Sight reduction form for haversine only ultra compact sight reduction

Hc *hav(90°-Hc) = hav(Lat-Dec) + [1 - (hav(Lat-Dec) + hav(Lat+Dec))] * hav(t)*

(+/-): (+) if same, (-) if contrary – first sign corresponds to same

Observation		unit				
LHA		deg	o '	o '	o '	o '
Lat	NS	deg	o '	o '	o '	o '
Dec	NS	deg	o '	o '	o '	o '
Name (same/contrary)						
Lat+/-Dec		deg	o '	o '	o '	o '
Lat-/+Dec		deg	o '	o '	o '	o '
n	Hv(Lat+/-Dec)	Hv				
m	Hv(Lat-/+Dec)	Hv				
q	m+n	Hv				
1-q		Hv				
a	HvLHA	Hv				
Log(1-q)		log				
Log a		log				
P (a*sum)	log+log	log				
p	Hv of log	Hv				
n	(report)	Hv				
n+p		Hv				
ZD	inv hv(n+p)	deg	o '	o '	o '	o '
Hc	90º-ZD	deg	**o '**	**o '**	**o '**	**o '**

Z *hav(Z) = [hav(90°-Dec) - hav(Lat-Hc)] / [1 - (hav(Lat+Hc) + hav(Lat-Hc))]*

(consider direct graphical solution for Z by Hanno Ix!)

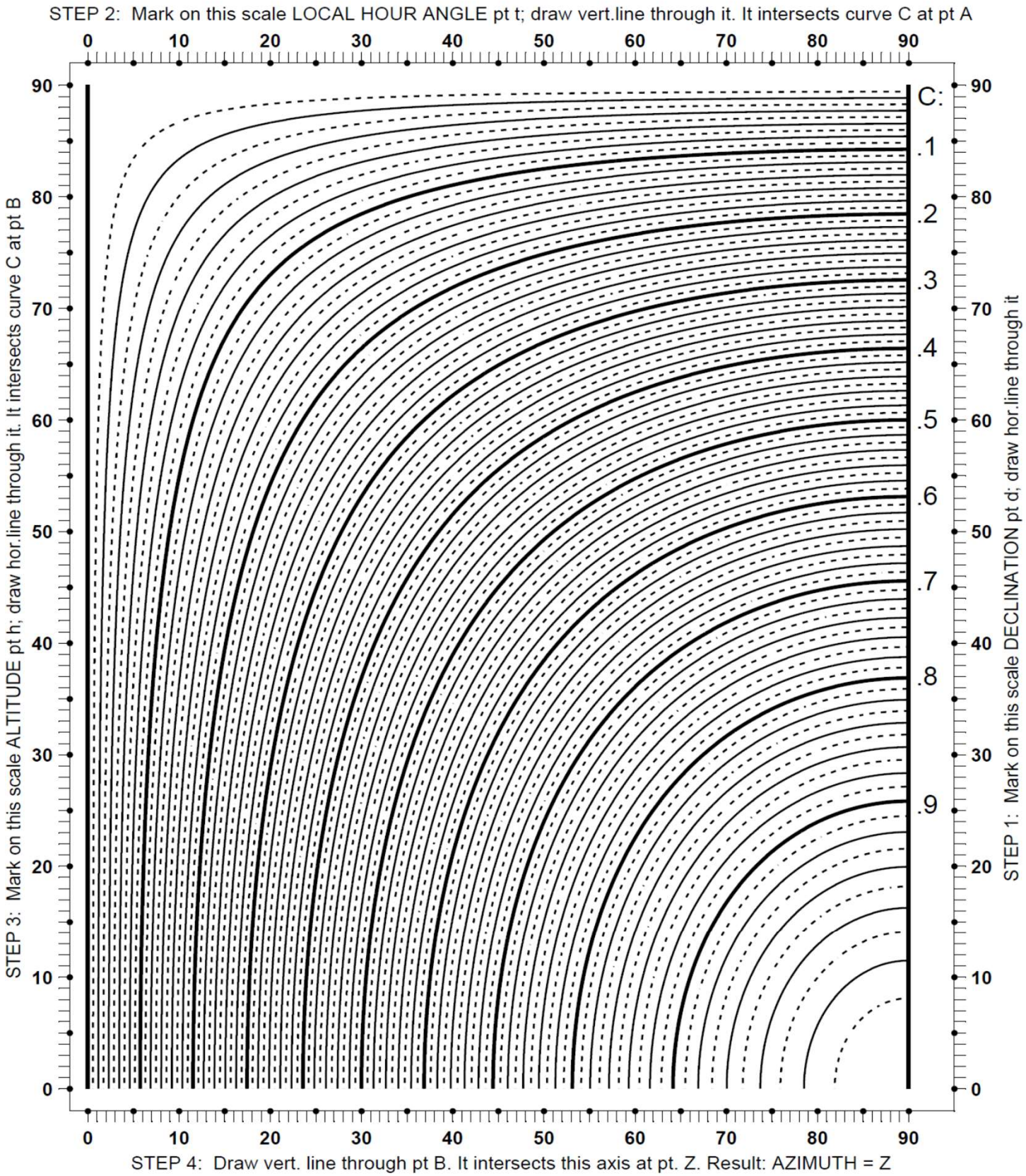
90-/+Dec		deg	o '	o '	o '	o '
Lat	(report)	deg	o '	o '	o '	o '
Lat+Hc		deg	o '	o '	o '	o '
Lat-Hc		deg	o '	o '	o '	o '
m	Hv(Lat+Hc)	Hv				
n	Hv(Lat-Hc)	Hv				
q	n+m	Hv				
a	Hv(90-/+Dec)	Hv				
a-n		Hv				
1-q		Hv				
log (a-n)	LA	log				
log (1-q)	LQ	log				
diff of logs	LA-LQ	log				
Z		deg	o '	o '	o '	o '
Zn		deg	**o '**	**o '**	**o '**	**o '**

if Latitude N: if Latitude S:

if LHA > 180°, Zn = Z if LHA > 180°, Zn = 180° − Z

if LHA < 180°, Zn = 360° − Z if LHA < 180°, Zn = 180° + Z

Hc	A	deg	**o '**	**o '**	**o '**	**o '**
Ho	T	deg	**o '**	**o '**	**o '**	**o '**
a		nm	**o '**	**o '**	**o '**	**o '**



Azimuth by Graphical Method

9/26/2012