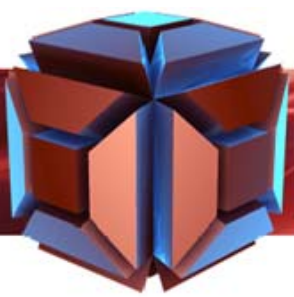


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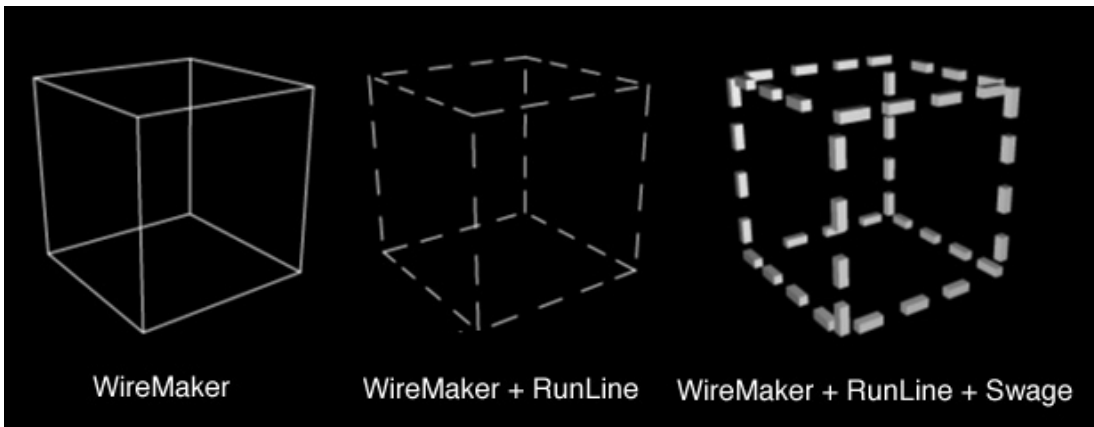


RUNLINE 1.0
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M A N U A L

1. RunLine Utility Overview

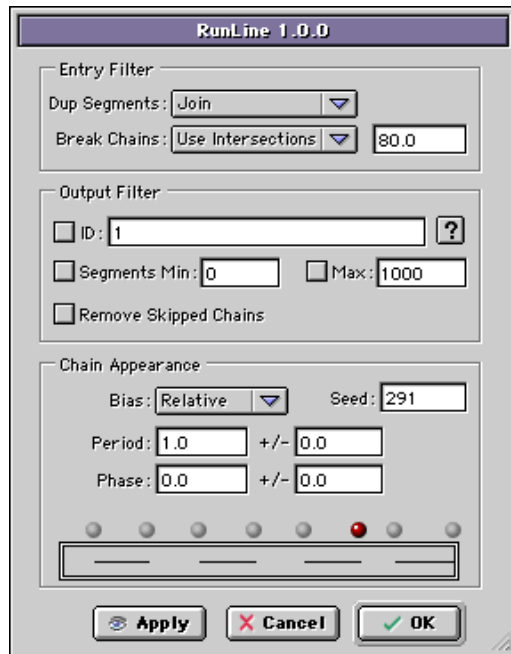


RunLine is an EIAS utility and modeling plug-in designed to re-organize input chains of particle lines in different ways.



2. Cutting Lines

Runline's first and primary function is to divide and cut particle source lines into smaller segments. Let's consider the *Chain Appearance* set of options.



■ **Chain Appearance Control** – This set of tools defines the basic line style or motif that is repeated along the particle line according to the *Period* and *Phase* settings. Editing the chain is very simple:

- To add a new interval: click on desired place within the chain;
- To delete an interval: select and drag any control ball to the left or right and then move it out of the editor;
- To edit an interval: select and drag a ball left/right;

The interval order cannot be changed. The plug-in automatically creates animation channels for all intervals, however all those channels will be deleted and re-created again from scratch if a new interval is added to the particle line or an old one is deleted. This is due to limitations within EIAS' plug-in API. Please create all necessary intervals before animating them.

■ **Bias** – this popup selects the measuring of *Period* and *Phase* parameters. The choices are:

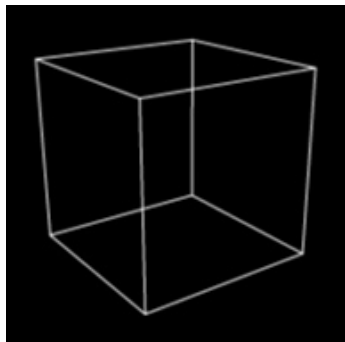
- **Relative** (default). The parameters are associated with "normalized" chain length in range [0..1]. For example a *Period* value 0.1 means that basic motif will be repeated 10 times inside each chain.
- **Absolute** – this choice tells the plug-in that *Period* and *Phase* should be associated with chain length in world units (or in Granger units). This guarantees the same view of long and short chains but, unlike *Relative* mode, the basic motif isn't fitted into each line.

- **Period, +/-** defines period (a ratio between motif's length and chains' length) in *Absolute* or *Relative* units.
- **Phase, +/-** defines offset of motif from chain's start (first point) in *Absolute* or *Relative* units.
- **Seed** – the initial value of random seed for +/- parameters that generate a new value for each next chain.

3. Entry Filter options

At first glance, this set of options looks unclear or not self-explanatory. These options aren't really needed if your input is a *simple chain* of particle lines/segments. Runline will work if a chain is open or closed or if there is a series of such chains.

However, look at this cube's wireframe below.



This is what we considered a *branched chain*. Such input is ambiguous for the model plug-in because different chains can be built from same input and they are absolutely the same whether correct or incorrect.

Another problem is that the input can be duplicated and it is visually impossible to know. There could be a single line or it can be 2 or more coincided lines.

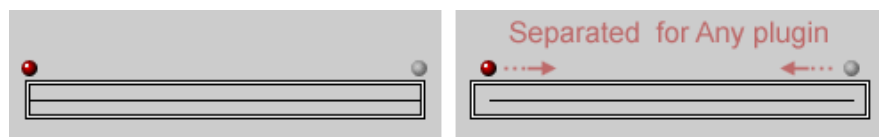
The *Entry Filter* provides necessary diagnostics and controls for such situations.

- **Dup Segments** – this popup defines what Runline should do if duplicate segments are diagnosed and what actions should be applied to them.
 - **Do Nothing** – the plug-in doesn't take care about any duplicate segments diagnosing/processing.
 - **Delete** – duplicate segments are deleted. Please realize that if all segments are doubled, it is possible you may see nothing as a result.
 - **Join** – this choice merges duplicate segments into separated chains.

■ **Break Chains** – this popup defines how the input chains should be subdivided according to choice criteria:

- **None** – no any subdividing is performed;
- **Use Angle** – break each chain based on angle between segments;
- **Each Segment** – a simple mode, chain is broken onto single segments;
- **Use Intersections** – transforms a *branched chain* (see above) into series of *simple chains*.

IMPORTANT: both (Dup Segments and Break Chains) actions should be "confirmed" by line edition. If you want to use the Entry Filter to provide separated chains for a geometry creator module like Scrim or Swage, you need to cut off chain's beginning and end a little:



Otherwise chains are "separated" only for RunLine, a geometry creator still has ambiguous input.

4. Output Filter Options

This set of options is designed to filter multiple chain inputs. It's applied after the *Entry Filter* is processed.

- **ID set** – allows output of a desired range of nth chains;
- **Segments Min/Max** – output and process chains only if they have corresponding (to Min and Max) count of segments.
- **Remove Skipped Chains** – determines whether the input chains that do not satisfy the ID or Min/Max criteria are to be removed (if the checkbox is ON) or simply re-created without any changes. (if Off)

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