Options Dialog, a font will either change into the one following it, or the plug-in will randomly select a font to change into from the list you've selected.

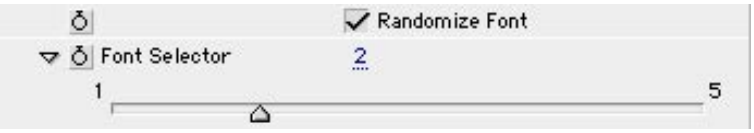
You can keyframe FROC, but it's a little tricky. Any change in the value of FROC will not affect the font currently visible. Once a font is on the screen, it will last for however long FROC is set at the moment it appears.

If a font changes while Font Rate Of Change is set to 10, it will last for 10

frames. If you animate the FROC to 5 immediately after it changes, it will still last for 10 frames. All subsequent font changes will last for 5 frames though.

Randomize Font checkbox

If you turn on the Randomize Font checkbox, then Font Changer will cycle through the fonts that you have loaded into the pop-up boxes. This checkbox blows away any choices in Font Selector parameter [below].



Font Selector

This parameter is the way you specify which font you want to work with. The numbers correspond to the order of the Font pop-ups.

Keyframing Font Selector is the way to control the speed with which the fonts change. This works in tamdem with other parameters like Font Rate of Change and Font ROC Randomness.

Monospaced Fonts

When using some of the filters, monospaced fonts animate really well. For Text Hacker, for instance, the transform between characters can appear more seamless.

Monospaced fonts are fonts where each letter takes up the same amount of space. Most fonts are NOT monospaced. If you look at an 'i' and an 'o' in most fonts, the 'o' takes up much more space. You can see the difference in the image below. At TOP, the 'i' of the regular font takes up far less space than the 'd'. At BOTTOM, the monospaced font's 'i' takes up just as much space as the capital 'W'.

A 7-letter word in a non-monospaced font will take up varying amounts of spaced based on the letters that are in the word. Whereas, with a monospaced font, a seven letter word always takes up the same amount of room.

Section V : Text Hacker

Introduction

Text Hacker is designed to convert one string of text into another or have a string of text appear out of random characters.

It only deals with single lines, no paragraphs in this one. You can specify lines of text that will be generated randomly or changed, set up the order that they'll change in, how long it'll take to change, and let it do the animation.

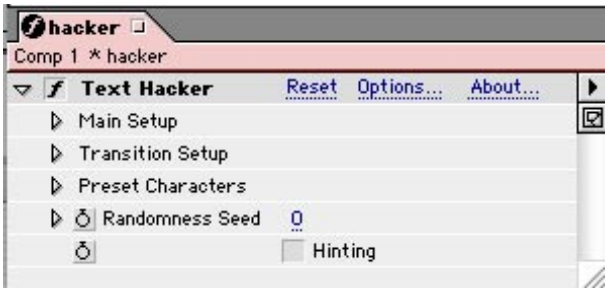
Options Dialog (Read This!!)

The important part about Text Hacker is that it's all set up with carriage returns. Yes, a simple click of the return key sets one target from the other. After you've selected your font or fonts, enter your text into the text field.

The first line in the text field is referred to as the Source. Depending on what display option you've chosen it's usually the first line to appear. All subsequent lines are called targets, because no matter what, they were formed from some previous word or set of characters.

Each 'new line' generates a new target. So each time you hit the <Enter> key, a new target is created. Text Hacker will display the first line, look and see if there's a second line, then change into that. There's no way to have a multi-line target.

Sources and Targets are explained in more detail in the Source vs. Target section below.

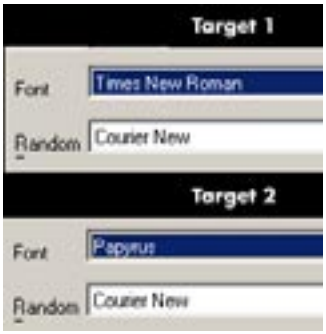


Many Targets, Fonts

Text Hacker doesn't have the ability to use multiple fonts for multiple targets [see Common Parameters, Multiple Fonts]. However, you can work around this issue if you have random characters between lines.

Select different fonts for the Source/Target and for the Random character. The trick here is to find a frame where there's all Random characters. When you find this, split the layer. Once you split the layer, change the font for the newly created layer to match the Random font.

Changing the Source/Target font won't affect the random characters. So, the random characters in both layers will be the same, making your transition unnoticeable. Once the second layer changes into the target, voila! A new and different font from the Font in the original layer.



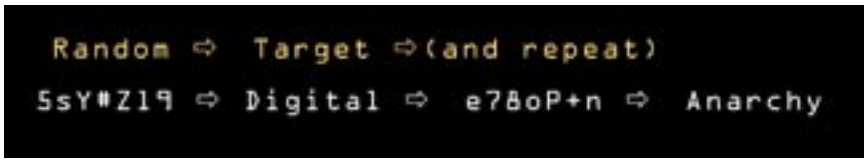
Covered in the Common Parameters Section

- Text Position
- Font Size and Font Size Randomness
- Font Size Rate of Change and Randomness
- Font Size Groups
- Color
- Alt Color and Randomness
- Alt Color ROC and Randomness
- Tracking
- Vertical Writing
- Preset Characters
- Lower/Upper Character Limit

Change Style pop-up

This has three options and sets how the text will be displayed.

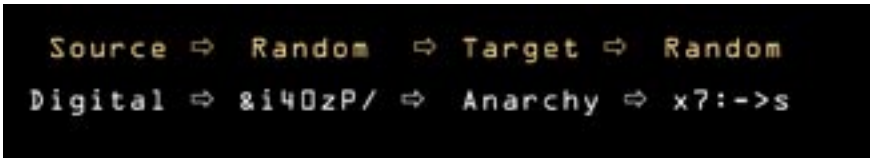
Random => Target (R>T): This results in random characters forming into each target. If there are multiple Targets, then random characters are created before forming each new one.



Source => Target (S>T): This causes the first inputted line to form into the second line. If there are multiple Targets, then each line forms into the subsequent one.

Source => Random => Target (S > R > T): This starts off with the first inputted line, with changes into random characters, which then changes into the second line. If there are multiple Targets, then there are random characters between each one.

S>R>T differs from R>T in two ways. First, obviously, S>R>T starts from a fully formed line. Second, each Target slowly decomposes into random letters before starting to form the next line. In R>T, after one target is finished it snaps to all random characters, more like a sawtooth wave. S>R>T is more like a sine wave.



Source vs. Target

The 'Source' is simply the first line you have entered. Every line that follows it is referred to as a Target, although, Targets can become the equivalent of Sources under the S>R>T display method. For example:

Line	Text	Source/Target for S>T and S>R>T
1	Digital Anarchy	Source of Line 2
2	After Effects	Target of Line 1, Source of Line 3
3	Text Anarchy	Target of Line 2

For R>T, line 1 is the first Target. Since R>T always reverts to Random characters after showing the Target, every line is a Target. Line 2 is usually a Target, but since it turns into Line 3 you can call it the Source as well.

Basically Text Hacker just goes down the list and changes one string into another. Sometimes it puts random characters inbetween, sometimes not.

Random Characters

Random characters are exactly that... characters generated from the normal ascii range resulting in 0-9, punctuation, lowercase, and uppercase letters. This may vary somewhat depending on the font you're using.

Time Between Targets

This determines how long it takes for a change to take place. Whether it's going from Random characters to a Target, a Source to a Target, or a Target back to Random characters, this controls the length of time. It's set in frames, so if you set it to 60, it'll take 60 frames to make the transition.

If you're using Source > Random > Target and Time Between Targets is set to 60, it'll take 120 frames to complete the animation. This is because it takes 60 frames to go from the Source to the Random characters, and another 60 frames to go from random characters to the Target.

Of course, this affects the overall time. You need to calculate how many targets you have and multiply it by the TBT to determine how long it'll take to finish the animation. If you have random characters appearing, they could as targets.

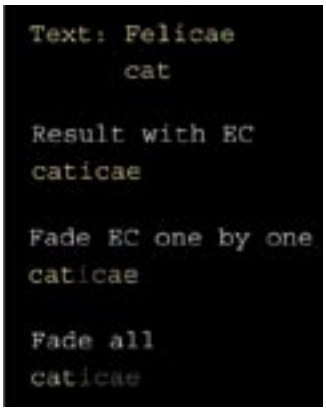
Excess Character

If you transition two words of different lengths, you're going to have extra characters left over. Text Hacker gives you a few ways of dealing with this. You can make the words disappear immediately, or fade off character by character, or fade off all at once.

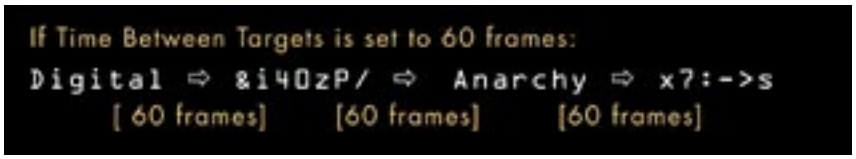
1. To have the words disappear immediately, just turn on the Fade In/Out EC checkbox. Since the Fade Time is set to 0, each character will disappear one by one.

2. If you set Fade Time to some other frame value, the characters will fade off one by one. Set it to 8, each character will take 8 frames to fade away.

3. If you select the Fade Together box, then all the characters will disappear together. Again, how fast or slow they disappear is set by Fade Time.



If you have 30 lines that you want to change over the course of a minute, you can set TBT to be 60 frames and be ok. If you have Random characters appearing between the normal targets then you'd have to use 30 frames or less. Otherwise, the normal targets and the Random targets won't fit into one minute.

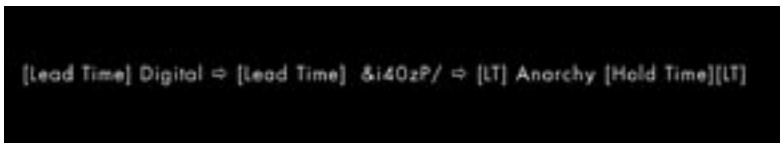


Lead Time

This causes a delay BEFORE any changes occur. This is set in frames. If you set it to 15, there will be a delay of 15 frames before characters start changing. If Random characters are first displayed, they will generate randomly for 15 frames, then start changing into the Target.

This works very similar to Hold Time. Depending on the display style selected they may combine together.

Lead Time is particularly useful for S>T or S>R>T where you want the Source to be displayed for a few moments so it's readable.



Hold Time

This causes a delay AFTER a target has been changed into. This is set in frames. If you set it to 20, once a change has occurred, it will hold that for 20 frames. This is useful, if you want to change into a target and not have it instantly start reverting back to random characters. This is particularly a problem with R>T, as the Target will instantly revert to all random characters the frame after it finishes changing.

Rate of Change

This sets how frequently the Random Characters change. At a setting of 1, characters will change every frame. At a setting of 5 they'll change every 5 frames.

Setting this to 1 will most likely give you a result that looks too chaotic on video. You'll get buzzing due to the rapidly changing characters. Setting this to 4 or 5 and setting ROC Randomness to 50%, usually works pretty well.

One Line At A Time

TypeOn, Text Hacker, and Screen Text all have ways of creating the effect of one line overwriting another. Which plug-in you'll use depends on exactly how you want the effect to look.

Text Hacker is probably the easiest. Enter in multiple lines of text, select Source => Target, turn on the Fade In/Out EC checkbox and that's it. Lines will literally overwrite each other as they appear. The advantage to this method is that the current line stays on the screen while the new line overwrites it.

TypeOn, in contrast, requires you to animate the Completion parameter from 0 to 100, and turn on the Overwrite checkbox. In this case, once a line has been written it's erased before a new line can take it's place.

(cont. next page sidebar)

Use ROC Randomness to vary how frequently each character changes. Otherwise, they all change at once, which produces a very rhythmic, mechanical look. This is usually not desirable.

Fade In/Out Extra Characters checkbox

This causes Extra Characters to adhere to the Fade Time parameter. Otherwise, characters that are left over from a change will just remain on the screen. If you change from Anarchy to Bob, the characters 'rchy' will be left over and appended on to Bob. Creating Bobrchy. A highly undesirable state where all the Bobs in the world take to the streets and riot. Don't let it happen to your town.

Fade Time

Sets the amount of time in frames that the extra characters will fade out or in.

Fade Together checkbox

This causes all extra characters to fade in or out together. Otherwise, each character will fade out/in over the time allotted by Fade Time. However, each character will wait for the character before it to fade, before it begins its fade. With this checked all characters fade at once.

Lock EC ROC to ROC checkbox

If the extra characters don't fade, and they become random characters, this sets that their rate of change to match that of the regular ROC. If this is not selected, the extra characters will have their own ROC, determined by the Extra Characters ROC parameter.

Extra Characters ROC

This determines the rate of change of any extra characters that turn into random characters.

Reverse When Completed checkbox

Once the filter has gone through all possible lines of text, instead of just stopping, it will reverse direction and go back through the lines of text.

One Line At A Time

(cont.)

So text in TypeOn doesn't actually get overwritten, as with Text Hacker. This may or may not be an advantage. Of course, TypeOn also gives you additional visual options, like a cursor.

Finally, Screen Text can also create overwriting lines. Set Scroll Speed to 0. Adjust the Frequency of Overwrite, which sets how often a new line will be displayed. And adjust the Display Speed parameter, which sets how fast the character type themselves onscreen.

The advantage of using Screen Text is that it gives you a bit more control over how fast lines appear or get typed on.

Section VI : Text Spiral

Read This First!

NOTE TO USERS OF AE 'COMPATIBLE' APPLICATIONS: Paths don't work in anything but After Effects. Most of AE-compatible applications don't support that part of the AE API. Since Text Spiral is completely based on paths, this filter will not work in any applications other than After Effects.

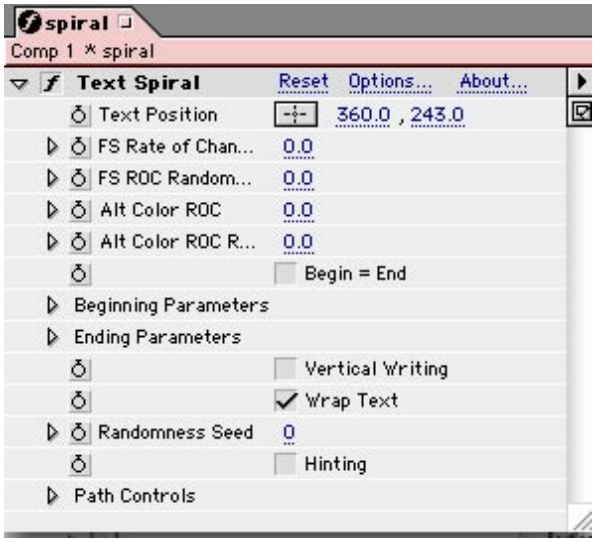
Introduction

Text Spiral allows you to set up text on a path. This can be done with well neigh a hundred plug-ins, so what makes Text Spiral different? Well, it allows you to set the attributes at different ends of the path to differing values. Attributes are the design options you normally associate with text, like Font Size, Color, and Rotation.

Create text that trails off into space, text going down a drain, 3D effects, text disappearing into space, and much more.

Options Dialog

This is where you enter in your text and set the fonts that you want to use. You can select up to 5 fonts. Like Font Changer you can have the fonts animate over time, changing from one to the other.



Covered in the Common Parameters Section

- Font Size and Font Size Randomness
- Color
- Alt Color and Randomness
- Alt Color ROC and Randomness

- Tracking
- Leading
- Length of Lines
- Baseline Shift
- Alignment
- Character Rotation and Randomness

Different from the Others

Unlike the other filters in Text Anarchy, Text Spiral has two sets of attributes for the text: the Beginning Parameters and Ending Parameters. You make changes to one or the other and the filter interpolates the inbetween values.

For example, if you want the Font Size to get smaller as it goes further along the path, change the Font Size in the Beginning Parameters to a larger value than the Ending Parameters.

Otherwise, the parameters should behave exactly as you would expect from the other Text Anarchy filters. The only difference with Text Spiral is that the parameters can change values from one end of the path to the other.

Sequential Fonts

The checkbox Sequential Fonts determines whether the text string changes into these fonts sequentially, going from Font 1 to Font 2 to Font 3, etc. or if they just change randomly. If the checkbox is selected the fonts change sequentially, if not, they change randomly.

The text field is where you enter the text you want displayed. If you have a paragraph of text, you don't need to worry about entering in carriage returns for each new line. There are now parameters to let you set the length of lines, leading, kerning, and other basic word processing features.

The 'Load' button allows you to load a text file in instead of typing the desired text in.

Global Parameters

There's a few parameters that act globally and affect what both the beginning and end parameters do. (More info about all these parameters are in the Common Parameters section.)

Text Position

This sets where the path begins. The text will originate from here and since you can't have two starting points on a path, this parameter determines where all the text will start from.

The position of the rest of the text will be determined by the path, but the starting point for all text will be wherever this is located.

Font Size Rate Of Change and FS ROC Randomness

If the Font Size parameter has Randomness applied to it, the font size of each character will vary. Not only will each character have a different font size, but that font size will change during the course of the animation.

Font Size Rate Of Change determines how quickly the characters change their font size. This is set in frames, so at 5, the characters will change their size every 5 frames.

This parameter determines the Rate of Change for both beginning and ending Font Size Randomness parameters. Having different Rates of Change for the beginning and end produced unpredictable results in Text Spiral, so we thought it best to just make it a global parameter.

Begin = End

This causes the Ending parameters to take on the values of the Beginning parameters. There would be no difference between the end of the path and beginning of it.

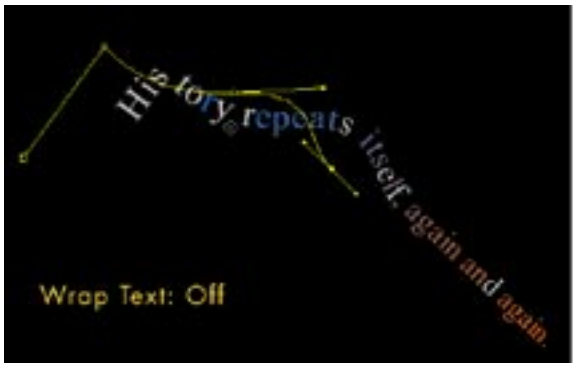
Path Controls

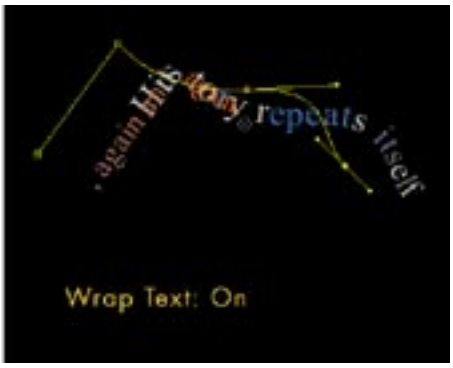
The path controls are similar to what you'll find in the other filters. However there are a few differences.

Wrap Text

Text can be animated along a path in Text Spiral. This is great, but creates a problem. What happens when the text goes off the edge of the path? With Text Spiral there are two options.

The first, described in the Start/End Point section, sends the text in a straight line off the path. The second, Wrap Text causes the text to wrap around to the other end of the path. This creates sort of an infinite loop (in the sense it never ends) as long as you keep animate the Start/End point.





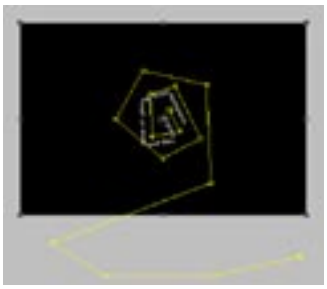
Wrapped Text

One problem with Text Spiral is that it's difficult to make text disappear off the end of a path. The solution lies in Wrap Text.

Choose to Wrap Text, and the text disappears off the edge, but then it reappears at the beginning of the path. If you don't Wrap Text, the text continues in a straight line off in the direction of the last point on the path.

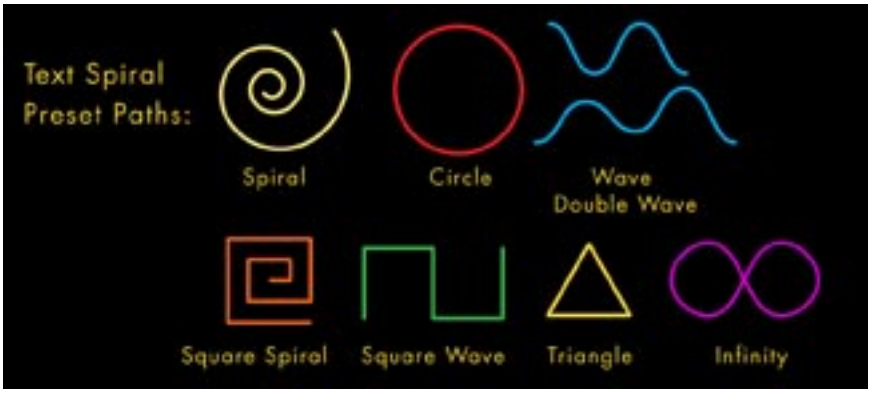
Since you can precisely control where the text appears on the path, you can have a very long path and only use a small part of it. Control the position with the Start/End Point parameter.

In the image below, a portion of the path extends outside the frame of the comp. When the text wraps, it'll wrap to this off-screen portion of the path, invisibly falling off the path that's onscreen.



Preset Path

If you select one of the paths from this pop-up then anything selected in the Path pop-up is ignored. This provides a quick and easy way of selecting some common path shapes. They work like normal paths, except the size can be adjusted with the Path Size parameter, which provides an additional way of animating within Text Spiral.



The preset paths also behave differently than regular paths.

The Wave, Double Wave, and Square Wave have a particularly useful attribute. They never end. So unlike other open paths, as you animate the Start/End Point your text makes like a bunny and keeps going and going and going in a wave.

The Spiral and Square Spiral shapes bounce when you hit the center. Meaning if you animate the text down into the center, it doubles back on itself. Normally, with an open path like that, the text will either go off in the direction of the last point on the path (Wrap Text Off) or wrap around to the beginning of the path (Wrap Text On).

Path Size

Path Size only works for the preset paths. It allows you to scale the paths up or down, making adjustments easy. This makes for some cool animations.

Path Start/End Point

Normally, the text will start out from the first point you draw on the path. If this parameter is set to 0, that is in fact where the text starts out – right at the first point (taking the Text Position parameter into consideration).

However, there are many times when that default is not desirable. Or you may wish to animate the text along the path. This is where Path Start/End Point comes in. It adjusts where the text starts and ends on a path. You can

When to Use Text Spiral's Begin = End

Other than a few cases, like making the text wrap around a path, we generally recommended that you use Cool Text to animate if there isn't going to be a change in attributes from start to finish of the text line.

Cool Text has more robust controls for the text and can do most of what Text Spiral can do when the characters all have the same attributes.

Handle Uniquely

Text Spiral's unique Beginning and End setup does occasionally create some odd, potentially unwanted effects.

Font Size, for example, will change the spacing between characters. So if one end of the path has a smaller font size, there's going to be more space between each letter. You can adjust this discrepancy by lowering the Tracking value.

See the sidebar Know Where You Start and End for more info about paths.

make adjustments to account for not placing the first point at the correct location. Or, you can simply animate the text, and it will travel around the path.

We used a dial to simulate a closed path. If you move the dial around in a full revolution, the text will end up back where it started, at the first point of the path. With open paths, a full revolution will move all the text off the path, so it disappears.

You can also move the text in the negative direction, making the text go off the start point of the path. This behaves exactly the same as going past the last point... the text continues in a straight line in the direction it was traveling when it when past the start point.

Wrap Text with Start/End Points

If Wrap Text is turned on when you animate the Start/End Points, your text will wrap back around to the front. Once the text goes past the last point of the path, it either:

- goes straight into the direction of the last point
- returns to the beginning of the path.

Whatever direction the text is aimed in when it gets to the last point is the direction it will continue to go. That is, if you keep animating the Start/End Point and don't wrap the text.

Character Perpindicular to Path

This adjusts the rotation of characters to the angle of the path, keeping each character perpendicular to the path.

Reverse Direction checkbox

This causes the text to follow the path in the opposite direction. Usually a path has a direction. It goes from the first point created to the last point. Text will be flowed according to that, with the first character of the text by the first point created.

Reverse Direction switches that, so that the first character appears by the last point creating and flows towards the beginning of the path.

Section VII : TypeOn

Introduction

TypeOn is a filter designed to produce the effect of a typewriter or someone typing on a computer. This makes it similar to Screen Text, with the key difference that Screen Text is designed to produce random text or text that looks like it's being outputted by a computer. TypeOn is more like something you'd see typed in by a human with more control over the look of the text, such as kerning.

IMPORTANT: The main parameter in TypeOn is the Completion parameter. By animating this your text will be typed onto the screen.

Options Dialog

This is where you enter in the text you want displayed. Nothing fancy about this one. Just enter it in and animate the Completion parameters and you're good to go.

Covered in the Common Parameters Section

- Font Size and Font Size Randomness
- Text Position
- Alignment
- Tracking
- Leading
- Kerning
- Randomness Seed

Color, Alt Color, and Frequency of Alt Color

Color, as you might have guessed, sets the color of the text.

Alternative Color and Frequency of Alternative Color allow you to set an

alternative color, and determine how often it appears. The color is then randomly applied to characters that are produced as the text is typed on. The higher the frequency, the more characters will appear with the alternative color. If you set Freq. of RC to 100%, then all characters will be the color specified in Alternative Color.

This also sets the background colors that appear if the text is inverted. See the Inverted parameter description for more info.

Overwrite

If you have multiple lines of text, as one line gets completed, the next line will overwrite it. Usually the text will just scroll up to make room for the new line. If this is turned on, the first line disappears, as the next line starts to appear.

Completion and Completion Randomness

This is how you animated the text. It's the most important part of the filter. As you animate this from 0 to 100%, the characters type themselves on. It doesn't make any difference how much text there is, 100% will always result in all of it being typed on. Obviously, if you have more text, it will appear to type on faster than shorter amounts if you animate this over the same time period.

Completion Randomness produces a somewhat odd effect. It causes the completion percentage to jump around causing the text to jump on and off the screen. This can be useful if you want a random, chaotic animation with text typing itself on and off. It's not super useful for normal situations, but it can produce a neat effect.

Type-On

This aligns the rows of text. It can either be Normal, Left, or Centered.

- Normal, or right aligned, results in a similar effect to typing on a computer. Your cursor moves forward as you type.
- To make it behave like a typewriter, select Left. On a typewriter, the cursor (place the keys hit) stays in the same place. The text (on a piece of paper) moves as it gets out of the way for the next letter to be placed.
- Random just has the text appearing randomly as you increase the percentage.

Once the Completion percentage is set to 100%, all the characters will be on screen.

Type On versus Screen Text

Basically, TypeOn is used when trying to mimic a human, Screen Text when you're mimicing a computer.

Type On gives you a high degree of control over how and when text appears on screen. Chiefly, the Completion param can be keyframed and the speed curves manipulated with high detail. This makes it possible to easily mimic the uneven typing rate of someone using a keyboard by simply setting keyframes at uneven intervals, with Completion values that do not interpolate linearly. Additional params such as Cursor and Blink Speed serve to further reinforce the effect.

Screen Text is better suited to generating random text streams and controlling when they appear by manipulating the Rate of Change param. By adding Random Characters, you can quickly generate grids of text that mimic 'data' being spit out by a computer.

Down

Usually, if you have multiple lines, a new line will push the old line it's replacing up the screen. This is similar to what you'd see if you were typing in commands at the bottom of a shell window. As you type one line in, all the lines above it are shifted up one to make room to display the new line or results from the command.

This isn't very useful if you want to simulate someone typing at the top of the shell window. In this case, select Down and new lines will be created underneath old ones, and the old ones will remain where they're at.

Typewriters versus Computers

There's an important difference between the way text appears when typing on a computer vs. typing on a typewriter.

On a computer the characters get added from left to right. As you type the cursor moves to the right across the screen. When you get to a new line, the cursor jumps back to the left margin.

On a typewriter, however, your cursor, which is the spot where the keys hit the page (anyone remember?!), does not move. It's locked in place and the paper moves to the left as you type, propelled by the roller it's on.

This results in your text moving from right to left as the paper roll carries it to the left.

So, if you're trying to emulate a typewriter, you'll want to set the 'TypeOn' parameter to 'Lefty'. This will keep the cursor stationary and move the text to the left as you would see on one of those old skool, mechanical things.

Cursor

Creates a unix style cursor in front of your text. There are four options:

- Leading Square: Similar to what you .nd in Irix. Positions a block in front of the text being typed on.
- Inverted Square: Puts the block over the last character typed on and inverts that one character.
- Leading Line: An underline is placed in front of the last character.
- Underline: Positions the underline beneath the last character typed.

Cursor Blink Speed

As you might imagine, this sets how fast the cursor blinks. It's set in frames, so if it's set to 1, then the cursor will be on for 1frame, and off for 1 frame. If it's set to 10, it'll be on for 10 frames and off for 10 frames.

Invert Text

If you've been around computers for awhile, you'll recognize this effect. Creates a block around each character and the character is inverted within the block. Very old school computer look. Very useful when you want to give the text the look of importance. Anything that says 'Danger!' should always be inverted. I'm sorry, I didn't make the rule. It's just the way it is.

Text Blink Speed

Well, if Inverted Text wasn't enough, nothing says Danger! like blinking, inverted text. This sets the speed of blinking text. It's in frames, so similar to the Cursor Blink Speed, if it's set to 5 frames, the text will be on for 5 frames and off for 5 frames. Among it's many features, Blinking Text has been known to send small children into epileptic fits. This is generally to be avoided, so please restrain yourself from excessive use of this feature. This has been a public service announcement.

Section VIII : Text Matrix

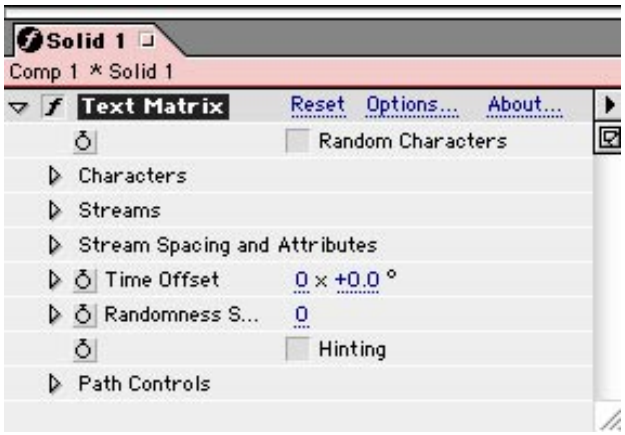
Introduction

At a very basic level, this plug-in was designed to create 'matrix-esqe' effects, with text raining down in streams. Our example below is exactly that. No keyframes, only one layer. Just create a solid, apply the plug-in, and make a few parameter tweaks.

You can certainly get some interesting effects beyond the defaults just by playing with a few sliders. But there's a lot more to Text Matrix, including is its ability to use paths to control the streams and characters.

Options Dialog

This is where you tell Text Matrix what font to use and where you set up specific text to be used. In either case, you can generate words randomly, or you can tell the filter to read words or lines sequentially.



Covered in the Common Parameters Section

- Characters
- Random Characters
- Font Size and Font Size Randomness
- Rate of Change and ROC Randomness
- Use Alternative Characters checkbox
- Lower Alt Character
- Higher Alt Character
- Randomness Seed

Characters Section

If you choose not to enter any text manually, you can have Text Matrix just generate random text. IMPORTANT: You'll need to check the Random Characters checkbox in order to generate text characters.

You can also specify which characters will be displayed, by adjusting the Alternative character settings.

Character Spin

Character Spin works a bit differently. The value of Character Spin is the amount that each character gets rotated each frame. You don't need to set any keyframes, just set a value, say 3, and hit render. In this case, each character would rotate 3 degrees each frame.

Taking the Rotation example of 180 degress, you could certainly do that with Character Spin. Just divide 180 degrees by the number of frames you want it to occur over. If we wanted it to occur over 60 frames, easy! 180/60 = 3. Just set a hold keyframe at 3, and 60 frames later, set another keyframe for zero.

What if we want to have it occur over 70 frames? Just set it to: 180/70 = 2.5714285714285714285714285714286.

Ack! Er... just use Character Rotation. Much easier, unless you just like doing lots of math, in which case, please be our guest and use Character Spin. :)

Color and Leading Character Color

Text Color is the color of the characters. Nothing complex there.

Leading Character Color is a bit more interesting, but equally simple. It allows you to specify a different color for the first character in a stream. The goal here is to make the streams a bit more interesting and to mix up the colors a bit.

Color Blending

This can also be used with Color Blending to gradually fade the leading color into the normal Text Color, all the way up the stream. Be default, it's set to 0, which is what causes only the first character to be affected.

Of course you can use other filters or layers to influence the text colors, but this allows you to add some variety within the plug itself.

Streams Section

Streams are simply the lines of characters which have their own attributes, such as opacity, length, horizontal or vertical, speed, etc. Streams allow you to group characters together creating all sorts of interesting effects, from the good ol' Matrix effect to Slot Machine Wheels. There are also a number of parameters here controlling the positioning of the streams.

Spin and Rotation

The streams at LEFT have no spin setting, but have the rotation set to 90 degrees.

The streams on the RIGHT have no rotation, but have a spin setting of 4 degrees. Notice that each character is rotating seperately.

Center of Streams and Center Randomness

This is a bit of a misnomer. It should really be called the Origination Point. It defines the upper, left starting point of the streams. As you add more streams they extend to the right edge of the screen from this point.

Center Randomness varies the origination point of each stream.

Number of Streams

This is one of those parameters that it's tough to do anything but state the obvious. So...this allows you to set the number of streams that make up the matrix of text.

The streams, by default, fall vertically and are spaced out horizontally. So if you set Number of Streams to 10, you'll have 10 slots spaced out (courtesy of the Space Between Characters parameter, which will be explained later) across the screen that streams can fall in.

There are ways to get the streams to break out of their grooves, which we'll discuss that a bit later. For the moment, the streams are nicely behaved, gettin' their groove on, and staying in it. Hmm... well, guess we did go a bit beyond stating the obvious. Who knew?

Length of Stream and LoS Randomness

Alrighty, now we're getting into the heart of of the plug-in. Length of Stream (LoS) defines the number of characters that the stream will have in it. The higher the value the longer the stream.

The characters get revealed over time. New characters appear as old ones move out of the way. So, the higher the Speed setting, the faster the stream will reach its maximum length. Of course, it'll move off the screen faster as well.

LoS plays a large part in how your final animation looks. Very long streams will end up just being columns of characters on the screen. If you don't want this effect, then keep the value relatively low. This will give you lots of variation, particularly if Time Between Streams is set to a low value.

If you want to adjust the starting position of your streams, check out the Phase parameter, described below.

Randomness, like usual, varies the LoS of each stream on a stream by stream basis. [Check the Common Parameters section for more info on Randomness.] This is actually fairly important, as this in combination with Speed Randomness, and Time Between Streams Randomness will give you variety in the look and positioning of the streams.

Smoothly Down Stream, er, Screen

Characters in streams will usually move smoothly down the screen. This makes everything feel very random, a bit like flowing water.

If you don't want this kind of smooth randomness, check out the Snap To Grid checkbox. This will force all characters into appearing in a predefined 'matrix'. Much like a digital clock screen or old computer terminal.

Try setting a value of 1. This will give you streams of 1 character, which, well, isn't really a stream. You'll simply end up with lots of single characters falling from the sky. However it's a pretty neat effect.

Speed and Speed Randomness

Speed, obviously, controls how fast the streams move. If you set this to 0, the streams don't budge. Actually, if Speed is set to 0, you get a bunch of one-character streams.

The streams usually require that one character move out of the way before another character is displayed. If the initial character doesn't move, the second character has no place to go. So the second character just sits at home waiting for the casting call. Once the initial character gets a movin' and makes some room on the stage, the second character makes an appearance.

Whatever you set Speed to is how many pixels the streams, and/or characters in the stream, will move per frame. This is where Speed Randomness comes in. With speed randomness set to zero, the streams all just move down the screen in one big block o' text. Which you may want. Or you may not.

Speed is probably the most essential parameter to Text Matrix. You have to have something set here, or else, it's a pretty unexciting plug-in.

Time Between Streams

This determines how long (in frames) TM waits before producing a new stream, once an old stream has reached it's maximum length. If this is set to 30, then 30 frames after a stream has reached it's max length, a new stream will be produced, regardless of whether the old stream has disappeared off the screen. This is what determines if you can have more than one stream in a given 'groove'.

You may want text raining down on the screen like, well, like rain. Rain is pretty random, so in this case you'd want to crank randomness up to 100%. Now you've got streams beginning and ending all over the place. Again, using this with Length Randomness creates the variation needed to really make the streams seem random.

Direction of Streams and Direction Randomness

This controls the direction of the streams. You can have them going at an angle, going horizontal (set it to 90 degrees), going up, whatever.

As you rotate the streams, they'll rotate around the Center of Streams point as if it were the upper left corner (which it is). This produces a hard edge where the streams get created. To remove this simply drag the Center point of the edge of the layer, until the edge isn't visible any more.

Direction Randomness has one quirk. Each stream is rotated randomly, however, it's rotated around it's starting point. So instead of having all the streams go out from a central position, the go out randomly from what appears to be a line, basically the edge that occurs when you rotate them.

You can solve this problem (assuming you consider it a problem) a couple ways.

One: set the number of streams really low, say 4, so they're all at about the same origination point, and set Time Between Streams really low, like 10, so you have a LOT of streams being created.

Two (and probably the better way): Set Space Between Streams to a negative value, so that all the streams are on top of each other. This gives them all the same origination point and when you move the Direction Randomness slider from 0 to 100, all the streams spread out like a flower.

Outta That Groove

Notice that the TOP set of streams are lined up with the BOTTOM streams. Usually, streams are stuck in a groove. They can catch up to streams that came before them, but they don't usually shift to a different slot.

Adding Randomness to stream values will add variety to your streams.

Snap To Grid Checkbox

Snap to Grid, as mentioned earlier, causes the characters to lock to a matrix, which is defined by the SBS and SBC parameters. This creates a more 'digital' or computerized look. Instead of smoothly moving down the screen, the characters jump from preset position, to preset position, all the way down.

Auto-Point Size/Spacing Checkbox

This checkbox takes the Number of Streams and automatically adjusts the point size of the characters and the Space Between Characters, to fill the screen up with characters. There is an upper limit on the point size of the characters, so if you have too few streams, it won't fill the screen up. This is basically a quick and dirty way of filling the screen up.

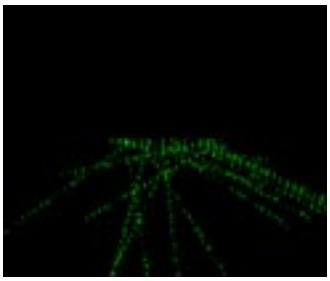
New Streams Overtake Old Checkbox

Normally, the speed of streams will be such, that even when randomized, no streams in the same 'slot' (or groove or whatever) will catch up to one that's in front of it. The first one will always get off the screen before the second one catches up to it.

This checkbox overrides that. With this checked, streams can overtake older streams and overlap on top of them.

No New Streams

This prevents any new streams from being created after the first set of them are displayed.



TOP: The Space Between Streams is normal, and the streams look like they are scattered along an edge.

BOTTOM: The streams are pushed together with a negative Space Between Streams setting and all have the same origination point.

Stream Spacing and Attributes Section

This section controls the 'look' of the streams. The spacing between characters, and between the streams themselves, whether they fade in or out, and the opacity. The spacing between characters acts either similar to what leading or tracking would be in print, but it varies depending the orientation of the streams.

Space Between Streams and Randomness

These two parameters control the spacing of the characters. Space Between Streams (SBS) moves the streams closer or further away from each other. This works regardless of the orientation of the streams, or if they're on paths or not. Use this to spread the streams across the screen or pull them on top of each other.

Space Between Characters and Randomness

Space Between Characters (SBC) does the same except for characters. Essentially the same as tracking or leading, depending on the way the streams are oriented.

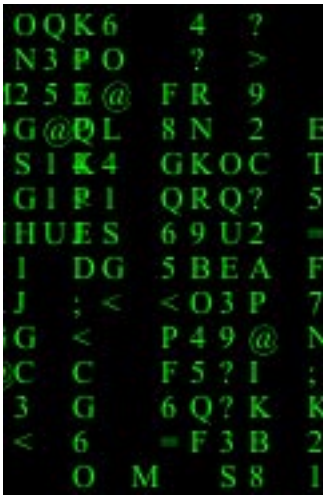
The two parameters also control how the matrix is set up, when you select Snap To Grid. If you want the characters to be closer or further together, adjust these two to get the right character 'spots'.

The Randomness parameters here and for Space Between Streams (SBS) behave the same as other Randomness parameters, except they have a more dramatic effect on the animation. This is what lets the streams break out of the 'grooves' we talked about earlier.

By default, SBS controls where the grooves are. By setting the SBS

Randomness to something above 0, each stream will be close to the groove, but doesn't need to be exactly in it.

This is very useful for increasing the complexity of your animation and making things look less 'preset'. Streams can overlap, some will be close, some far, it'll give you a much greater sense of natural motion. Exactly the opposite of Snap To Grid.



The results of Snap To Grid. The TOP image has streams scattered about. At BOTTOM, all of the characters are locked into grid positions.

These can also be set to negative values, allowing you to get the streams or characters to bunch up together. This is very useful in the case of Direction Randomness.

Fade In and Fade Out

These cause the streams to taper off in opacity as they are coming or going. It's actually more correct to say that it causes the characters opacity to taper on/off. The Fade In value is how long it takes a character to become fully opaque from the time it appears on the screen.

Likewise, the Fade Out value is the number of frames before a character will start fading out. Since there isn't a definite 'lifespan', this is calculated from when the character was created. So if it appeared on screen on frame 10, and the Fade Out value is 90, then on frame 100, it would start to fade out

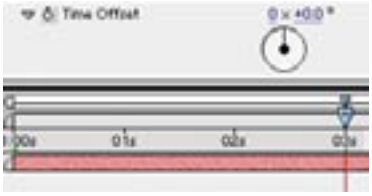
Opacity and Opacity Randomness

Opacity simply determines the overall opacity of the streams. Nothing complicated here. At 100%, the streams is fully opaque, at 0% the streams are fully transparent, and you can't see them.

Time Offset

Think of Time Offset as a way of moving an invisible Time Marker to a point along the Timeline, and being able to set that point as 00:00:00. You're not moving After Effect's marker, just an internal one for Text Matrix.

Time Offset cycles through the animation and allows you to begin the animation at that point. For example, say you like the way Text Matrix looks on Frame 90. Setting Phase to 90 will cause Frame 0, to look like Frame 90 and the animation will continue from that point. It's a great way of getting around any lag time waiting for the streams to generate onscreen.



An example of Time Offset. Notice that the LEFT screen shot is 90 frames out at 03:00. At RIGHT, the screen shot is at 00:00, but Time Offset is set to 90 frames.

The result of both these settings is the image at the top. They produce exactly the same result.

Time Offset also provides an easy way of 'time remapping' the effect. Just start Time Offset at 360 or something, and animate it backwards. You'll have streams crawling up the screen. Although, if you have a bunch of other parameters animating as well, it may get a bit confusing. You'll have everything animating forward in time, but Time Offset will be animating backwards, essentially.

Hah! A new feature! Text Matrix allows you to reverse time, while moving forward in time. A necessary feature for time travel.

Path Controls Section

One of the most exciting things about Text Matrix is the ability for streams to follow paths. Simply create a mask on the layer you've applied Text Matrix to, assign that path to the streams using the Text Path parameter, and you've got streams of text flying all over the screen! Make a mask of a star or wave and the streams will happily follow around the outline.

The combinations of character, stream, and path attributes opens up a world of possibilities and different effects. Most parameters can be 'randomized', causing random variations in the font size, speed, stream length, and virtually everything else.

Text Matrix also supports animated paths, so you could animate the wave and the streams will follow it along, undulating with the wave motion.

Limitations to Paths

One of the downsides to using paths is that they do slow down the plug-in, especially for long animations. Time Offset [see above) also affects this.

The further into the animation, the more streams that need to be kept track of, and the slower the particle system gets. Having to keep track of the

Stream of Streams

Imagine having a piece of metal with 10 grooves cut into it. Water can only go into the grooves. The streams of water may not be constant, so you may have two small streams in different parts of the groove.

The streams can ONLY be in the grooves, so if you count up the streams, including the cases where there are two streams in one groove, you could possibly have more than 10. However, you will never have more than 10 grooves for them to fall through.

This is basically how Number of Streams work.

streams on the vector path gets a bit processor intensive. Just something to be aware of as you're using it.

NOTE TO USERS OF AE 'COMPATIBLE' APPLICATIONS: Paths don't work in anything but After Effects. Most AE-compatible applications don't support that part of the AE API. It's a limitation of the host application, not the plug-in.

Preset Path

If you select one of the paths from this pop-up then anything selected in the Path pop-up is ignored. This provides a quick and easy way of selecting some common path shapes. They work like normal paths, except the size can be adjusted with the Path Size parameter, which provides an additional way of animating within Text Spiral.

The Wave, Double Wave, and Square Wave have a particularly useful attribute. They never end. So unlike other open paths, as you animate the Start/End Point your text makes like a bunny and keeps going and going and going in a wave.

The Spiral and Square Spiral shapes bounce when you hit the center. If you animate the text down into the center, it doubles back on itself.

Time Offset and Keyframes

One odd thing about Time Offset is how it affects keyframes. Keyframes still happen at the time they're set at, but if you use Time Offset, you shift the beginning of the timeline out. So that the beginning of the Timeline, isn't really the beginning.

If you set Time Offset to 90, 03:00 on the Timeline is your real starting point, not 00:00. So any keyframes that are set before 03:00 won't be seen.

Make sure you keep this in mind when using Time Offset and setting keyframes for Text Matrix.

Path Size

This only works for the preset paths. It allows you to scale the paths up or down, making adjustments easy. Makes for some cool animations.

Text Path

This pop-up simply allows you to select which path you want to use. Since it recognizes any path, you can create a variety of paths and try them out with a given animation, or use the same animation to follow different shapes.

Orient Character to Path

This adjusts the rotation of characters to the angle of the path, keeping each character perpendicular to the path.

Reverse Direction checkbox

This causes the text to follow the path in the opposite direction. Usually a path has a direction. It goes from the first point created to the last point. Text will be flowed according to that, with the first character of the text by the first point created.

Reverse Direction switches that default, so that the first character appears by the last point creating and flows towards the beginning of the path.

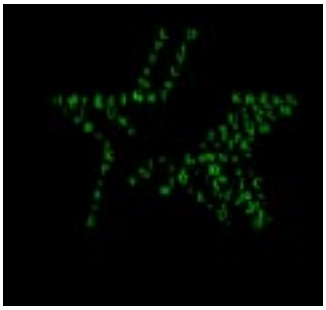
Path Start/End Point

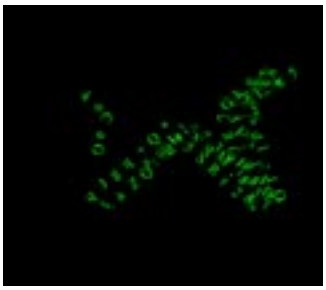
This moves the starting point of the path. Usually, streams will start at the top, and work there way around a path. This parameter allows you to shift the starting point.

Picky Paths

At TOP is your standard path. Turn on a mask from the pop-up, and this is what you'll get.

The BOTTOM image has the Start Point moved 90 degrees, and the Orient Characters to Path checkbox is selected.





Section IX : Text Grid

Introduction

Text Grid is a plug-in designed to fill a background with characters or symbols. These characters can remain static or change randomly and are spread over a grid. The characters can flow across the grid and you have complete control over the characteristics and the way they behave (direction, speed, etc.).

You can define the number of rows and columns, the spacing, and introduce randomness into the grid, so it's not so grid-like. Grids are really great, but there are times when you want your grid to 'think different.' Adding a bit of chaos will do that.

Options Box

This is where you'll set the font, and set up any custom text and how it appears.

You'll see later that you can set the rows and columns in the 'grid' that the text is displayed in. If you manually enter in text (or use a text file via the 'Load' button), Text Grid will ignore the columns setting and create however many columns is needed to display your text. Rows are acknowledged and the number of rows set, will be the number of rows on the screen.

Covered in the Common Parameters Section

- The Text Dialog Box
- Random Characters
- Preset Characters
- Lower Character and Upper Character Limits

- Font Size and Randomness
- Rate of Change of Characters and ROC Randomness
- Randomness Seed
- Hinting

Character Attributes Section

Character Attributes is where you're going to set up how the individual characters look and behave. There are other parameters in other sections that affect what individual characters do, but this section lets you set up their basic behavior.

Color, Random Color, and Frequency of Color

Color defines the color of the characters. Pretty straightforward.

Random Color and Frequency get a little more interesting. By setting Frequency to something other than zero, Text Grid will start randomly giving characters the color defined by Random Color. The higher the Frequency amount, the more characters will have the Random Color. If Frequency is set to 100%, the entire grid will be the Random Color.

If the Random Color is exactly the same as the normal Color, the Frequency slider won't appear to have any affect, as it's replacing one color with the exact same color.

One interesting thing to do with this is to set the Random Color to the color of your background. If you have a black background, set it to black. This will make the characters with the Random Color invisible... well, not really, but you can't see black characters on a black background. If something passes behind the black characters that isn't black, then, yes, you'll see the black characters.

Grid Setup Section

Grid Setup allows you to determine what the grid is going to look like. How many rows or columns, positioning, etc. This is going to form the basis of whatever effect you try and achieve, so this is a good place to start when you're setting everything up.

Grid Position

This sets the upper, left hand corner of the grid. All rows and columns go out from here. If you animate the Space Between Columns, or the number of Rows, they will all animate from this point. It's similar to an anchor point in After Effects.

The Grid Position can be animated, and can be positioned off the layer. This can allow you to pull off some nice effects using the boring old position point. For example, you could animate the GP down, while lowering the number of rows, and make it appear as if rows are being subtracted from the top and bottom of the Grid.

Rows and Columns

They simply define the number of Rows and Columns in the Grid. Characters are then filled into the various slots.

However simple, virtually every other parameter is affected by the way the Grid is set up, and these are the two primary controls for doing that. The look of your animation is going to rely heavily on how many Rows and Columns you have and the spacing between them.

Mono y Mono

The thing to keep in mind with Space Between Rows and Columns is that since Text Grid IS a grid, all the characters 'slots' are equal distance from one another. This creates a few problems with fonts that aren't mono-spaced.

Many fonts are designed to vary the space between characters, depending on what the character is. Look at the 'i' and the 'g' above. Due to the way the normal font is set up, there appears to be more space between the two characters than between other characters. However, if you look at the mono-spaced font, this is clearly not so, and it's an issue with the font.

There's no real solution for this problem in Text Grid, other than to use a font where the spacing isn't such an issue. It's definitely something to be aware of, though.

Space Between Rows/Columns, and Randomness

These parameters allow you to set up the spacing between your rows and columns. These would be kind of similar to setting the Leading and Kerning in a normal text program.

The Randomness slider varies the space between the individual Rows and Columns by some random amount. This creates a much less rigid grid. It will still be obvious that there is a grid, but it eliminates the 'pattern' of the grid (e.g. 5 spaces, then a column, 5 spaces then a column, etc).

Moving Rows and Columns checkbox

This only matters when Flow Speed is set to something other than zero. Usually, Flow will cause the characters to move across the grid, from column to column, row to row, but the grid will stay stationary. For example, like a stock ticker, where the characters move across the screen, and are replaced by other characters as they move.

If Moving Rows and Columns is selected, the characters will stay in their positions in the grid, and the entire grid itself will move, in one big block of text. New characters will not be added as the rows and columns move, nor will new rows or columns be created as the existing ones move.

Jitter Section

Jitter moves the individual characters around from their normal spots on the grid. The characters stay more or less confined to their place in the grid but shift a given amount every so often. This creates jumping, dynamic text.

Be careful, as too much Jitter can make your words unreadable. However, it can impart a sense of energy or stress onto your letters.

Row Jitter and Column Jitter

The amount that characters shift is controlled by the Row Jitter and Column Jitter parameters. The higher these numbers, the farther away from the original position the characters will move. You can set this to some really high amounts, however, especially for video, we recommend against it. You can create some nasty flickering effects if this is set too high.

Got the Jitters

TOP: A normal grid. BOTTOM: A grid that's been heavily 'jittered'.

Jitter Frequency and JF Randomness

That said, at more moderate amounts, it can create some really nice effects. The Jitter Frequency and JF Randomness, help prevent the flickering at these amounts. Jitter Frequency controls how often the characters change positions. If this is set to 4, then each character will change positions every 4 frames. This helps remove any flicker, and if you want the characters readable, this makes the text more legible for viewers.

JF Randomness helps vary this change rate, and prevent EVERY character from changing every four frames. Set at 25%, some characters will change every 3 frames, some 4, and some 5. Obviously the higher you set this, the wider the range.

Flow Section

Flow pushes characters in the grid, and moves them in a direction. The text 'flows' across the grid, creating various patterns, or revealing words.

If the text has been defined in the Options Dialog box, this new character will be pulled from the text entered there. Otherwise it'll be another random character.

Flow Speed

This controls how fast the characters move across the screen. It's relative to the font size (the font size controls the spacing of the grid). The bigger the font size, the slower a given Flow Speed will move the characters. Actually this is really in pixels, but since a bigger font size, means more pixels to cross before you get to the next column or row, the font size has a big effect on this.

Remember, it's a grid, and characters can only jump from one position to the next. It can't smoothly travel from one to the other. So the characters have to sit still until they would have traveled to the next grid space. For example, if a character is moving 1 pixel per frame, and the next

column is 16 pixels over, it has to wait 16 frames before jumping over. You can't have it moving before then, because it would be all the way in the column, and that defeats the purpose of having rows and columns in the first place.

Flow Direction

This is the direction that the characters will flow in. It can be set to go in any direction. Again, because characters can only move from position to position in the grid, diagonal motion looks particularly jumpy. This works best if set to 45 degree angles.

Adjusting the Space Between Rows/Columns Randomness or the Jitter amounts can affect how this behaves and looks. The less like a grid the characters appear to be arranged in, the smoother the flow in any given direction, including diagonals.

In the Flow of Things

Flow can be useful in creating stock tickers, scoreboards, or other similar types of displays. Characters will move across the grid from row to row, or column to column.

As characters move from one column to the other, they are either replaced by the character from the column next to it, or, if there is no column next to it, by a completely new character.

Change During Flow checkbox

By default, when Flow Speed is set to something other than zero, the characters won't change. This is because, as the characters are moving, if they start changing, it becomes impossible to detect a pattern, and it just looks as if each character is changing randomly.

If you'd like Flow to pay attention to the Rate of Change parameters, just select Change During Flow. Usually, if Rate of Change is set to 5 or higher, a pattern is detectable and won't adversely affect the results of the characters moving. It helps if ROC Randomness is used to prevent every character from changing at the same time.

Magnify Section

The Magnify Sections distort the text that underlies them. These sections are quite possibly the most powerful parts of the spark. They allow you to create all sorts of different distortion effects, especially when used together. The two sections are definitely worth exploring.

Let's explain the parameters briefly, then we'll discuss how they work together.

Read This Part!

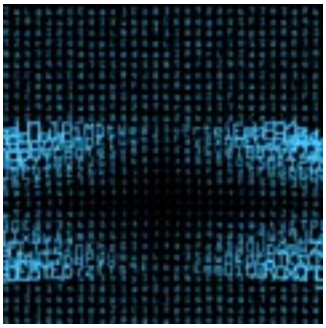
The first, and most important, thing to know about the Magnify controls, is that you need to set Width and Height to something OTHER than 0.0. This is what they default to, so you can play with all the other controls until your face turns blue and not have anything happen. Make sure both Width and Height have positive values.

Magnify and Taper

A couple examples of how to use the Magnify and Taper controls.

The TOP image is a normal taper, set to 0.

The BOTTOM image has Magnify Strength set really low, like 20. And Taper is set really high, like 400. This creates an inverted taper.



Magnify Position

Specifies the center of the effect. Position this over the character or characters that you want magnified.

Magnify Strength

Sets how much Magnify will enlarge the characters. This can be set quite high, so experiment with it. It'll go up to 1000%, which results in characters being about 10 times the original size.

One interesting aspect of the Strength parameter, is that if you set it to zero, the rows/columns affected, will disappear. You can use this to remove rows in the middle of the grid, or use both magnify points to slowly remove lines from the top and bottom or sides.

Magnify Width and Height

Determines the number of columns and rows in each direction that will be affected by the effect. This goes in both directions, so a setting of 2.0 will actually result in 4 columns/rows being affected. 2 in one direction, 2 in the other.

Magnify Taper

This tapers off the Magnify effect. If it's below 100, the characters will fall off and get smaller, as they get further away from the center. If it's set above 100, the characters will get larger.

If you want the characters to fall off from the center and blend in with the outlying characters, set Taper to 50%.

Mixing Maginify 1 and 2

The Magnify controls were designed to create a 'Magnification Glass' effect (surprise, surprise). As characters flowed under the center point, they would get larger, and as they moved away, would get smaller again. With the Taper set up correctly, this can be a seamless effect with characters going from normal size, to big, back to normal size.

This turned out to be one of the more interesting set of controls in the entire set of plug-ins, particularly if you mix the two Magnify points together. You can create textures of shrinking and growing characters. The Taper control can cause the characters to almost disappear. If you set it to 0, looking at the edges, they are almost reduced to nothing.

Using the second magnify point, you can cause some of these characters to grow back, or further distort the distortion created by the first magnify point. Obviously, the magnify points can be animated to make all sorts of undulating, flowing, and just generally organic motions among the characters.

Using Expressions

You can link the position points to tracking data or other parameters (using Expressions or Motion Math), and have the points move, or the width expand based on what other layers are doing. Particularly with the addition of Expressions in AE 5, this can become a very cool and relatively easy effect to do.

Through a Magnification Glass

The Magnification Glass effect, which is the basis of the effect described in 'Mixing Magnify 1 and 2', has some interesting off-shoots. If you're only using one line of text, you can use the magnify effect to run across the line of text, enlarging each character.

With Taper set up correctly, this creates characters jumping up in size and calming back down to their normal size. Just animate the position point along the line of text, and that's it. Getting text to behave this way is something that's fairly difficult to pull off in After Effects otherwise.

Section X : Screen Text

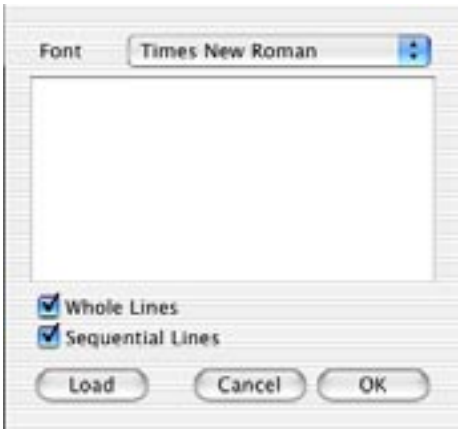
Introduction

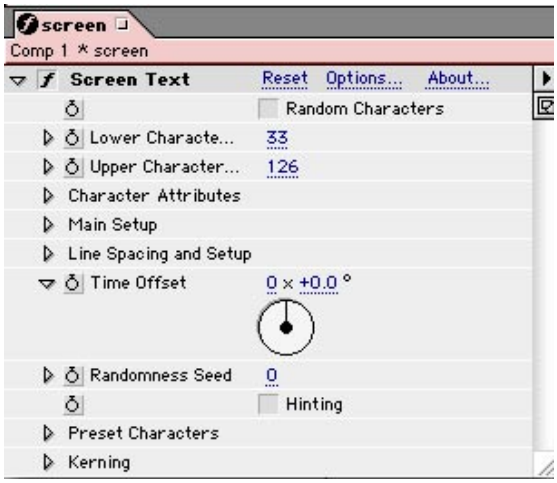
Screen Text is designed to imitate text scrolling up a screen. You can have it generate random numbers, characters, or words, or enter your own text and set up a simple style text scroll.

The text can slowly reveal itself, as if it's being typed in, or lines can appear all at once. You can even set it up so only one line is displayed at a time. This is useful if a large amount of text needs to appear, and you want each new line to replace the previous one. Much easier than setting up 30 layers and cutting between them!

Options Dialog

This is where you tell Screen Text what font to use and where you set up specific text to be used. In either case, you can generate words randomly, or you can tell the filter to read words or lines sequentially.





Uneven Typing

If you want to add a bit more realism to the text, when emulating a computer screen, try to vary the speed a bit. Most people, when typing, don't type lines at a consistent speed, and even computers vary how fast they output results.

Often, typing happens in bursts of speed. Try wiggling the Display Speed between .3 and 1 using hold keyframes.

Covered in the Common Parameters Section

- Random Characters
- Lower/Upper Character Limit
- Font Size
- Rate of Change of Characters and Randomness
- Time Offset
- Randomness Seed
- Preset Characters

Font Size Randomness

Normally, we'd just point you to the Common Parameters Section where this parameter is described in full. And you should still go there, if you haevn't already.

But in the case of Screen Text, while FS Randomnaess operates just like it does elsewhere, it produces a pretty nice effect when cranked up. It varies the Font Size, which creates a nice pattern among the lines. This pattern adds to the effect of randomly generated lines.

Starting Point

This is the origination point of the text. The text scrolls up (or in whatever direction the Direction of Lines parameter is set to) from here.

Length of Lines and Length Randomness

Controls how long the lines are. Randomness plays a key role here in allowing Screen Text to generate realistic looking displays. Normally, you would have lines of varying lengths, and this is exactly what Length of Lines Randomness creates. With it set to 0, you just get one big block of characters scrolling up the screen. With Randomness set to a positive amount, the lines are created with different lengths.

Scroll Speed

Scroll Speed controls how fast the lines scroll in the direction set. By default, lines scroll upwards. However, you can use the Direction dial to have them move in any direction.

The speed is in pixels per frame. The higher the value, the faster the lines of text will move in the given direction. This affects many other parameters.

If the Scroll Speed is set to 0, by default, one line is created and it does nothing but sit there. This is because each line of text has to move out of the way before a new line of text can be created. If the Speed is set to 0, then the first line created never moves out of the way.

Frequency of Overwrite

Frequency of Overwrite sets the speed that the one line is replaced, with another random or manually entered line of text.

Frequency of Overwrite ONLY works if Scroll Speed is set to 0. If Scroll Speed is set to 0, only one line of text is produced. Frequency of Overwrite determines how often this one line of text changes.

Length Randomness Catches Mono

When playing with line lenght, keep in mind that fonts with normal spacing will cause the lines to vary in length slightly anyways. This is due to the fact that most fonts have certain letters that are closer together than other ones.

If you use a mono-spaced font, where all the spacing between letters is exactly the same, all lines with the same number of characters will be exactly the same length.

You can see this effect by comparing a font like Times New Roman, to something like Monaco or OCR A (which comes with many computer systems).

You can either have Screen Text generate random lines, or, like usual, it can pull the lines of text from the text dialog box. This can be helpful in situations where you want several lines of text to display one at a time and don't want to have to set up transitions.

Color, Random Color, and Frequency of Random Color

Color, as you might have guessed, defines the color of the text. Random Color and Frequency of Random Color allow you to set an alternative color, and the frequency that it appears. The color is then randomly applied to lines that are produced as the text scrolls upwards.

The higher the Frequency, the more lines will appear with the alternative color. If you set Freq. of RC to 100%, then all lines will be the color specified in Random Color.

Vertical Alignment

Vertical Alignment and Lock To Grid allow you to constrain the characters to Screen Text's underlying grid. With both of these selected, actually, you end up with an effect very similar to Grid Text.

Vertical Alignment constrains the characters to columns, spacing the letters out evenly. This sort of forces the characters to be mono-spaced, however, due to varying character widths the result can be a little odd. You can adjust this spacing by changing the Space Between Characters parameter in the Line Spacing section.

Lock To Grid

Lock To Grid (LTG) constrains the lines to set rows. Instead of the normal smooth motion you see when the lines are scrolling, LTG causes the lines to jump between rows.

Space Between Lines and SBL Randomness

Space Between Lines controls, hmmm, how much space appears between lines of text. The amount is measured in pixels. This acts similar to leading in a normal word processor. A new line of text won't appear at the Starting Point until the last line created has moved far enough away to make sure that there is enough space between the two lines.

If Lock To Grid is turned on, this defines the space between rows. The first row appears where the Starting Point of the text is at, and all subsequent rows are spaced out according to this parameter.

Scroll Speed Controls Many Things

As usual, the Scroll Speed determines how fast lines of text move between rows. At a given scroll speed, a line of text will take just as long to reach the top of the screen (assuming it started from the bottom) with Lock to Grid (LTG) on, as it would with it off. In fact, it'll take just as long to move between rows.

A line won't move up a row, until it would have gotten there normally. Meaning that if rows are 20 pixels apart, and lines usually move at 2 pixels per frame, it takes 10 frames to get to the next row, regardless of whether LTG is on or not. The only difference being, with LTG off, the lines smoothly move between rows.

The Scroll Speed setting can be ignored if Display Speed is set to something other than 0, and the DS Controls Scroll Speed checkbox is selected. This is because Display Speed causes the lines to be typed on, appearing one (or more) character at a time, instead of appearing all at once.

SBL can be set to have negative values. So if you don't want new lines to wait for old lines to gettout of the way, just set a negative value here. Of course, the lines will bunch up and may not be readable, but if that's the effect you're looking for, then you're set.

Space Between Characters and SBC Randomness

Defines the space between characters in a line of text. This is similar to tracking in a normal word processor. This only works on the whole line, there is no way of adjusting the space between individual characters.

If Vertical Alignment is turned on, SBC this defines the space between columns.

Direction of Lines

Direction of Lines, oddly enough, controls the direction that the lines go off in. It allows you to have text scrolling down, at a 45 degree angle, or going horizontal.

Be aware of where your Starting Point is. If it's at the bottom of the screen and the Direction dial is pointing down you're not going to see very much. All the lines of text will be going right off the bottom of the screen into oblivion.

Display Speed

This allows the lines of text to be 'typed' on. The value here refers to characters per frame. So a setting of 1.0 is going to be the usual value. Higher values result in blocks of text appearing at the same time, which can cause the effect to not look very realistic. Depending upon what you're going for, the blocks can make a more 'old-school' computer look.

You can also have values between 0 and 1.0. This will cause characters to be added slower than every frame. For example, .5 would cause a character to be added every other frame. .01 will result in a character being added every hundred frames. Just divide 1 by the value to get the number of frames that characters will be added (1/.01 = 100, 1/.5 = 2).

DS Controls Scroll Speed

DS Controls Scroll Speed prevents this from happening. With this selected, it's a bit like turning on Lock To Grid. Lines wait until they are completely typed on, then jump up to the next row, making room for a new line to type itself on.

Old Lines Out

One thing to remember is that in Screen Text, new lines don't get created until the old lines have moved out of the way. If you have lines going horizontally, it may be awhile, depending on the length of the lines, before a second line is created.

Likewise, if lines are going at an angle, there will be less of them than if they were going straight up or straight down. It takes longer for lines moving at an angle to get out of the way.

The distance they have to move for a new line to be created is determined by Space Between Lines.

By default, all lines are typed on simultaneously. Since new lines simply need to wait for old lines to get out of the way before appearing, you end up with several lines typing themselves on as they scroll up the screen. This can be an interesting effect, but not generally what you want.

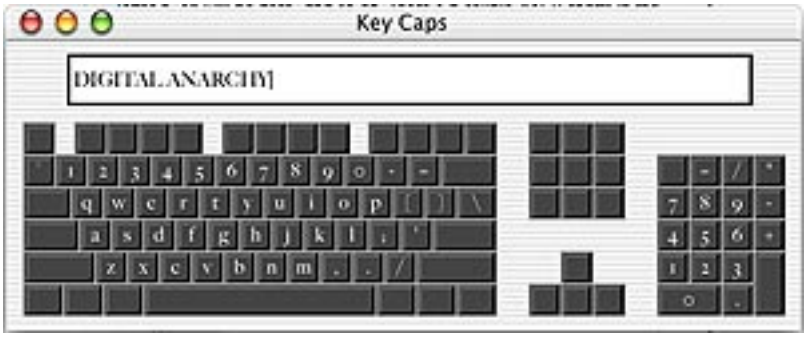
Appendix A: ASCII Codes

What in the world is ASCII? It stands for American Standard Code for Information Interchange. Yeah, I know...whatever...BUT, it's the codes that computers use to tell one character from another. Generally, in every font you run into, 65 will be a capital letter A, 102 will be a lower case letter F, 48 will be zero, and so on. There's a couple ASCII charts in the appendix if you're looking for your favorite character.

Things get interesting when you go above 127. There's guidelines that most fonts follow as for what's in the slots between 0 and 127. Above 127 is mostly uncharted territory, and you'll find a wide range of characters and symbols up there, depending on the font.

If you have font that is made up of all symbols, clip art, or Chinese characters or something else, then the lower 127 all fly out the window as well. It really only applies to English text fonts.

If you're on a Macintosh and are curious about what characters a given font has and where they're at, do a search for a utility called Key Caps.



The characters between 0 and 31 are not going to be of much concern, since they don't usually print or they're undefined. These are special codes that tell the computer or display to do something, such as a Line Feed (LF) or End of Transmission (EOT). The interesting areas to notice are 48 - 57 (numbers), 65 - 90 (Upper Case), and 97 - 122 (Lower Case). The ASCII values are in decimal, which is what the filters use to set the character ranges.

The values above 127 exist, but vary for each font. Usually special symbols exist in the range from 128 - 255, such as the trademark symbol, foreign currency symbols, or pi.

Appendix A: ASCII Codes

0	NUL	40	(	80	P	120	x
1	SOH	41	)	81	Q	121	y
2	STX	42	*	82	R	122	z
3	ETX	43	+	83	S	123	{
4	EOT	44	,	84	T	124	|
5	ENQ	45	-	85	U	125	}
6	ACK	46	.	86	V	126	~
7	BEL	47	/	87	W	127	DEL
8	BS	48		88	X		
9	HT	49	1	89	Y		
10	LF	50	2	90	Z		
11	VT	51	3	91	[		
12	FF	52	4	92	\		
13	CR	53	5	93	]		
14	SO	54	6	94	^		
15	SI	55	7	95	_		
16	DLE	56	8	96	`		
17	DC1	57	9	97	a		
18	DC2	58	:	98	b		
19	DC3	59	;	99	c		
20	DC4	60	<	100	d		
21	NAK	61	=	101	e		
22	SYN	62	>	102	f		
23	ETB	63	?	103	g		
24	CAN	64	@	104	h		
25	EM	65	A	105	i		
26	SUB	66	B	106	j		
27	ESC	67	C	107	k		
28	FS	68	D	108	l		
29	GS	69	E	109	m		
30	RS	70	F	110	n		
31	US	71	G	111	o		
32	Space	72	H	112	p		
33	!	73	I	113	q		
34	"	74	J	114	r		
35	#	75	K	115	s		
36	$	76	L	116	t		
37	%	77	M	117	u		
38	&	78	N	118	v		
39	'	79	O	119	w		