

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 -9.150] [Y - 38.296] [Z -3.452]
Rendezvous	Earth date arrival: Tuesday, December 8, 2420
Ship Type: RAIR Golaith	Ship date arrival: Tuesday, January 8, 2419
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):	8-December-2420		
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)	232.905748	dec: (0-180)	91.8817176		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	-9.14988933	-38.2961361	-3.45228825	

Shifts in distances of Destination	Distance l/y	X	Y	Z
Change in Apparent vs. Real position at Start of Mission	0.004042045	0.002686775	0.002939912	-0.00069014
Change in Real positions, Start to End of Mission	0.081850395	0.054406525	0.059532469	-0.01397506

Stats	Distance l/y			
	Start to Destination:	39.12864634		
	Earth to Destination:	39.45265197		
	Accuracy improvement after mission profile iterations:	0.669869149		
Notes		Annual shifts of Destination		
		XAS	YAS	ZAS
		-0.00014202	-0.0001554	3.64797E-05
Sub-light velocities are within normal space physics. Warning: Your time to top speed is longer than 2.7 years. G-Force is acceptable for crew. Mid-Point Mission Speed is 0.098 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:	39.12864634
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):	0.098
Actual top speed matches User input - No adjustment needed.	0.098
Days until top speed:	1000
G force experienced in acceleration and deceleration legs:	0.03

G Force

Earth G High G Extreme G

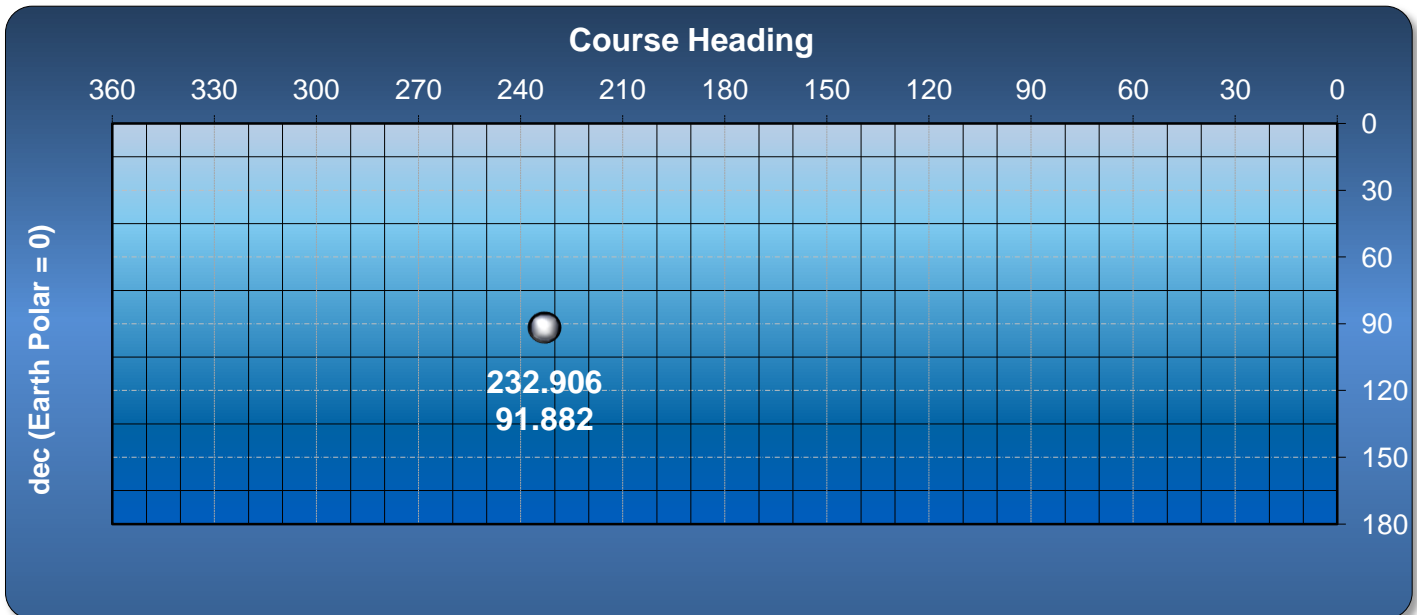
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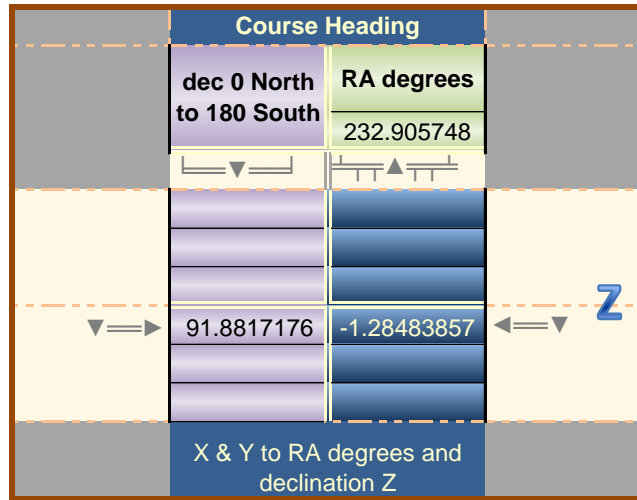
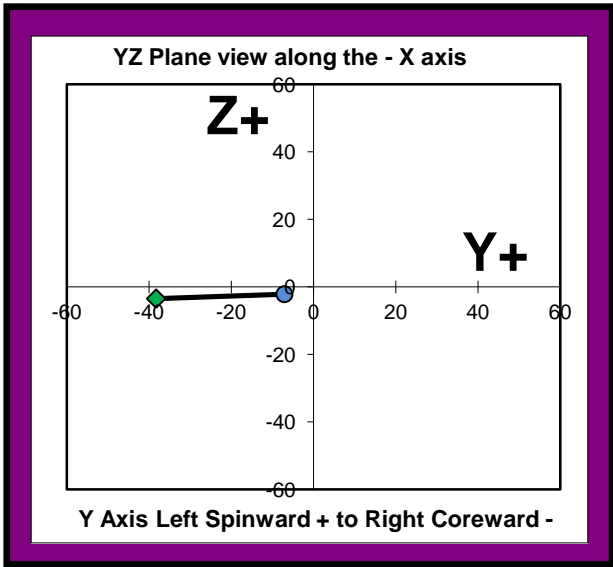
'Use Today's Date' ON:
Stellar movement based on Epoch 2000 and adjusted to today's date.

G-Force is acceptable for crew.

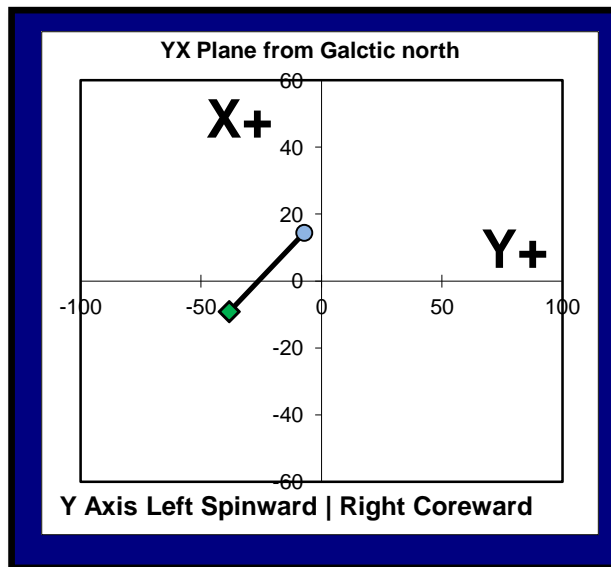
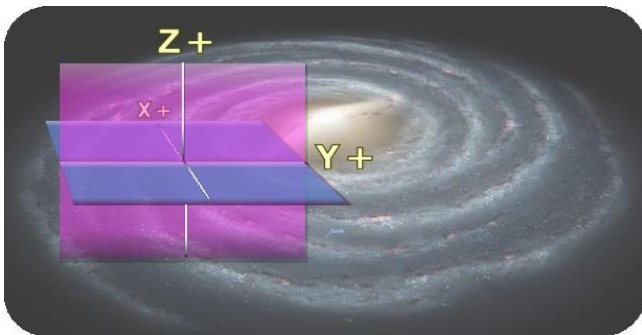
Destination Notes	Destination motion:	Total change /c	k/sec	1/c
	Towards Start position:	0.000180125	54.00010034	
	Destination actual speed		64.05293841	0.000213658

Mission duration								
	Arrival date	Years	Days	Hours	Min	Years spent coasting:	Years to retroburn	
Earth time	8-Dec-2420	402	4	13	29	396.53	399.27	
Ship time	8-Jan-2419	400	34	15	15	394.63	397.35	
Onboard clock runs for the coasting leg of the mission (100% = no slowing):						99.52%		
Ship time mission duration slows, compared to Earth Time:						1.9 years slower		



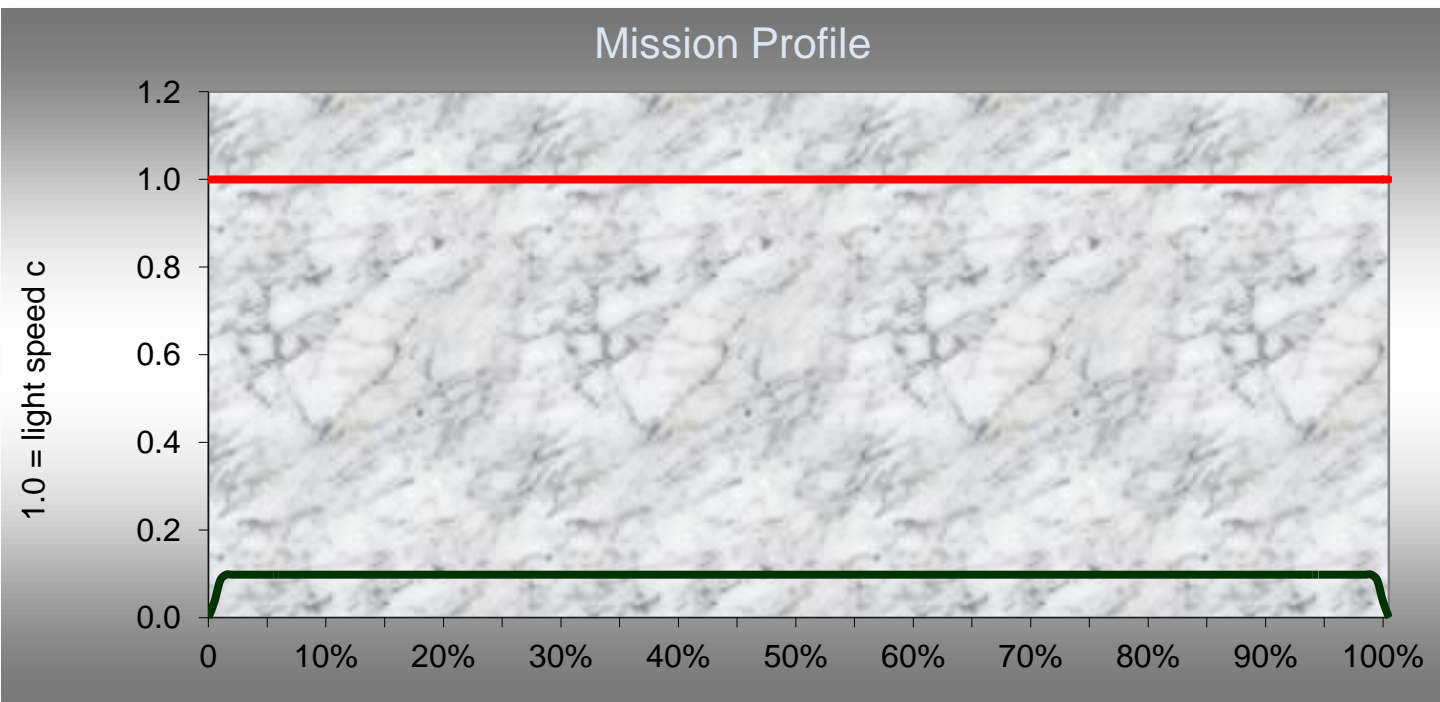


Circle = Start Position = Kappa Sector
 Diamond = Destination = Omega Sector



	Twin Paradox Earth Time	Dilation at Top Speed 0.098 Ship Time
	1 hour	59 minutes, 42.82 seconds
	1 day	23 hours, 53 minutes,
	1 month	30 days, 4 hours, 50 minutes,
	1 year	363 days, 12 hours, 30 minutes,
1 Way & Round Trip		
1 Way	402 years, 3 days, 1 hour,	400 years, 33 days, 15 hours,
Round Trip	804 years, 7 days, 2 hours,	800 years, 53 days, 6 hours,

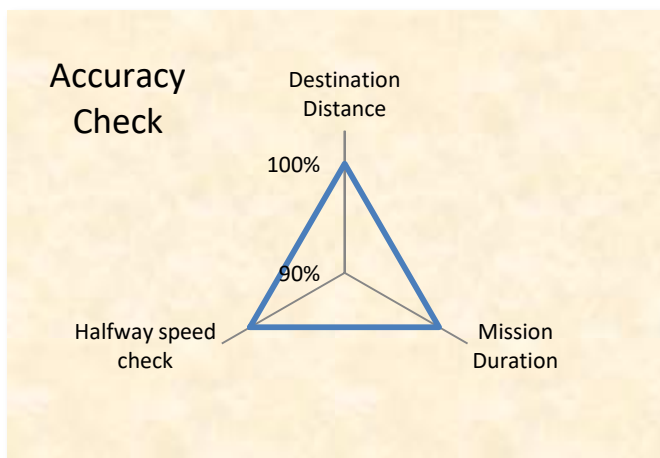
Both twins start at 20 years old. After a round trip, Earthbound Alice will be 824. Space traveling, Celeste, will be 820 years old. That's a pretty long trip. You will need to use frozen animation technique on Celeste and hire some repair androids to keep the ship running on this hop!



Top speed = 0.098 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 -9.150] [Y -38.296] [Z -3.452]



Accel. leg travel l/y	0.134154689
Accel. leg % mission	0.3429%
Acceleration slope	2.049998561
Years to reach first l/y	11.57300703
Coasting leg travel l/y	38.86033696
Coasting leg % mission	99.3143%
Average mission speed /c	0.09733258
Earth date arrival	Tuesday, December 8, 2420
Ship date arrival	Tuesday, January 8, 2419
Destination Distance	100.0000%
Mission Duration	100.0000%
Halfway speed check	100.0000%

Sensor Range Report
Range 8 ly

				Distance at mission start
Star	Type	Star #2 or info	Alerts	
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	82.41	82.02	82.02
2	0.00	0.00	2.52	0.00	0.00	74.37	74.02	74.02
3	0.00	0.00	3.57	0.00	0.00	46.23	46.01	46.01
4	0.00	0.00	6.24	0.00	0.00	18.09	18.00	18.00
5	0.00	0.00	6.33	8.04	8.00	56.28	56.01	56.01
6	0.00	0.00	3.47	60.30	60.01	132.66	132.03	132.03
7	0.00	0.00	6.90	0.00	0.00	16.08	16.00	16.00
8	0.00	0.00	6.76	30.15	30.01	72.36	72.02	72.02
9	14.07	14.00	7.18	50.25	50.01	86.43	86.02	72.02
10	18.09	18.00	6.80	62.31	62.01	104.52	104.02	86.02
11	20.10	20.00	6.94	62.31	62.01	102.51	102.02	82.02
12	26.13	26.01	5.66	86.43	86.02	142.71	142.03	116.03
13	36.18	36.01	6.34	86.43	86.02	134.67	134.03	98.02
14	50.25	50.01	6.44	100.50	100.02	146.73	146.03	96.02
15	72.36	72.02	6.05	126.63	126.03	178.89	178.04	106.02
16	74.37	74.02	6.47	124.62	124.03	170.85	170.04	96.02
17	96.48	96.02	5.87	152.76	152.03	207.04	206.05	110.03
18	102.51	102.02	6.35	152.76	152.03	201.00	200.05	98.02
19	132.66	132.03	5.57	190.95	190.04	249.25	248.06	116.03
20	138.69	138.03	6.11	192.96	192.04	245.23	244.06	106.02
21	166.83	166.04	4.20	237.19	236.05	305.53	304.07	138.03
22	211.06	210.05	5.16	275.38	274.06	335.68	334.08	124.03
23	243.22	242.06	6.07	295.48	294.07	347.74	346.08	104.02
24	317.59	316.07	0.09	400.00	398.09	402.01	400.09	84.02
25	371.86	370.09	7.61	397.99	396.09	400.00	398.09	28.01
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

				Distance at mission start
Star	Type	Star #2 or info	Alerts	
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	M1Vlp	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

				Distance at mission start
Star	Type	Star #2 or info	Alerts	
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