A GRAPHICAL GUIDE TO VTT 6.10 LIGHT LATIN AUTOHINTING

Mike Duggan Microsoft, March 2016

VTT 6.10 includes an Autohinter for Latin fonts. The Autohinter makes use of a new Lightweight hinting strategy that focuses on gridfitting common heights, such as x-height, Cap Height, Ascender, Descender using CVT (Control Value Table) Heights as reference, and linking across common stems, such as H crossbar, E, F, Horizontals, O, Q, C, G, Rounds, etc. This strategy, takes advantage of Windows symmetric rendering modes. These key heights are anchored to the Grid, thereby maintaining consistency in gridfitted Heights of common characters across a font family. This method of grid-fitting helps to reduce blur, and minimizes distortion to the outline when griditted. Only Y-Direction Hinting commands are used in this method.

The following are the basic set of hinting commands that are added automatically by VTT 6.10 Light Latin Autohinter. For this example, I ran the Autohinter Light on the VTTDemo.ttf font, that ships with VTT 6.10. The following pages cover these basic set of commands, that are needed to improve how a font will look when rendered in DirectWrite, with some details about each.





Yinterpolate Note: (Basic YInterpolate commands are not currently added by the Autohinter in VTT 6.10. These commands

can be added post Autointing, to fine tune the Autohinting output)

YInterpolate followed by Yanchor



YShift —



Opposite = VTT High Level Hints, for Cap H in VTTDemo.ttf = (CTRL 5 in VTT)

Control Value Table = (CTRL 4, in VTT)

Cap Height (CVT = 2) Baseline (CVT = 8)

ResYAnchor(11,8), Anchors point 10 to Grid/Baseline. 10 = point on outline, 8 = Control Value Table (CVT) number reference for Baseline of 0.

ResYAnchor(0,2), Anchors point 0 to Grid/Cap Height. 0 = point on outline, 2 = CVT Table number reference for Cap Height of 1434.

YInterpolate(0,9,11)

Repositions point **9**, relative to point **0** & point **11**, which now have new gridfitted positions.

YAnchor(9), Anchors point 9 to grid.

ResYDist(9,2), Links across Cap H Crossbar from point 9 to point 2. This command positions point 2, relative to point 9's new position on the grid.

YShift(0,5) Shifts point 4, to a new position
on the grid, relative to point 0, ensuring point
4 will also be gridfitted to Cap Height.

YShift(11,7)

Shifts point **7**, to a new position on the grid, relative to point **11**, ensuring point **7** will also be gridfitted to Baseline Height.