Decovar Overview

Design Specification & Goals

Decovar Design Specification

One Serif variation font with unregistered parametric axes, 3 registered axes, and implied axes, for the Mac Roman glyph repertoire, by April or so, this is dealt with elsewhere.

One Sans variation font with unregistered parametric axes, registered axes, and implied axes, as many as are easily practical, for Roman upper and lowercase, figures and very limited puctuation for a glyph repertoire, by April or so. Fonts will contain whatever kerning, glyph positioning and hinting is appropriate to the design, due slightly later than April.

Superficially this sans is an exploration contracted by Google to prove to Google and its variation development partners, Adobe, Microsoft and Apple, some of the value in variations, beyond compression, width, weight and optical size. In will be published as open source, and be further developable from their by FB, TN and others.

Internally, or in greater depth, the project has the goal of informing our tool development, and educating our design and design processes including generalization, productization and testing, in a kind of project and specification where it is easier to say what the font family does not do, replacing traditional specification of what a font family does do, which and variations needs to be done demonstrated be on the three registered axes.

Decovar Detail

The design space

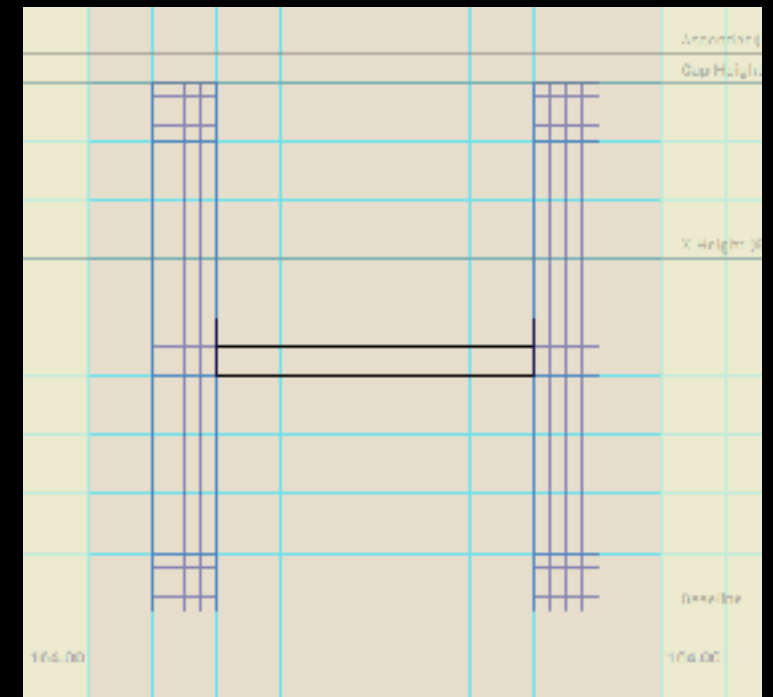# Decovar Detail

Design Space

While the initial deliverables are for a 24 pt master as describe further on, the overall design space includes smaller and larger masters, each with unique contour structures to allow increasing design axis functionality in larger sizes, and decreasing axes and changing functionality in smaller sizes.
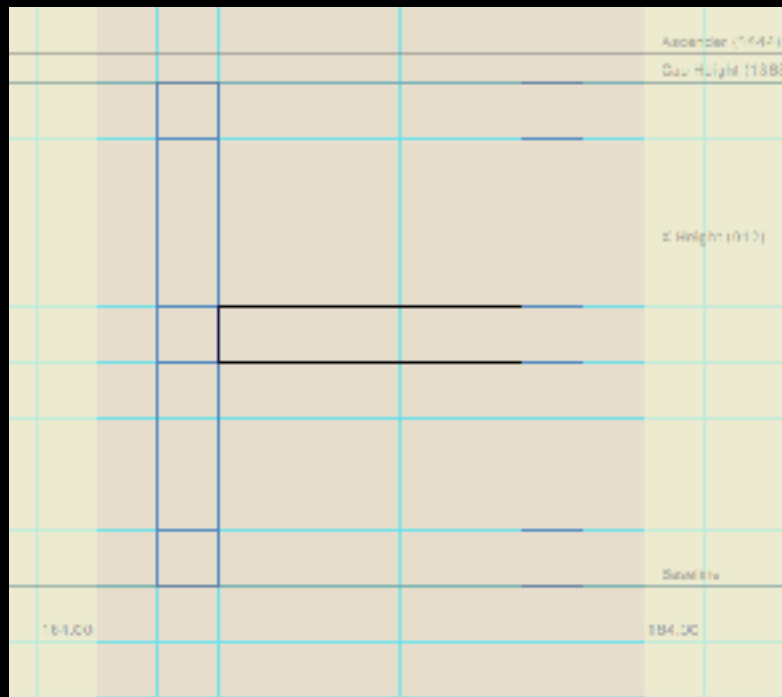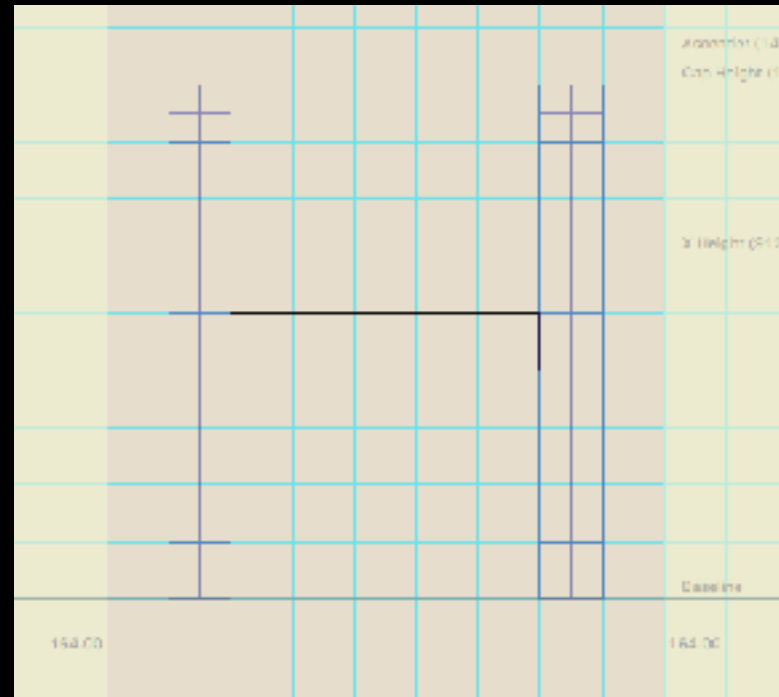
| 18 pt master | 24 pt master | 144 pt? master |

We expect to use GSUB functionality linked to size to switch from one master to another depending on size of use. We also expect the size master will be best suited for the recommendations and recommend that the user has the ability to specify any of the masters regardless of size.

Most of the following illustrations show a grid, and un-filled contours, allowing the reader to see the underlying contours.

Decovar Detail

Quaded Quadratic Quadralaterals (Q3)
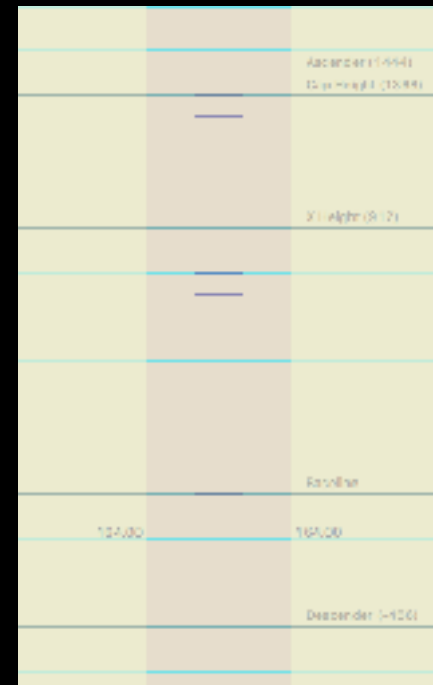
Decovar Detail

Element structure

The design request is for a sans deco face, with as many axes as possible. The proposed and accepted solution is a geometric sans with a wide range of width contrast between the glyphs, and stems composed of a "Chinese puzzle box" of parts, capable of innumerable variants. This is in addition to the registered width and weight axes. So with this design space the three size masters, two of which for larger use, contain more complex elements then the 18 pt master, combined into "sub-radicals" combined into "radicals", which in Latin type is a character part— like an "I" cap stem. These parts are all then variables composited together to form each letter, sometimes combined with normal contour data that is only part of one glyph.
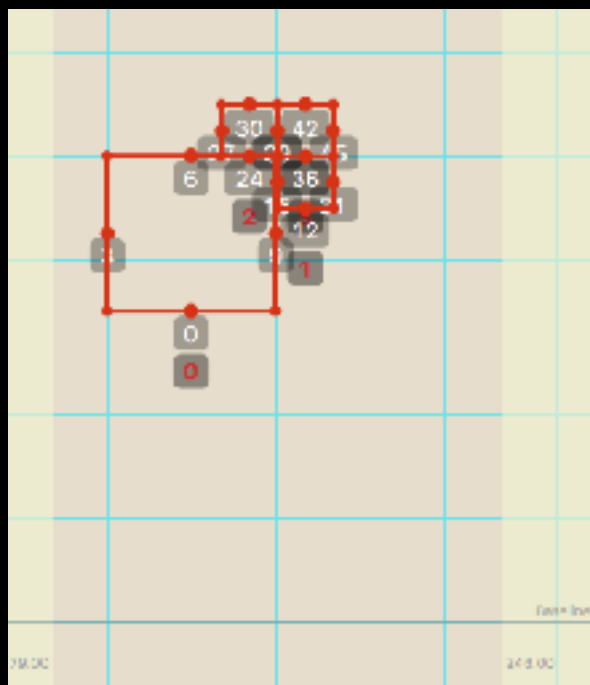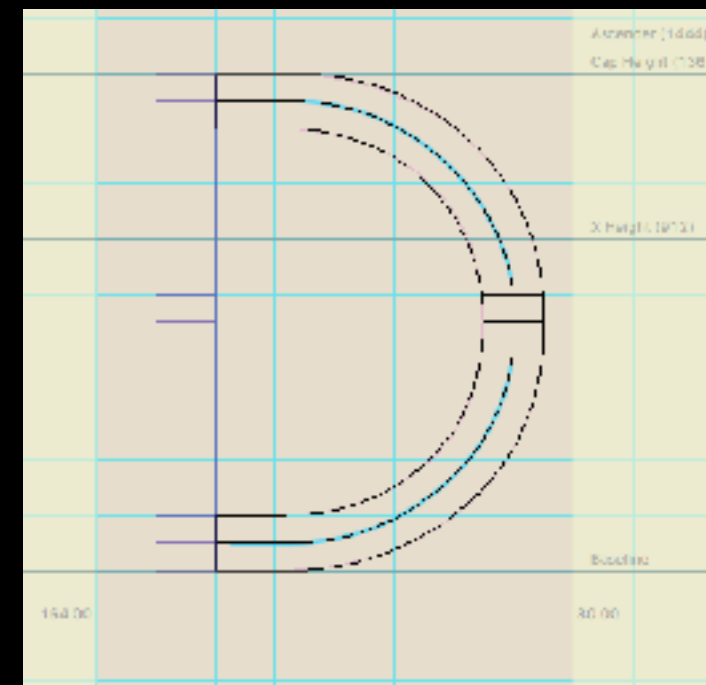

Close-up of a Q3 showing one Quadrilateral scaled up to show the point configuration of the Quadratic curves.
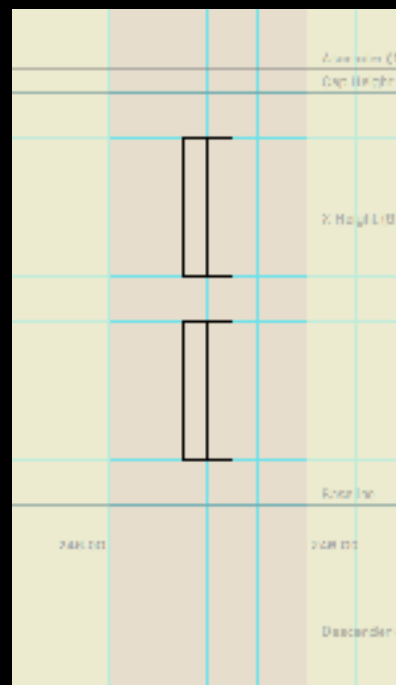
The other major sub radical type, a dual stem part that can split, include and inline, etc.

*The four sub-radicals of the uppercase I combined as composites.*

The "I" radical combined with the unique curves of the "D", and a curved Q# radical.
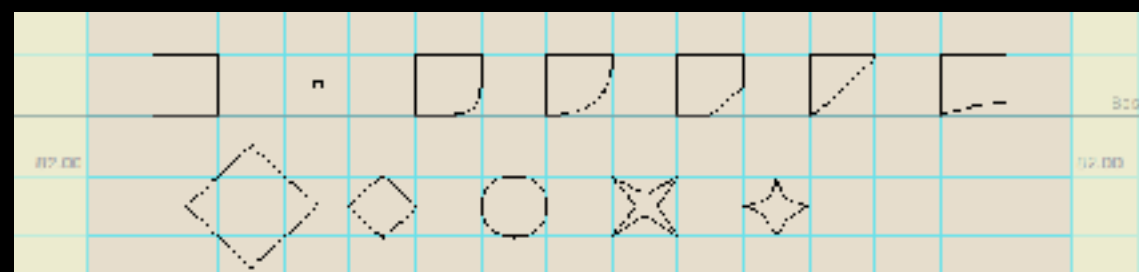
Decovar Detail

This bundle of contours, when properly located and controlled in; weight, angle, location and shape, to account for the optical corrections required to be at the ends of every san serif stroke, to fit properly onto any of those strokes, and to reshape themselves correctly depending on where they are in each glyph, is resolved with a rotating Q3 that changes weight depending on its rotation.
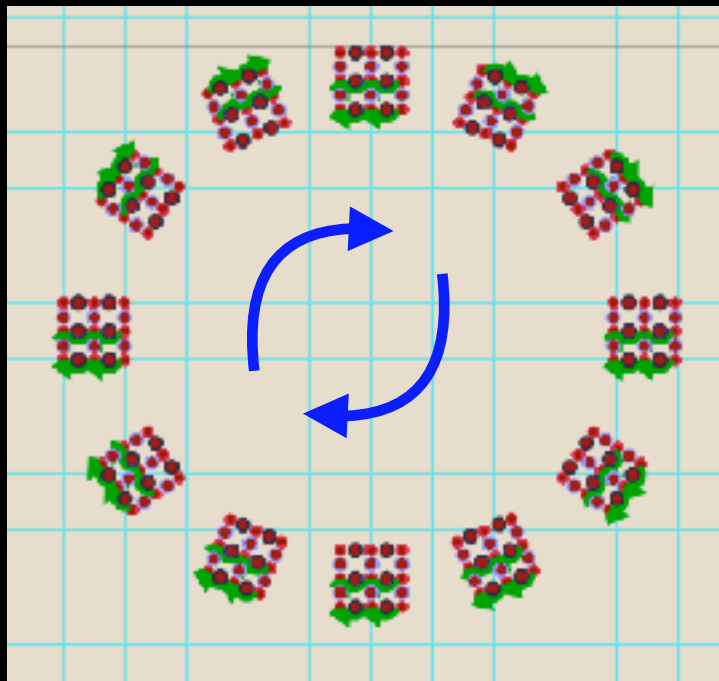
This illustration shows the sub-radical in some of the positions as it would be placed in a glyph, in reality, each of these sub-radicals is spinning and changing weight, depending on angle, but this spinning and changing is done in one place in the em space.
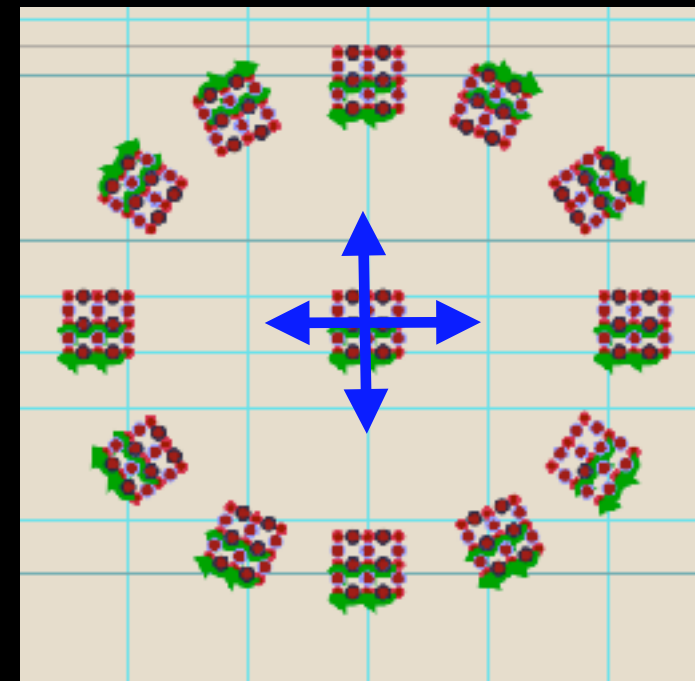
The elements arranged in a quad give the terminals of a typeface angles, a multitude of round shapes, cups, slab or bracketed serifs, cupped serifs, bevels, chamfers, balls, diamonds, ovals or almondene shapes.

Some of the possibilities of a single element, 1/4 of a terminal sub-radical, left to right, normal, dot, bevel, round, chamfer, angled, cupped, large 2diamond, small 2diamond, small ball, jax, stars , disappear

Decovar Detail
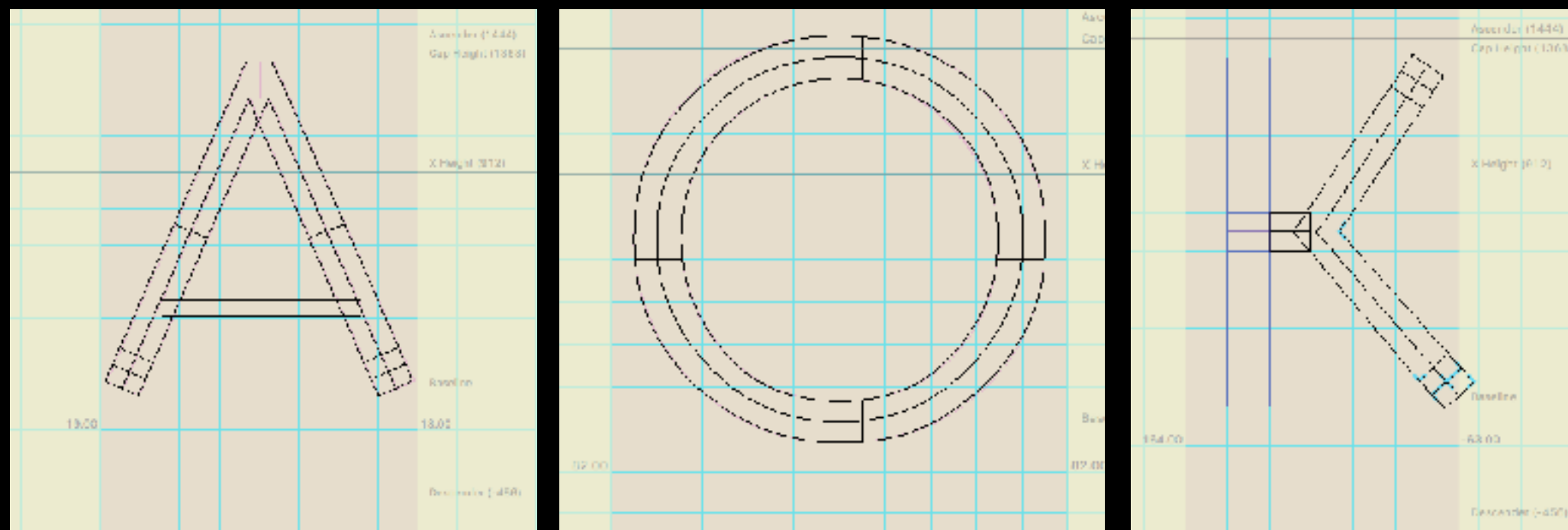
example 24 pt.

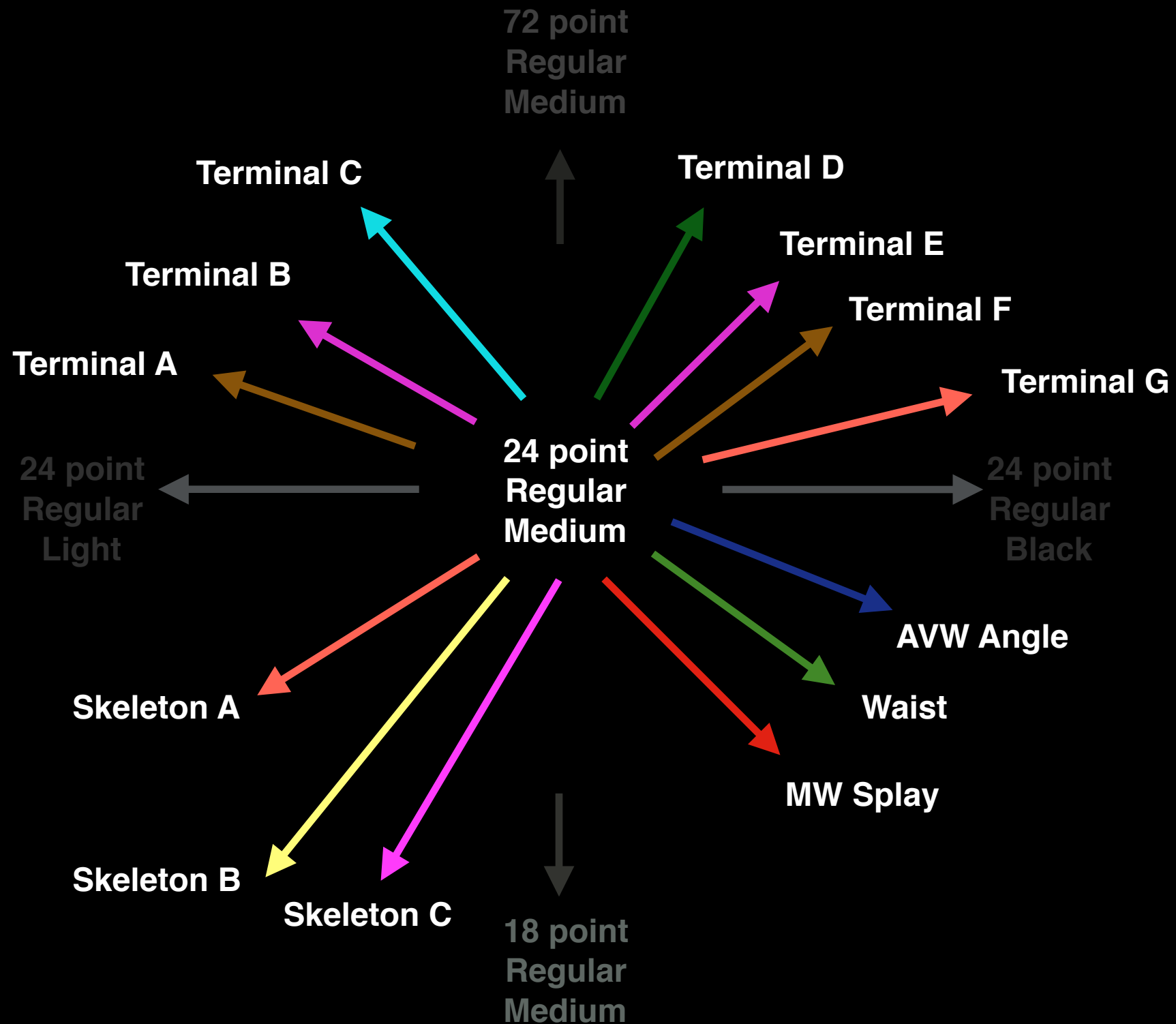ABCDEFGHIJKLMNOPQRSTUVWXYZ

18 pt. uppercase

ACDEFGHILNOPRTV

Dual hairline separation axes

ACDEF

Detail of above with terminal angle axes in action

Decovar Axes II

Decovar Current Axes Map

72 point
Regular
Medium

Terminal C

Terminal D

Terminal B

Terminal E

Terminal F

Terminal A

Terminal G

24 point
Regular
Medium

24 point
Regular
Light

24 point
Regular
Black

AVW Angle

Skeleton A

Waist

MW Splay

Skeleton B

Skeleton C

18 point
Regular
Medium

Decovar Detail II

Decovar Terminal and Skeleton Map

Terminal A   **Terminal B**   **Terminal C**   **Terminal D**   **Terminal E**   **Terminal F**   **Terminal G**

Skeleton A   **Skeleton B**   **Skeleton C**

Decovar Terminal and Skeleton Examples

Terminal A DOMINO

B DOMINO

C DOMINO

Skeleton A HIDE

D DOMINO

B HIDE

E DOMINO

C HIDE

F DOMINO

G DOMINO

H DOMINO
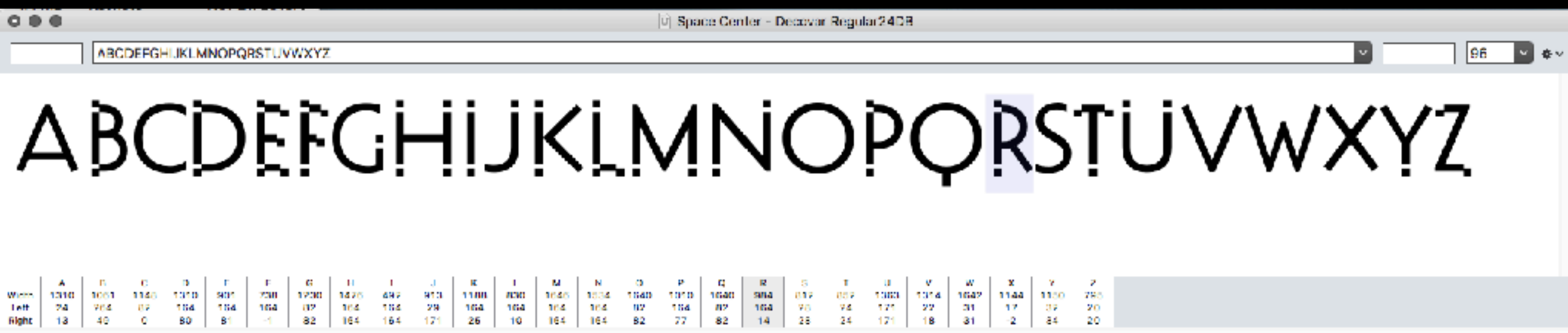
Decovar horizontal and vertical terminal/intersection tests

Uses 6 component parts for effected terminals. depending on location, orientation and number of strokes at intersection
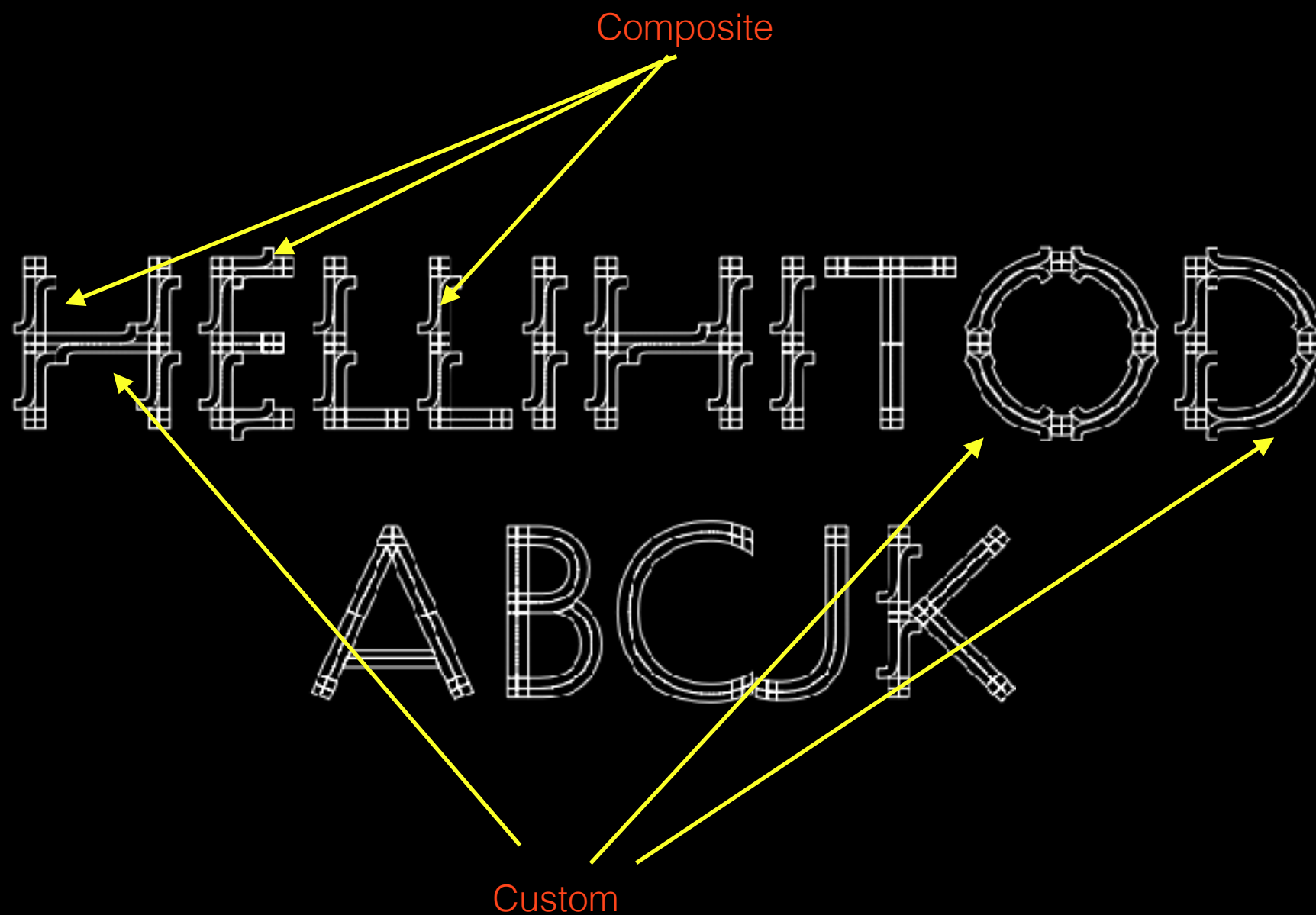
Decovar Detail

Skeleton B Examples

Skeleton B Rotating and Revolving Kashida Requirement

Decovar fount glyphs

Decovar Fount Glyphs

Straight terminal 1 - this is the first Glyph described, it rotates 360° and changes weight according to the "pen", I.e. a thickness the changes from the vertical stroke to the horizontal stroke and weight, with an unchanging height. This glyph has one axis with weight and rotation combined.
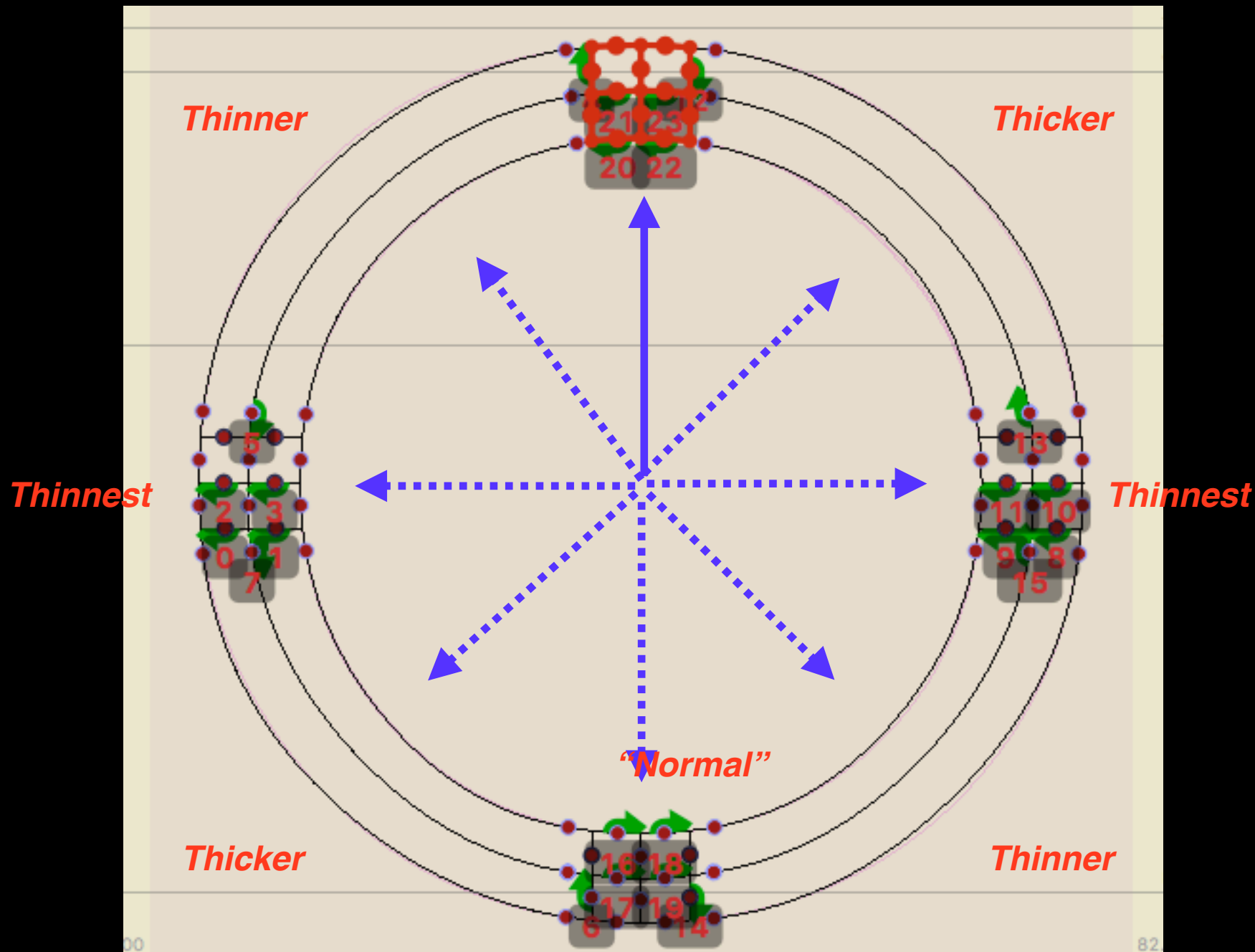
Rotating, changing weight
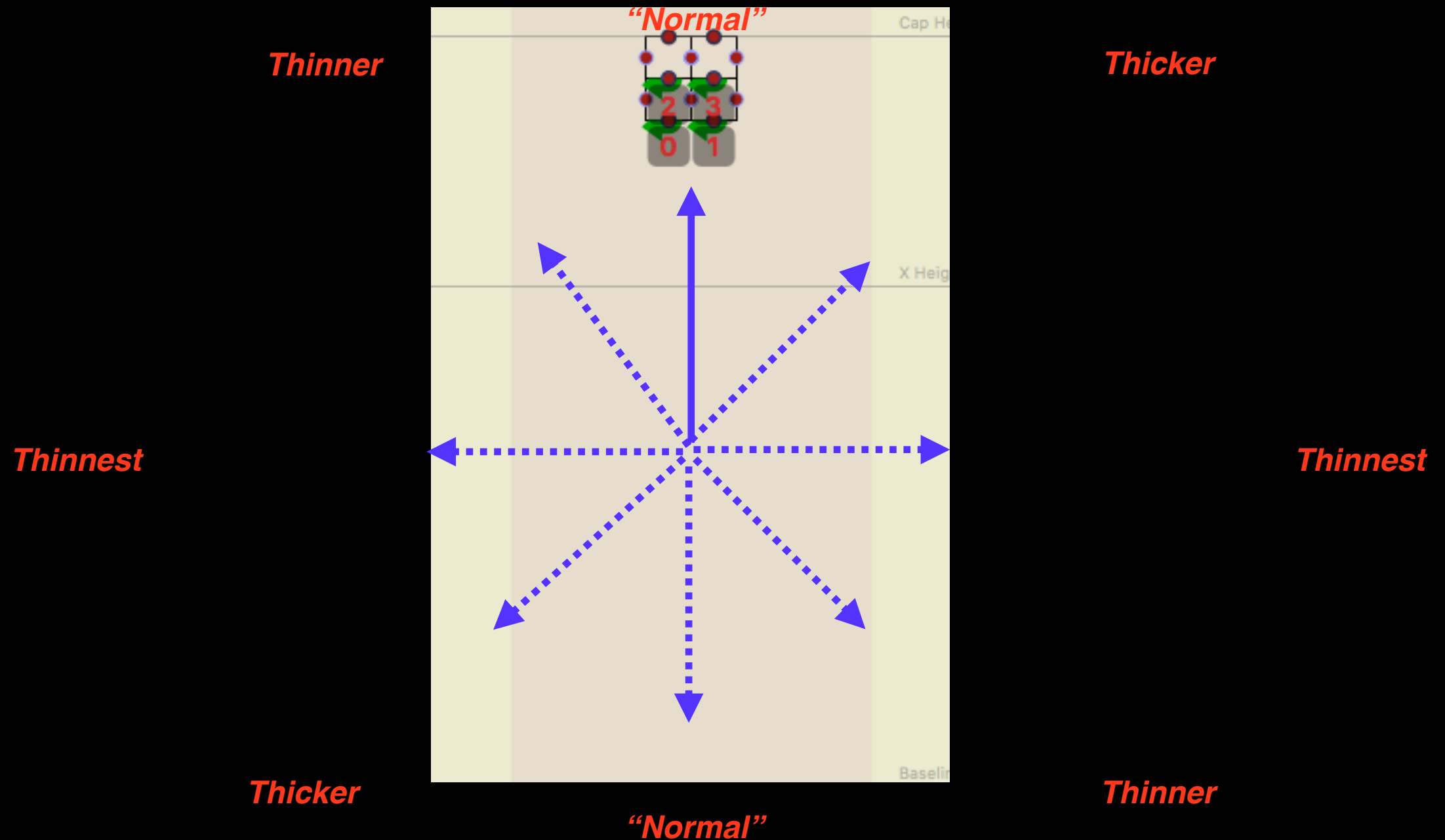
*Note that the weight variation of this glyph is in the **horizontal** direction, perpendicular to the axis of rotation.*

Decovar Fount Glyphs

Round terminal 1 - this is a new quad proposal the rotates and changes weight but not height, exactly the same as straight terminal one, but it takes on the round cross section stem shape of the uppercase O, making it possible to terminate any curved stroke at any angle. This glyph too has one axis with weight and rotation combined.

Rotating, changing weight, fitting curves

*Note that the weight variation of this glyph is in the **vertical** direction, parallel to the axis of rotation.*
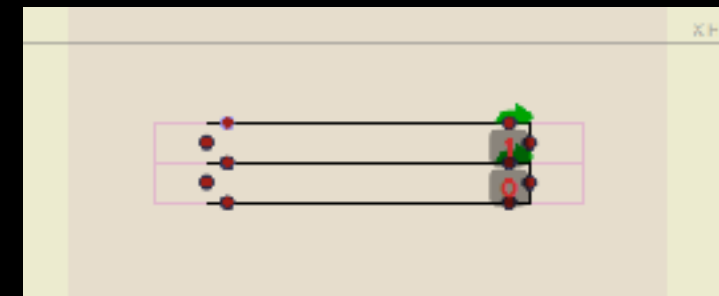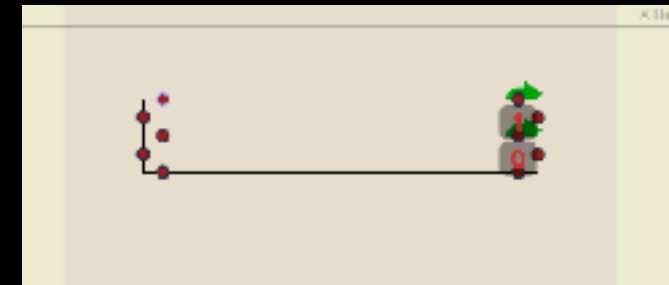
Decovar Fount Glyphs

Straight stem 1 - also new, this is a duo, not a quad, that remains straight, but rotates 360° and changes weight, in addition to Length, telescopically, i.e. the ends remain the same, like in an Arabic Kashida, and only the middle stretches. This makes it possible to describe the straight vertical strokes horizontal stroke modules in between all of the straight terminal and intersection quads. This glyph then has two axis, one for and weight and rotation, and one for length.

Rotating and changing weight
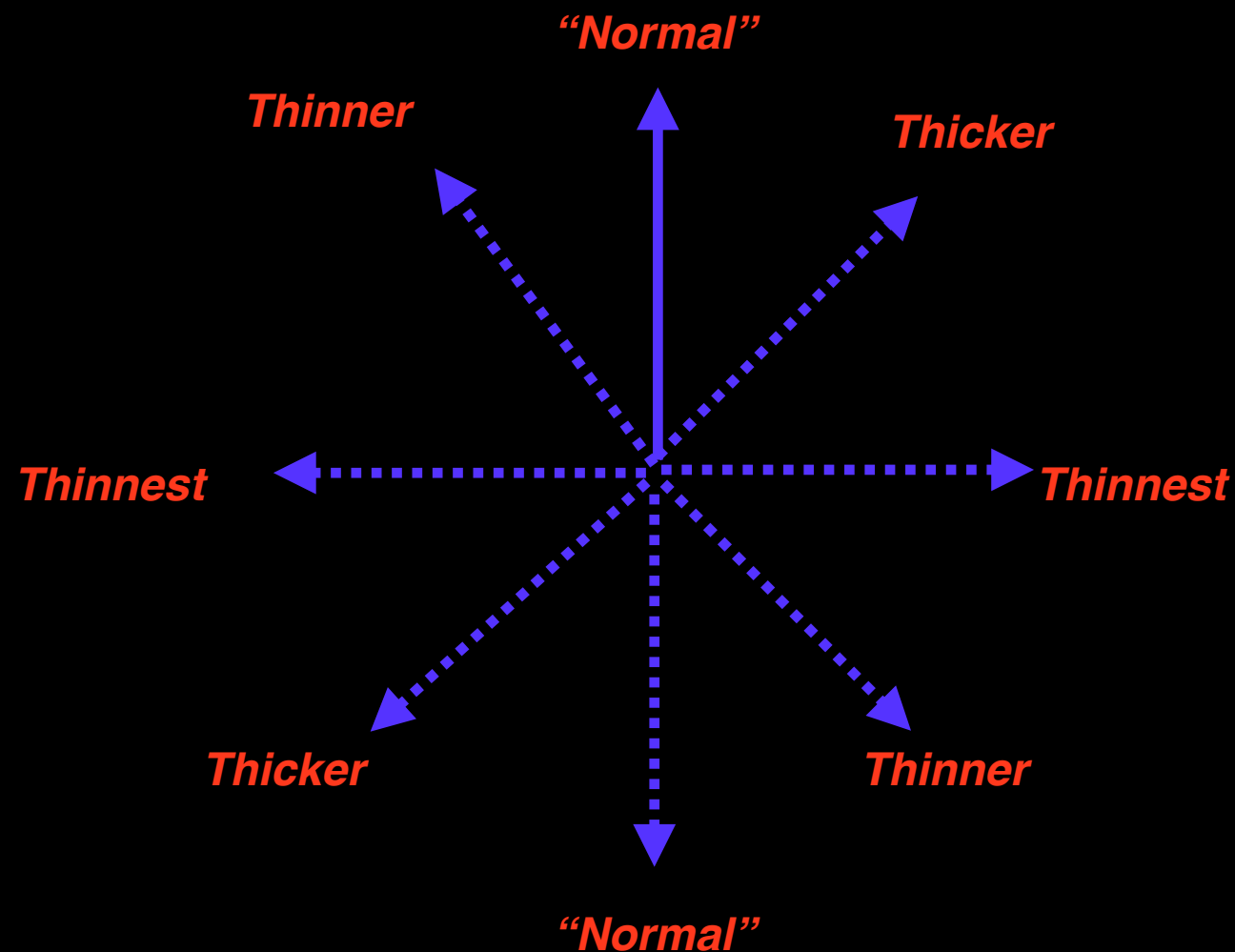
Stretching to any length

"Normal"

Thinner

Thicker

Thinnest

Thinnest

Thicker

Thinner

*"Normal"*

Decovar Fount Glyphs

Round Stem 1 - this is a new quad proposal the rotates and changes weight but not height, exactly the same as straight terminal one, but it takes on the round cross section stem shape of the uppercase O, making it possible to terminate any curved stroke at any angle. This glyph then has three axis, one for Diameter and one each for the rotation to the right end point(s).

Scale to any radius with consistent weight, Rotate either or both ends to proper intersection point
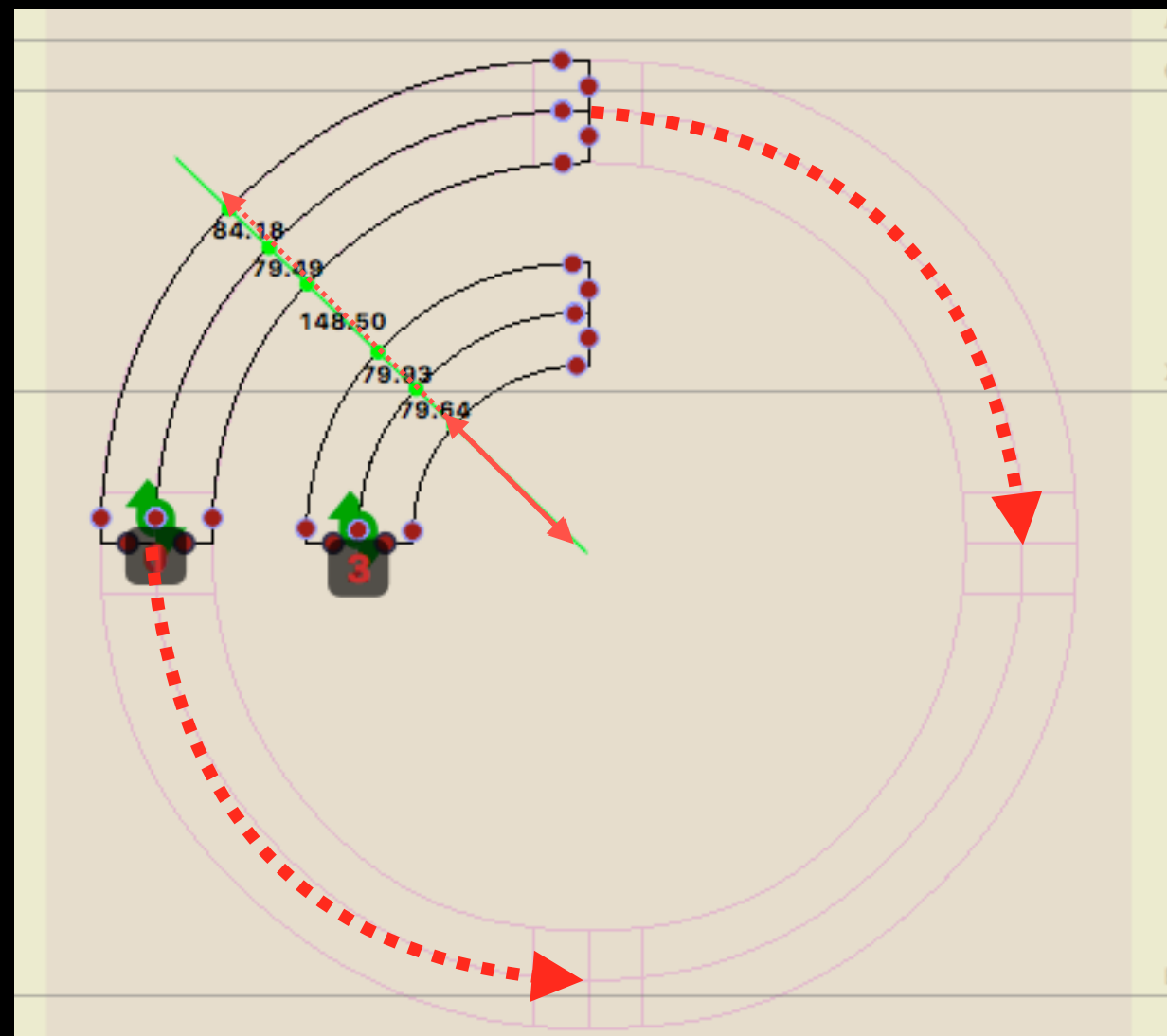
Decovar Fake Fount Glyphs

I built and rotated parts for the diagonals, inserted some elements required for future axis and made sure every element is the proper weight and width for it's angle orientation and curvature, manually.
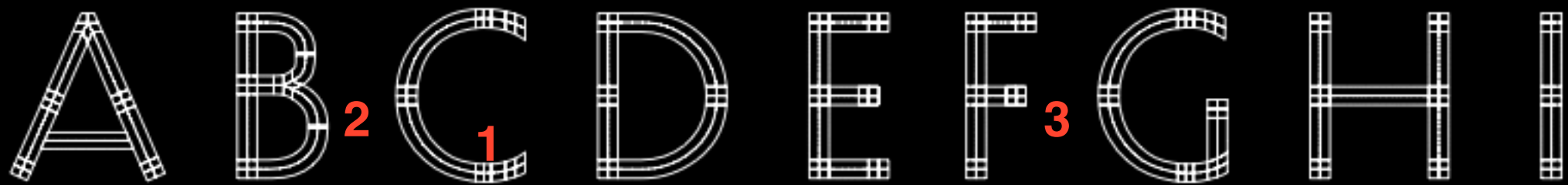
1. C, G, J, S contain compressed, non-composited versions of *RoundWaistElement 0 and 180,* for later axes for width and aperture.

2. B, P, R, S contain compressed, non-composited versions of *RoundWaistElement 90 and 270,* for later width axis.

3. E, F have a double composite of */RightTopTerminal and /RightBotTerm* which is intentional for now