Program Resources

Labels

Name	Description
A	
B	
C	
D	
E	
0	
1	

Name	Description
2	
3	
4	
5	
6	
7	Lat -> r8, LHA -> r12, decl -> r10 ==>> Hc, Zn
8	

Name	Description
9	
11	
12	
15	After B: GHA and Declination
16	
18	

Storage Registers

Name	Description
0	JD of start of year
1	LHA 0h
3	GMST yearly constant
4	UT entered 0..24, decimal
5	LHA Aries
6	JD of date

Name	Description
8	Observer's latitude, degrees (N/S=+/-)
9	Objects Right Ascension, degrees
10	Object's declination, degrees (N/S=+/-)
11	Hc, calculated altitude, degrees
12	LHA of object -> Zn, calculated azimuth
13	Constant, L of epoch 279.4055638 for JD=2459944.5

Name	Description
14	Constant, Long of perigee, 283.3328090 fo JD above
15	1.016860112 [sqrt((1+e)/(1-e)]
16	Constant, Obliquity, 23.4382144
17	1/365.2422
18	Observer's longitude (E/W=+/-)

Program

Line	Display	Key Sequence
000		
001	42,21, .8	f LBL . 8
002	3	3
003	6	6
004	0	0
005	43 32	g RTN
006	42,21, 4	f LBL 4
007	23	SIN
008	34	x↔y
009	23	SIN

Line	Display	Key Sequence
113	45 .0	RCL . 0
114	32 5	GSB 5
115	20	×
116	45 .0	RCL . 0
117	45 8	RCL 8
118	32 4	GSB 4
119	40	+
120	43 23	g SIN^{-1}
121	36	ENTER
122	36	ENTER

Line	Display	Key Sequence
226	20	×
227	2	2
228	4	4
229	0	0
230	0	0
231	48	.
232	0	0
233	5	5
234	1	1
235	2	2

010	22 .6	GTO . 6	123	44 .1	STO . 1	236	6	6
011	42,21, 5	f LBL 5	124	45 8	RCL 8	237	2	2
012	24	COS	125	32 4	GSB 4	238	40	+
013	34	x↔y	126	16	CHS	239	20	×
014	24	COS	127	45 .0	RCL . 0	240	6	6
015	22 .6	GTO . 6	128	23	SIN	241	48	.
016	42,21, 2	f LBL 2	129	40	+	242	6	6
017	32 .8	GSB . 8	130	34	x↔y	243	4	4
018	10	÷	131	45 8	RCL 8	244	6	6
019	42 44	f FRAC	132	32 5	GSB 5	245	0	0
020	43,30, 1	g TEST x>0	133	10	÷	246	6	6
021	22 3	GTO 3	134	43 24	g COS^{-1}	247	5	5
022	1	1	135	42, 4, .2	f X↔ . 2	248	6	6
023	40	+	136	23	SIN	249	40	+
024	42,21, 3	f LBL 3	137	43,30, 2	g TEST x<0	250	32 .2	GSB . 2
025	32 .8	GSB . 8	138	22 6	GTO 6	251	32 2	GSB 2
026	42,21, .6	f LBL . 6	139	32 .8	GSB . 8	252	44 3	STO 3
027	20	×	140	45 .2	RCL . 2	253	45 6	RCL 6
028	43 32	g RTN	141	30	−	254	44 0	STO 0
029	42,21, .2	f LBL . 2	142	44 .2	STO . 2	255	43 32	g RTN
030	1	1	143	42,21, 6	f LBL 6	256	42,21,11	f LBL A
031	5	5	144	45 .1	RCL . 1	257	44 4	STO 4
032	22 .6	GTO . 6	145	45 .2	RCL . 2	258	33	R↓
033	42,21,12	f LBL B	146	22 9	GTO 9	259	44 5	STO 5
034	32 15	GSB E	147	42,21, 8	f LBL 8	260	33	R↓
035	45 6	RCL 6	148	23	SIN	261	32 0	GSB 0
036	2	2	149	48	.	262	45 1	RCL 1
037	4	4	150	0	0	263	45 5	RCL 5
038	5	5	151	1	1	264	45 4	RCL 4
039	9	9	152	6	6	265	32 1	GSB 1
040	9	9	153	7	7	266	45 0	RCL 0

041	4	4	154	1	1	267	30	–
042	4	4	155	8	8	268	45 .7	RCL . 7
043	48	.	156	20	×	269	32 .8	GSB . 8
044	5	5	157	16	CHS	270	20	×
045	30	–	158	40	+	271	20	×
046	45 4	RCL 4	159	45 9	RCL 9	272	45 3	RCL 3
047	2	2	160	30	–	273	40	+
048	4	4	161	43 32	g RTN	274	32 2	GSB 2
049	10	÷	162	42,21,13	f LBL C	275	44 1	STO 1
050	40	+	163	43 2	g →H	276	42 2	f →H.MS
051	45 .7	RCL . 7	164	44 .0	STO . 0	277	43 32	g RTN
052	32 .8	GSB . 8	165	33	R↓	278	42,21, 1	f LBL 1
053	20	×	166	43 2	g →H	279	1	1
054	20	×	167	32 .8	GSB . 8	280	7	7
055	45 .3	RCL . 3	168	34	x↔y	281	2	2
056	40	+	169	30	–	282	1	1
057	45 .4	RCL . 4	170	44 9	STO 9	283	0	0
058	30	–	171	43 32	g RTN	284	1	1
059	42 3	f → RAD	172	42,21,15	f LBL E	285	3	3
060	44 9	STO 9	173	43 2	g →H	286	48	.
061	43 8	g RAD	174	44 4	STO 4	287	5	5
062	36	ENTER	175	45 .7	RCL . 7	288	40	+
063	1	1	176	1	1	289	34	x↔y
064	0	0	177	40	+	290	44 1	STO 1
065	42, 7, 9	f FIX 9	178	20	×	291	2	2
066	42,10, 8	f SOLVE 8	179	32 .2	GSB . 2	292	7	7
067	42, 7, 4	f FIX 4	180	45 1	RCL 1	293	5	5
068	2	2	181	40	+	294	20	×
069	10	÷	182	36	ENTER	295	9	9
070	25	TAN	183	36	ENTER	296	10	÷
071	45 .5	RCL . 5	184	45 .8	RCL . 8	297	43 44	g INT
072	20	×	185	40	+	298	40	+

073	43 25	g TAN^{-1}	186	32 2	GSB 2	299	34	x↔y
074	2	2	187	44 5	STO 5	300	36	ENTER
075	20	×	188	34	x↔y	301	42, 4, 1	f X↔ 1
076	43 3	g →DEG	189	32 2	GSB 2	302	9	9
077	43 7	g DEG	190	34	x↔y	303	40	+
078	45 .4	RCL . 4	191	42,21, 9	f LBL 9	304	1	1
079	40	+	192	42 2	f →H.MS	305	2	2
080	44 .0	STO . 0	193	34	x↔y	306	10	÷
081	45 .0	RCL . 0	194	42 2	f →H.MS	307	43 44	g INT
082	23	SIN	195	43 32	g RTN	308	40	+
083	45 .6	RCL . 6	196	42,21, 0	f LBL 0	309	7	7
084	24	COS	197	1	1	310	20	×
085	20	×	198	36	ENTER	311	4	4
086	45 .0	RCL . 0	199	0	0	312	10	÷
087	24	COS	200	32 1	GSB 1	313	43 44	g INT
088	43 1	g →P	201	2	2	314	16	CHS
089	33	R↓	202	4	4	315	40	+
090	44 9	STO 9	203	1	1	316	45 1	RCL 1
091	45 .0	RCL . 0	204	5	5	317	3	3
092	23	SIN	205	0	0	318	6	6
093	45 .6	RCL . 6	206	2	2	319	7	7
094	23	SIN	207	0	0	320	20	×
095	20	×	208	30	–	321	40	+
096	43 23	g SIN^{-1}	209	3	3	322	44 6	STO 6
097	44 .0	STO . 0	210	6	6	323	43 32	g RTN
098	45 9	RCL 9	211	5	5	324	42,21,14	f LBL D
099	42,21, .1	f LBL . 1	212	2	2	325	32 15	GSB E
100	45 5	RCL 5	213	5	5	326	32 .1	GSB . 1
101	32 .8	GSB . 8	214	10	÷	327	43 32	g RTN
102	45 9	RCL 9	215	36	ENTER	328	42,21, .5	f LBL . 5
103	30	–	216	36	ENTER	329	45 5	RCL 5

104	40	+	217	48	.	330	45 .8	RCL . 8
105	32 2	GSB 2	218	0	0	331	30	−
106	44 .2	STO . 2	219	0	0	332	32 .8	GSB . 8
107	32 7	GSB 7	220	0	0	333	45 9	RCL 9
108	43 32	g RTN	221	0	0	334	30	−
109	42,21, 7	f LBL 7	222	2	2	335	40	+
110	45 .2	RCL . 2	223	5	5	336	32 2	GSB 2
111	24	COS	224	8	8	337	45 .0	RCL . 0
112	45 8	RCL 8	225	1	1	338	22 9	GTO 9