Interstellar Mission Profile for SGC Navigator - Report - Printable ver 4.3

Start: omicron 2 40 Eri (Star Trek Vulcan home star) (HD 26965) (Keid) (HIP 19849) in Eridani [X 14.437] [Y -7.102] [Z -2.167]	Dest: Trappist-1 2Mass J23062928-0502285 in Aquarii [X -9.093] [Y -38.234] [Z -3.467]

Rendezvous	**Earth date arrival:** Monday, December 24, 2018
Ship Type: Star Trek - Warp 7	**Ship date arrival:** Thursday, December 20, 2018

Type 2: Rendezvous with a coasting leg (Top speed is reached before mid-point)

Start Position:

Start Date: 2-December-2018

Star System	omicron 2 40 Eri (Star Trek Vulcan home star) (HD 26965) (Keid)					**Earth Polar**	
Primary Star:	(HIP 19849)					**RA hours:**	inactive
Type:	K0 V	**Planets:**	1e			**RA min:**	inactive
Binary:	B, C, b					**RA sec:**	inactive
Type:	M4.5V, DA2.9					**dec. degrees**	inactive
Rank from Earth:	69	Abs Mag.:	5.915956445			**dec. minutes**	inactive
						dec. seconds	inactive
				Galactic SGC			
Stats		**Distance l/y**		**Sector**	**X**	**Y**	**Z**
Earth to Start Position:		16.2346953		**Kappa**	14.43696547	-7.10221947	-2.16744969

Destination

Arrival Date (Earth time): 24-December-2018

Star System	Trappist-1 2Mass J23062928-0502285					**Earth Polar**	
Primary Star:						**RA hours:**	inactive
Type:	M8V	Planets	4, 3e			**RA min:**	inactive
Binary:	B C					**RA sec:**	inactive
Type:	0					**dec. degrees**	inactive
Rank from Earth	679	Abs Mag.:	18.4			**dec. minutes**	inactive
Course Headings SGC decimal						**dec. seconds**	inactive
RA: (0 <360)	232.9172886	**dec: (0-180)**	91.90728256	**Galactic SGC**			
				Sector	**X**	**Y**	**Z**
Destination: Apparent position | Start of Mission				**Omega**	-9.09279603	-38.2336637	-3.46695345
Destination: Real position | Start of Mission				**Omega**	-9.09548281	-38.2366036	-3.46626331
Destination: Real position | End of Mission				**Omega**	-9.09280476	-38.2336733	-3.46695121

Shifts in distances of Destination	**Distance l/y**	**X**	**Y**	**Z**
Change in Apparent vs. Real position at Start of Mission	0.004042047	0.002686777	0.002939913	-0.00069014
Change in Real positions, Start to End of Mission	0.004028921	-0.00267805	-0.00293037	0.000687894

Stats	**Distance l/y**
Start to Destination:	39.04492549
Earth to Destination:	39.45265197
Accuracy improvement after mission profile iterations:	0.000102365

Annual shifts of Destination

XAS	**YAS**	**ZAS**
-0.00014202	-0.0001554	3.64797E-05

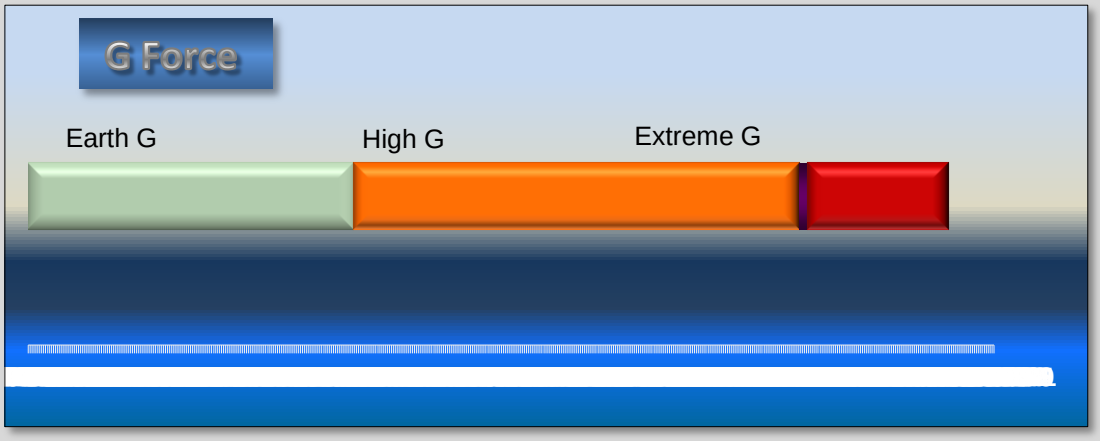
Notes

Faster than light travel. Ship time data is imaginary. Faster than light speeds can create large G forces. ' Inertial dampeners ' are used in Sci-Fi to compensate. Mid-Point Mission Speed is 656 c. Annual Shifts are within acceptable values.

Proper Motion of Destination (if available)

Proper Motion	inactive
Angle of Proper Motion	inactive
Radial Motion km/sec	inactive

Mission Parameters:		
Distance traveled by Starship l/y:	39.04492549	'Use Today's Date' ON: Stellar movement based on Epoch 2000 and adjusted to today's date.
Stellar positions adjusted to start date from Epoch 2000:	Auto Adjusted	
Number of years Auto Adjusted to start date:	18.9	
Mission Start Date:	02-Dec-2018	
User input top speed (1=c):	656	
Actual top speed matches User input - No adjustment needed.	656	
Days until top speed:	0.7	
G force experienced in acceleration and deceleration legs:	331582.86	

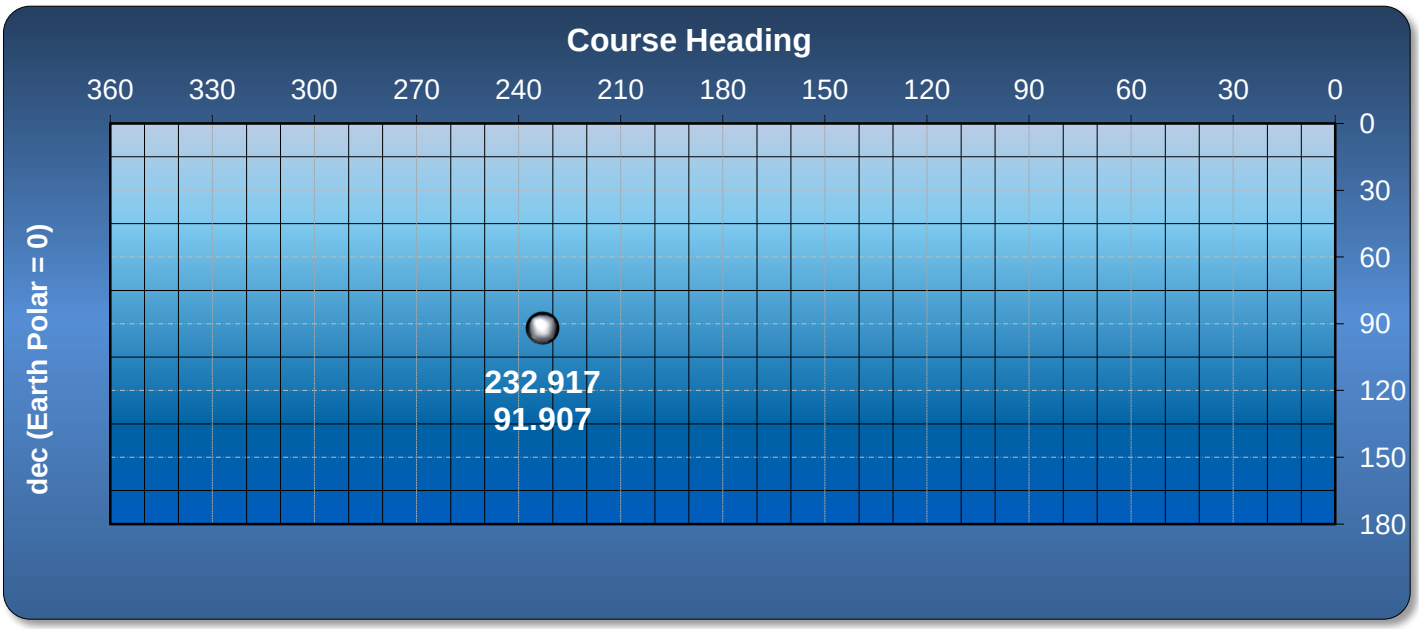


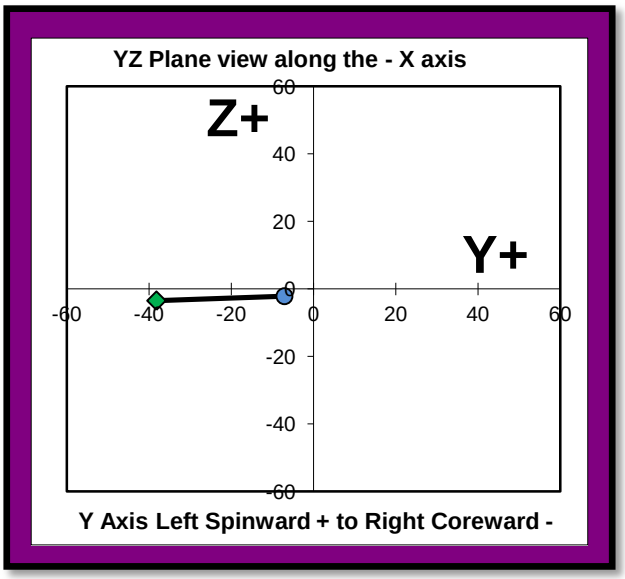
G-Force is acceptable for crew.

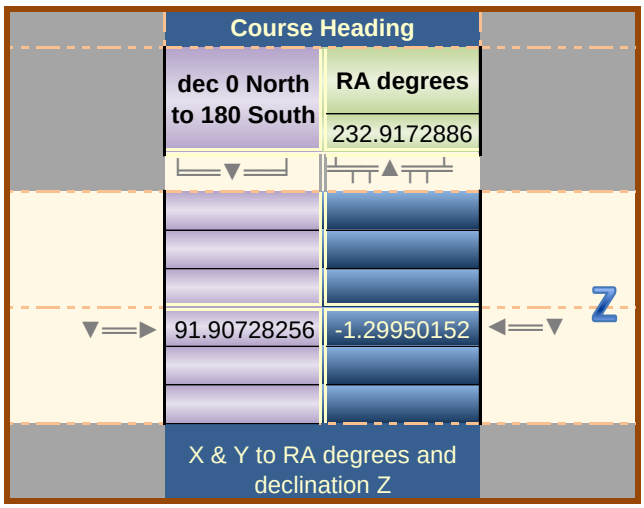
Destination Notes	Destination motion:	Total change /c	k/sec	1/c
Warp Factor 7	Towards Start position:	0.000180125	54.00010034	
	Destination actual speed		64.05293841	0.000213658

Mission duration

	Arrival date	Year	Days	Hours	Min	Years spent coasting:	Years to retroburn
Earth time	24-Dec-2018	0	22	11	33	0.06	0.06
Ship time	20-Dec-2018	0	18	23	50	0.00	
Faster Than Light Speeds						0.00%	
Ship time mission duration slows, compared to Earth Time:						0.012287 years slower	

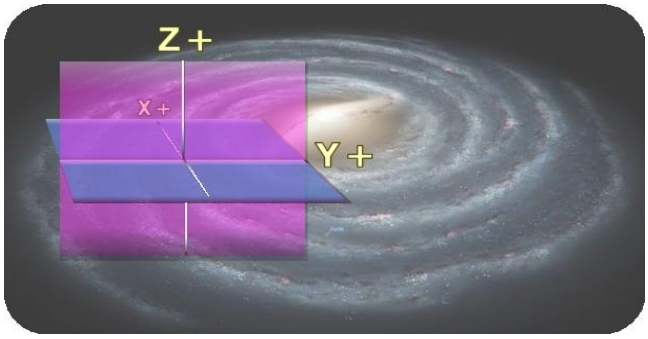


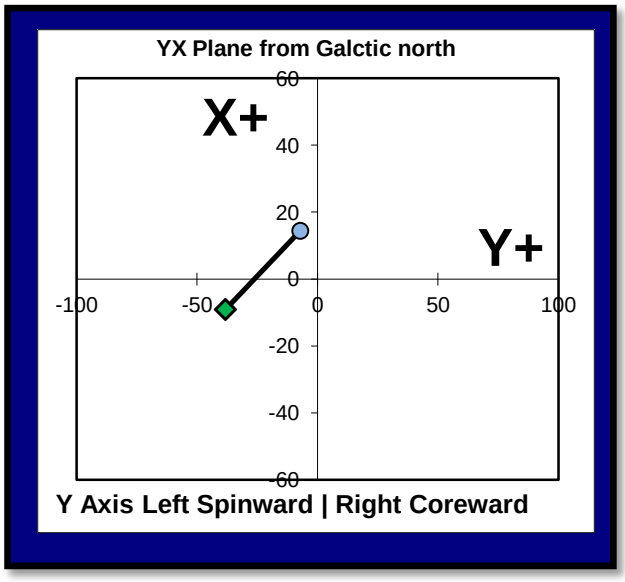




Circle = Start Position = Kappa Sector

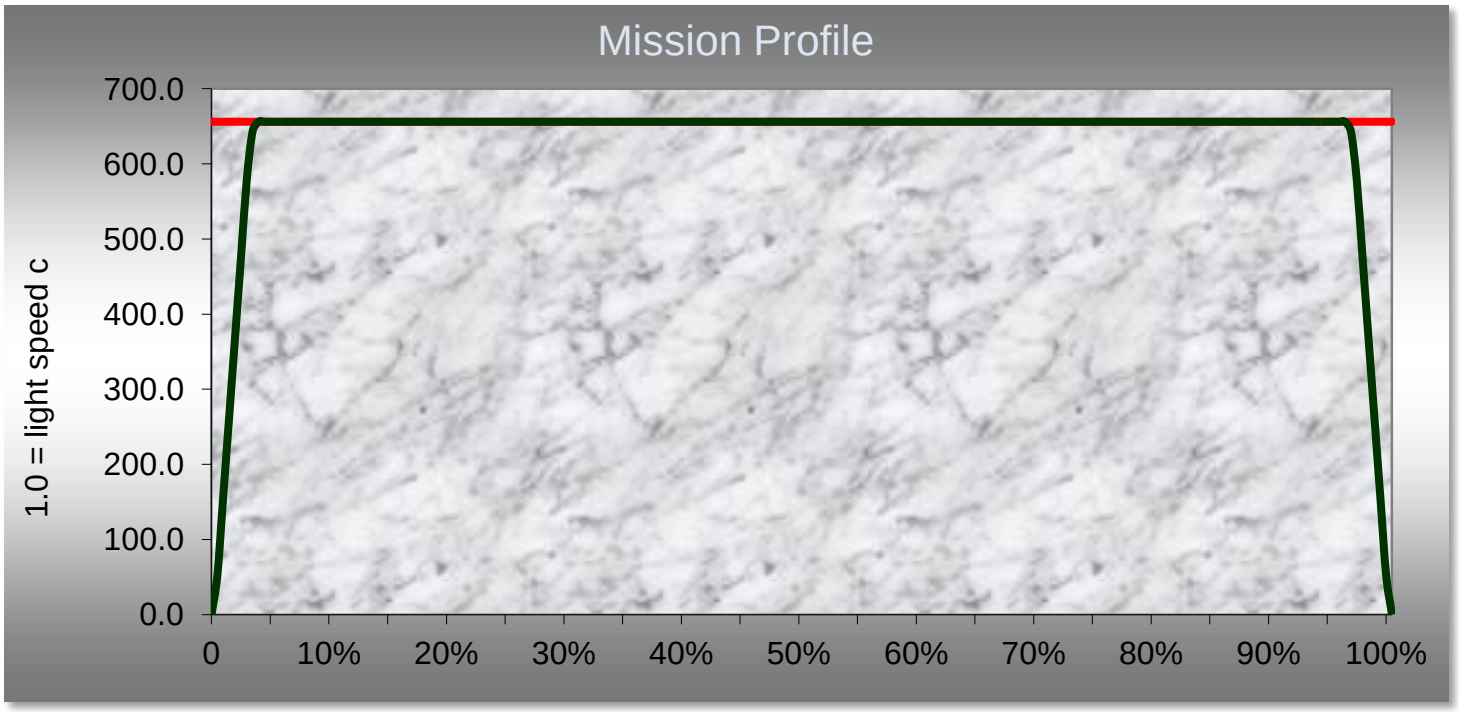
Diamond = Destination = Omega Sector





	Twin Paradox	Dilation at Top Speed 656
	Earth Time	**Ship Time**
	1 hour	48 minutes, 0 second
	1 day	19 hours, 12 minutes,
	1 month	24 days, 3 hours, 53 minutes,
	1 year	292 days, 4 hours, 11 minutes,
	1 Way & Round Trip	
1 Way	22 days, 10 hours,	14 days, 8 hours,
Round Trip	44 days, 21 hours,	35 days, 16 hours,

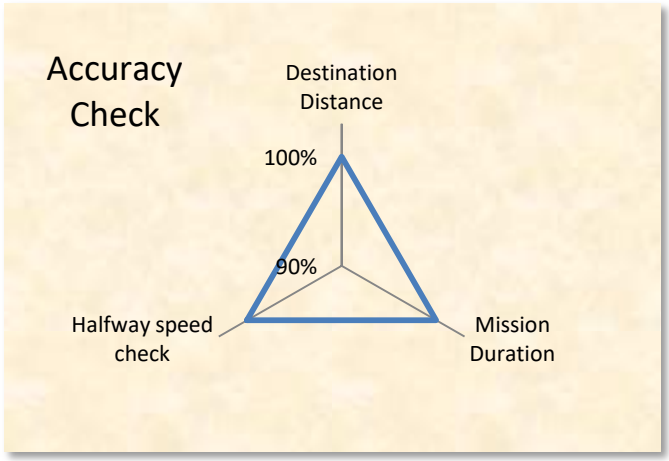
Both twins start at 20 years old. After a round trip, Earthbound Alice will be 20. Space traveling, Celeste, will be still age 20... That's a super speedy Starship! What do one of these ships cost?



Top speed = 656 c

Start: omicron 2 40 Eri (Star Trek Vulcan home star) (HD 26965) (Keid) (HIP 19849) in Eridani [X 14.437] [Y -7.102] [Z -2.167]

Dest: Trappist-1 2Mass J23062928-0502285 in Aquarii [X -9.093] [Y -38.234] [Z -3.467]



Accel. leg travel l/y	0.628610541
Accel. leg % mission	1.6100%
Acceleration slope	89.99983261
Years to reach first l/y	0.002482638
Coasting leg travel l/y	37.78770441
Coasting leg % mission	96.7801%
Average mission speed /c	635.5361513
Earth date arrival	Monday, December 24, 2018
Ship date arrival	Thursday, December 20, 2018
Destination Distance	100.0000%
Mission Duration	100.0000%
Halfway speed check	100.0000%

Sensor Range Report
Range 8 ly

	Star	Type	Star #2 or info	Alerts	Distance at mission start
1	omicron 2 40 Eri (Star Trek Vulcan home star) (HD 26965) (Keid) (HIP 19849)	K0 V	B, C, b	Start	0.01
2	2MASS J04151954-0935066	T8.0	Brown dwarf		2.52
3	GJ 3323 (LHS 1723) (LP 656-38)	M4.5 V	PM		3.57
4	LP 658-2 Wolf 1453 (HD 36395)	M1.5 V	Red dwarf		6.24
5	WISE J041022.71+150248.5	T6	Brown dwarf		6.36
6	WISE 2MASS J02540788+0223563	T8.0	Brown dwarf		6.76
7	WISE J052126.29+102528.4	T7.5	Brown dwarf		6.90
8	epsilon Eri (HD 22049) (HIP 16537) (eps Eri)	K2 V	b, c, dust		7.34
9	Teegarden's Star (GAT 1370) (2Mass 02530084+1652532)	M7.0 V	Red dwarf		8.67
10	GJ 3193 (BD-17 588A)	M3	Flare Star, B		9.04
11	GJ 3192 (LP 771-095)	M3	Red dwarfs B C		9.15
12	tau Cet	G8 V	7 planets, PM		10.00
13	TZ Ari (L 1159-16) (GJ 83.1)	M4.5 V	Red dwarf		10.50
14	YZ Cet	M4.5 V	Red dwarf		11.59
15	SIMP J013656.57+093347.3	T2.5	planet member of Carina-Near Stellar group.		13.68
16	van Maanen's Star (WD0046)	DZ7.5	White dwarf		13.66
17	GJ 1005 (Luyten 722-22) (G 158-50)	M4V	B possible multiple star		16.01
18	GJ 1002 (G 158-27)	M5.5	PM Red dwarf		16.15
19	HD 4628 (96 G. Psc) (Wolf 25)	K2.5V	PM		19.47
20	GJ 908 BD+01 4774 (V* BR Psc)	M1VFe-1	By Draconis variable		19.76
21	GJ 1286 (G157-77)	M5.0Ve	PM		23.57
22	GJ 4360	M5 D	Flare star		27.26
23	GJ 1276 (EGGR 453)	DZ9+	White dwarf		29.56
24	Trappist-1 2Mass J23062928-0502285	M8V	tidally locked, e and f possible Earthlike	Destination	39.04
25	2MASSW J2224438-015852	L4.5V	Brown dwarf		39.70
26	GJ 3379 (G 99-049)	M4			8.10
27	Ross 614 A (V577)	M4.5 V	Flare star, B		9.02
28	Ross 47 AC+12 1800-213	M4V	BY Draconis variable		9.37

	First in Sensor Range		Closest Approach to Star			Last in Sensor Range		Ship time Within Range
	Ship Time	Earth Time	Distance	Earth Time	Ship Time	Earth Time	Ship Time	
1	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
2	0.00	0.00	2.52	0.00	0.00	0.01	0.00	0.00
3	0.00	0.00	3.57	0.00	0.00	0.01	0.00	0.00
4	0.00	0.00	6.24	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	6.33	0.00	0.00	0.01	0.00	0.00
6	0.00	0.00	3.47	0.01	0.00	0.02	0.00	0.00
7	0.00	0.00	6.90	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	6.77	0.01	0.00	0.01	0.00	0.00
9	0.00	0.00	7.19	0.01	0.00	0.01	0.00	0.00
10	0.00	0.00	6.79	0.01	0.00	0.02	0.00	0.00
11	0.00	0.00	6.93	0.01	0.00	0.02	0.00	0.00
12	0.00	0.00	5.66	0.01	0.00	0.02	0.00	0.00
13	0.01	0.00	6.35	0.01	0.00	0.02	0.00	0.00
14	0.01	0.00	6.44	0.02	0.00	0.02	0.00	0.00
15	0.01	0.00	6.05	0.02	0.00	0.03	0.00	0.00
16	0.01	0.00	6.48	0.02	0.00	0.03	0.00	0.00
17	0.02	0.00	5.87	0.02	0.00	0.03	0.00	0.00
18	0.02	0.00	6.34	0.02	0.00	0.03	0.00	0.00
19	0.02	0.00	5.59	0.03	0.00	0.04	0.00	0.00
20	0.02	0.00	6.12	0.03	0.00	0.04	0.00	0.00
21	0.03	0.00	4.21	0.04	0.00	0.05	0.00	0.00
22	0.03	0.00	5.13	0.04	0.00	0.05	0.00	0.00
23	0.04	0.00	6.13	0.05	0.00	0.05	0.00	0.00
24	0.05	0.00	0.01	0.06	0.00	0.06	0.00	0.00
25	0.06	0.00	7.64	0.06	0.00	0.06	0.00	0.00
26	Never	Never	Out of range			Never	Never	0.00
27	Never	Never	Out of range			Never	Never	0.00
28	Never	Never	Out of range			Never	Never	0.00

Sensor Range Report
Range 8 ly

	Star	Type	Star #2 or info	Alerts	Distance at mission start
29	GJ 223.2 (WD 0552-041) (EGGR 45)	DZ9	White dwarf		9.46
30	GJ 229 (HD 42581)	M1.0 V	B (Red dwarfs), Flare star		9.77
31	GJ 1061 (LHS 1565)	M5.5V	Red dwarf		9.99
32	Kapteyn's Star	M1VIp	halo star Oldest known planet 4.8x Earth + one 7x Earth sizes		10.28
33	LP 944-020	M9.5V	Red dwarf		10.33
34	alpha Cma Sirius A	A1 V	B White dwarf		10.80
35	UV Cet Luyten 726-8	M5.6 V	B		10.97
36	pi Ori	F6V			11.68
37	DEN 0255-4700	L9	J025503.5-470050) Brown dwarf		11.86
38	UGPS J072227.51-054031.2	T9	Brown dwarf		11.96
39	82 Eri (HD 20794)	G5			12.02
40	GJ 105B (SAO 110636) (268 G.) (V* BX Cet)	DM4.5	By Draconis variable		12.15
41	GJ 105A (SAO 110636A)	K3V			12.16
42	GJ 105C	M4.0V			12.16
43	WISE J035000.32-565830.2	Y1	Brown dwarf		12.37
44	Luyten BD+5 1668	M3.7V	Red dwarf		12.51
45	alpha Cmi Procyon	F5 IV-V	B		12.98
46	GJ 183 (HD 32147)	K3V	Border area with Orionis		13.32
47	Gliese 185B	M0	(HD 32450B) PM		13.42
48	Gliese 185A	K7V	(HD 32450A) PM		13.43
49	delta 23 Eri Rana	K0IV			13.69
50	GJ 1057 (V* CD Cet)	M4.5V			13.71
51	GJ 1087 (EGGR 290)	DAP9	White dwarf		14.09
52	G 99-47 (V1201)	DAP8	White dwarf		14.12
53	GJ 1065 (G 160-28)	M3V	PM		14.88
54	GJ 3306 (EGGR 41)	DQ8	White dwarf		14.93
55	GJ 3325 (LP 776-46)	M3V	PM Border area to Eridani		14.95
56	GJ 190	M3.5V	PM		15.15

	First in Sensor Range		Closest Approach to Star			Last in Sensor Range		Ship time Within Range
	Ship Time	Earth Time	Distance	Earth Time	Ship Time	Earth Time	Ship Time	
29	Never	Never	Out of range			Never	Never	0.00
30	Never	Never	Out of range			Never	Never	0.00
31	Never	Never	Out of range			Never	Never	0.00
32	Never	Never	Out of range			Never	Never	0.00
33	Never	Never	Out of range			Never	Never	0.00
34	Never	Never	Out of range			Never	Never	0.00
35	Never	Never	Out of range			Never	Never	0.00
36	Never	Never	Out of range			Never	Never	0.00
37	Never	Never	Out of range			Never	Never	0.00
38	Never	Never	Out of range			Never	Never	0.00
39	Never	Never	Out of range			Never	Never	0.00
40	Never	Never	Out of range			Never	Never	0.00
41	Never	Never	Out of range			Never	Never	0.00
42	Never	Never	Out of range			Never	Never	0.00
43	Never	Never	Out of range			Never	Never	0.00
44	Never	Never	Out of range			Never	Never	0.00
45	Never	Never	Out of range			Never	Never	0.00
46	Never	Never	Out of range			Never	Never	0.00
47	Never	Never	Out of range			Never	Never	0.00
48	Never	Never	Out of range			Never	Never	0.00
49	Never	Never	Out of range			Never	Never	0.00
50	Never	Never	Out of range			Never	Never	0.00
51	Never	Never	Out of range			Never	Never	0.00
52	Never	Never	Out of range			Never	Never	0.00
53	Never	Never	Out of range			Never	Never	0.00
54	Never	Never	Out of range			Never	Never	0.00
55	Never	Never	Out of range			Never	Never	0.00
56	Never	Never	Out of range			Never	Never	0.00

Sensor Range Report
Range 8 ly

	Star	Type	Star #2 or info	Alerts	Distance at mission start
57	Kappa1 Cet 96	G5 V	(yellow dwarf)		15.17
58	WISE 0855–0714	Y	Rogue Planet or sub Brown dwarf. Temp. -48 to -13 Celsius		15.27
59	2MASS J03552337+1133437	L5y	Brown dwarf Discovered in 2006		15.46
60	LP 655-48	M7.5Ve	PM		15.78
61	gamma Lep	F7V	B		16.02
62	gamma B Lep	K2V	BY Draconis variable		16.07
63	CD-37.15492 GJ 1 (HD 225213)	M2.0 V	Part of AB Doradus stellar group with orbital eccentricity of		16.10
64	Wolf 294 (AC + 33 25644) (HD 265866) (GJ 251)	M4	Red dwarf, PM		16.19
65	Solar System Sun	G2 V			16.23
66	WISE J035934.06-540154.6	Y0	Brown dwarf		16.31
67	Gliese 109 (V* VX Ari)	M3.5Ve	Flare Star		16.32
68	YZ Cmi	M4	By Draconis variable		16.33
69	DX Cnc (G 51-15)	M6.6 V	Flare star		16.54
70	WISE J053516.80-750024.9	Y1	Brown dwarf		16.64
71	GJ 1068	M4.5	PM		16.66
72	Lacaille 9352 (HD 217987)	M2V			17.02
73	Groombridge 34 GL 15 (GX And)	M1V	B		17.20
74	Groombridge 34B GL 15B (GX And B)	M3.5Ve	Flare		17.22
75	ISE 0607+2429	L8	Brown dwarf discovered in 2012		17.27
76	WISE J104915.57-531906.1	L8	Brown dwarf - low mass		17.40
77	Ross 248 (HH And)	M5.0V	flare star		17.69
78	GJ 176 (HD 285968)	M2.5V	b (25 x Earth Mass - orbital 10.24 days)		17.89
79	proxima Cen (V645)	M5.5 V	(Red dwarf in alpha Cen), b		17.92
80	107 Psc	K1V			18.08
81	AP Col	M4.5V	Flare young star X-Ray source		18.08
82	Ross 986:00:00 AC+38 23616	M4.5	B		18.10
83	alpha Cen Rigil KenTauri Rigil Kent Toliman	G2 V	B C		18.14
84	EZ Aqr Luyten 789-6	M5.5 V	B, C, (Red dwarfs) BY Draconis variable		18.41

	First in Sensor Range		Closest Approach to Star			Last in Sensor Range		Ship time Within Range
	Ship Time	Earth Time	Distance	Earth Time	Ship Time	Earth Time	Ship Time	
57	Never	Never	Out of range			Never	Never	0.00
58	Never	Never	Out of range			Never	Never	0.00
59	Never	Never	Out of range			Never	Never	0.00
60	Never	Never	Out of range			Never	Never	0.00
61	Never	Never	Out of range			Never	Never	0.00
62	Never	Never	Out of range			Never	Never	0.00
63	Never	Never	Out of range			Never	Never	0.00
64	Never	Never	Out of range			Never	Never	0.00
65	Never	Never	Out of range			Never	Never	0.00
66	Never	Never	Out of range			Never	Never	0.00
67	Never	Never	Out of range			Never	Never	0.00
68	Never	Never	Out of range			Never	Never	0.00
69	Never	Never	Out of range			Never	Never	0.00
70	Never	Never	Out of range			Never	Never	0.00
71	Never	Never	Out of range			Never	Never	0.00
72	Never	Never	Out of range			Never	Never	0.00
73	Never	Never	Out of range			Never	Never	0.00
74	Never	Never	Out of range			Never	Never	0.00
75	Never	Never	Out of range			Never	Never	0.00
76	Never	Never	Out of range			Never	Never	0.00
77	Never	Never	Out of range			Never	Never	0.00
78	Never	Never	Out of range			Never	Never	0.00
79	Never	Never	Out of range			Never	Never	0.00
80	Never	Never	Out of range			Never	Never	0.00
81	Never	Never	Out of range			Never	Never	0.00
82	Never	Never	Out of range			Never	Never	0.00
83	Never	Never	Out of range			Never	Never	0.00
84	Never	Never	Out of range			Never	Never	0.00