

**Post-Loss Signal Statistics for Source at Gardner  
Gardner Sunset: 0538Z Sunrise: 1747Z**

This table examines nearly two hundred received radio signals that were suspected or alleged to have been sent from the Earhart aircraft in the days following its disappearance. If any of the signals were genuine, the airplane had to be on land. The preponderance of available evidence suggests that the signals originated from the vicinity of Gardner island (today known as Nikumaroro) in the Phoenix Group.

For each of the reported receptions, this analysis calculates the probability that a signal sent from the Amelia aircraft at Gardner Island could be heard at the receiving location. (Note: See PLSigStatsIntro.pdf on disk for explanation of columns in this table.)

Day	GMT	Signal	Freq	Receiver	Rcvr Sun			Signal Statistics			
					Set	Rise	Path	Rqd	Med	SDev	Prob
2	2100-2130	Betty (Provisional date)	24840	St. Pete FL	0031	1039	DD	43	-1	14.9	0.001595613870358
2	2130-2230	Betty (Provisional date)	24840	St. Pete FL	0031	1039	DD	43	9	7.6	0.000003618472907
2	2230-2315	Betty (Provisional date)	24840	St. Pete FL	0031	1039	DD	43	9	8.4	0.000023781547406
3	0200	Weak, heard "L-a-t", fol by unreadable figs	6210	L.A.	0308	1246	DD	43	-69	12.3	0.000000000000000
3	0400	Weak sigs, erratic and unreadable	3105	L.A.	0308	1246	DN	41	-43	7.7	0.000000000000000
3	0517	Tests, steady carrier, no modulation	3105	Mokapu	0518	1555	NN	40	25	9.0	0.047502709060928
3	0555	Steady carrier, no modulation, weak	3105	Mokapu	0518	1555	NN	40	32	8.3	0.167012649592750
3	0555	We hear her" very weak and unreadable, A3	3105	Itasca	0554	1741	NN	41	64	9.7	0.991206335584211
3	0600	Itasca: requesting AE send dashes	3105	Gardner	0538	1747	NN	45	72	8.0	0.999648280544202
3	0600	Itasca: requesting AE send dashes	3105	Achilles	0434	1701	NN	45	48	8.4	0.640157009650749
3	0600	Itasca: requesting AE send dashes	3105	CG Hono	0518	1555	NN	45	45	8.5	0.500000000000000
3	0600	dashes heard immed following Itasca request	3105	Achilles	0434	1701	NN	40	52	7.7	0.941483189049501
3	0604-0606	Heard something like generator start then stop	3105	Itasca	0554	1741	NN	40	64	9.7	0.993383184357302
3	0607	Sigs on/off, heard "Earhart", guess it isn't her.	3105	Itasca	0554	1741	NN	42	64	9.7	0.988425534528094
3	0700	Weak, unreadable	6210	L.A.	0308	1246	NN	41	11	7.7	0.000044575384689
3	0700	Itasca heard	3105	L.A.	0308	1246	NN	41	-4	8.4	0.000000036591139
3	0700	Distinct sigs AE & Itasca, not hearing each other	3105	L.A.	0308	1246	NN	43	-23	13.2	0.000000288416217
3	0727	Heard series of long dashes	3105	Ft. Shafter	0518	1555	NN	41	29	7.9	0.064156012027948
3	0800-0845	Heard AE SOS loud & clear. No freq. (3105?)	3105	Amarillo	0206	1137	NN	45	-35	12.7	0.000000000129948
3	0800-0845	Heard AE SOS loud & clear. No freq. (6210?)	6210	Amarillo	0206	1137	NN	45	0	11.0	0.000022028313283
3	0800	Long dashes and weak voice	6210	CG Hono A1	0518	1555	NN	41	37	6.9	0.280344577965855
3	0831-0854	strong A3, unintel; but sim to sig fm AE last night	6210	Nauru	0659	1854	NN	43	51	7.0	0.875043721214655
3	0831-0854	(Same as above. Testing 2 X 3105)	6210	Nauru	0659	1854	NN	43	39	8.3	0.314541169656031
3	0833-0900	weak A3 unreadable	3105	Itasca	0554	1741	NN	41	49	6.6	0.885841567051138
3	0920	4 hams hrd AE voice. "KHAQQ" distinct & verified	3105	L.A.	0308	1246	NN	42	-23	15.8	0.000019041543860
3	1057	Series long dashes, duration 22 seconds	3105	CG Hono	0518	1555	NN	40	18	9.1	0.007599837068300
3	1115	McMenamy heard "KHAQQ SOS"	3105	L.A.	0308	1246	NN	44	-22	16.3	0.000026486720430
3	1330	4 hams hrd woman distress call SW Howland	3105	L. A.	0308	1246	NN	43	-23	7.7	0.000000000000000
3	1455	Ham heard SOS ~ 3488 kHz	3105	Oakland	0335	1253	NN	45	-44	4.1	0.000000000000000
3	1920	Heard AE between 9 -10 MHz and near 13 MHz	9315	Ashland KY	0050	1007	DD	45	-117	5.2	0.000000000000000
3	1920	same as above, testing 4 x 3105	12420	Ashland KY	0050	1007	DD	45	-68	5.1	0.000000000000000
3	1920	same as above, resting 2 x 6210	12420	Ashland KY	0050	1007	DD	45	-57	5.1	0.000000000000000
3	2100-2130	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-8	20.0	0.005386145982534
3	2130-2230	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	9	8.3	0.000020158072588
3	2230-2315	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	9	9.0	0.000077056083691
3	unk	SS New Zealand hrd dashes, 1200 nmi Howland	3105	mership							

Post-Loss Signal Statistics for Source at Gardner  
 Gardner Sunset: 0538Z Sunrise: 1747Z

Day	GMT	Signal	Freq	Receiver	Rcvr Sun			Signal Statistics			
					Set	Rise	Path	Rqd	Med	SDev	Prob
4	0620-0846	wk carrier, PAA Mokapu also hears	3105	CG Hono	0518	1555	NN	40	25	7.6	0.023886538461734
4	0645	A3 weak, unintelligible	3105	Itasca	0554	1741	NN	41	51	8.9	0.869240267645028
4	0650	Ham heard AE "S4" "R7".	3105	Baker	0556	1746	NN	45	60	8.8	0.956761866209432
4	0653	A3 weak, unintelligible	3105	Itasca	0554	1741	NN	41	58	9.5	0.962756189383172
4	0833	KGU requesting AE xmit 500, 3105, or 6210									
4	0833	Faint carrier	3105	Mokapu	0518	1555	NN	40	26	8.0	0.039470604842626
4	0850	A3 weak, unintelligible	3105	Itasca	0554	1741	NN	41	50	6.8	0.907271379533410
4	0850-1300	weak carrier	3105	Howland	0556	1746	NN	40	50	5.9	0.956057985964057
4	0851-0929	A3 weak, unintelligible	3105	Itasca	0554	1741	NN	41	50	6.3	0.922519125058560
4	0936-0954	weak carrier	3105	Itasca	0554	1741	NN	40	48	5.9	0.911069196518663
4	1000	KGMB requesting AE xmit on 3105									
4	1005-1029	weak carrier	3105	Itasca	0554	1741	NN	40	48	5.9	0.911069196518663
4	1012-1020	Intermittent carrier, no voice distinguishable	3105	Mokapu	0518	1555	NN	40	19	8.8	0.008197535970697
4	1022-1100	2 long dashes, possibly A3 transmissions	3105	Mokapu	0518	1555	NN	41	18	9.1	0.005575497851859
4	1031	brief carrier, no A3. Wailupe heard male say "31"	3105	Mokapu	0518	1555	NN	42	18	9.1	0.004045173914568
4	1031-1100	carrier comes and goes, QRN prevents bearing	3105	Mokapu	0518	1555	NN	40	18	9.1	0.007599837068300
4	1035	voice & dashes hrd at end of KGMB broadcast	3105	CG Hono	0518	1555	NN	42	18	9.1	0.004045173914568
4	1037-1055	weak carrier	3105	Itasca	0554	1741	NN	45	44	6.2	0.435642958810006
4	1057	weak CW	3105	Itasca	0554	1741	NN	40	44	6.2	0.741540272330922
4	1059	carrier but no CW	3105	Itasca	0554	1741	NN	40	44	6.2	0.741540272330922
4	1110	Someone trying to send code, nothing readable	3105	Mokapu	0518	1555	NN	40	18	9.1	0.007599837068300
4	1114-1115	CW almost on top of carrier, weak, unreadable	3105		0554	1741	NN	40	43	6.2	0.686543340869668
4	1127-1137	carrier	3105		0554	1741	NN	40	43	6.4	0.680212349857467
4	1137	carrier	3105	Itasca	0554	1741	NN	40	43	6.4	0.680212349857467
4	1153-1353	weak carrier, no mod, apparently from west	6210	CGSF	0335	1253	NN	40	28	11.1	0.139695117833502
4	1200	carrier, one minute duration, plus man's voice	3105	CG Hono	0518	1555	NN	42	17	8.8	0.002137366981710
4	1200	strong carrier, 15 minutes, apparently from west	6210	CGSF	0335	1253	NN	40	28	11.1	0.139695117833502
4	1200-1230	man's voice "31.05", 31.07", "KHAQQ"	3105	Wahiawa	0518	1555	NN	42	17	8.8	0.002137366981710
4	1200-1230	same as above	6210	Wahiawa	0518	1555	NN	42	36	6.5	0.177404626206254
4	1215	Intermittent A3, male voice, unreadable in QRN	3105	Wake	0518	1555	NN	42	11	8.2	0.000078714659636
4	1330	Earhart's voice.	6210	L. A.	0308	1246	ND	43	13	8.5	0.000213397381044
4	1437	Possible A3, too weak to I.D. Also heard at Wake	3105	Midway	0650	1657	NN	41	15	8.6	0.001241298589422
4	1500	AE plane on reef SE Howland, hrd "near 16 MHz"	15525	Rock Sp.	0254	1147	ND	43	1	19.7	0.016448695960829
4	1512	Very faint A3, too weak for bearing	3105	Midway	0650	1657	NN	41	15	8.6	0.001241298589422
4	1512	Very faint A3, brg approx 175, per Midway	3105	Mokapu	0518	1555	NN	41	23	9.0	0.022562989625099
4	1523-1530	weak swinging carrier, brg approx 213	3105	Mokapu	0518	1555	NN	40	23	9.0	0.029233906954715
4	1553	weak A3, apparently same as 1512Z, no bearing	3105	Midway	0650	1657	NN	41	23	8.5	0.017267822945404
4	2100-2130	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-16	20.0	0.001588869654571
4	2130-2230	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	9	9.0	0.000077056083691
4	2230-2315	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	9	9.5	0.000180399020228

**Post-Loss Signal Statistics for Source at Gardner  
Gardner Sunset: 0538Z Sunrise: 1747Z**

Day	GMT	Signal	Freq	Receiver	Rcvr Sun			Signal Statistics				
					Set	Rise	Path	Rqd	Med	SDev	Prob	
5	0500	KGMB asks AE to listen for call at 0630Z										
5	0600	KGMB asks AE to listen for call at 0630Z										
5	0630	KGMB asks AE to send 4 long dashes										
5	0630	answering sigs heard, carrier broken	3105	CG Hono	0518	1555	NN	40	34	7.3	0.204456947193127	
5	0630	4 dashes, KGMB repeats, 2 dashes, brg 215	3105	Mokapu	0518	1555	NN	40	34	7.3	0.204456947193127	
5	0638	faint wobbly A3, brg 201	3105	Midway	0650	1657	NN	41	31	9.0	0.132844878571308	
5	0700	KGMB requests dash groups ???										
5	0700-0704	4 dashes	3105	Tutuilla	0506	1748	NN	40	49	8.3	0.861435727936572	
5	0714-0716	4 dashes	3105	Tutuilla	0506	1748	NN	40	49	8.3	0.861435727936572	
5	0727-0731	8 dashes	3105	Tutuilla	0506	1748	NN	40	49	8.3	0.861435727936572	
5	0730	KGMB requests dash groups ???										
5	0730	Itasca calls AE, A1	3105									
5	0730	Itasca call to AE hrd, plus carrier hrd shortly after	3105	CGSF	0335	1253	NN	40	-10	10.4	0.000000747024313	
5	0745	Itasca calls AE, A1	6210									
5	0800	Itasca calls AE, A1	7500									
5	0812	weak A3 unreadable	3105	Howland	0556	1746	NN	41	55	7.9	0.961989709288604	
5	0815	Itasca calls AE. Mode not specified in log.	3105									
5	0815-0820	carrier hrd, seemingly on prearranged schedule	3105	CGSF	0335	1253	NN	40	0	14.7	0.003230647069361	
5	0907-0923	carrier heard and man's voice, unintelligible	3105	Itasca	0554	1741	NN	42	49	7.0	0.842970510342407	
5	0908	man's voice, very weak	3105	Howland	0556	1746	NN	42	50	6.9	0.877714295448039	
5	0910	KHAQQ calling NRUI, A3; Howland hrd weak A3	3105	Baker	0556	1746	NN	43	50	6.9	0.845704220282964	
5	0915-0920	carrier hrd, seemingly on prearranged schedule	3105	CGSF	0335	1253	NN	40	-6	14.0	0.000502032043991	
5	0916	Ham heard AE calling Itasca	3105	Howland	0556	1746	NN	43	50	6.9	0.845704220282964	
5	0925	weak carrier, no modulation	3105	Howland	0556	1746	NN	40	50	6.9	0.927102429274619	
5	0948-0952	strong A3, strength wavering badly	3105	PAA Wake	0736	1820	NN	41	21	8.3	0.007865567356591	
5	1015-1020	carrier hrd, seemingly on prearranged schedule	3105	CGSF	0335	1253	NN	40	-5	15.4	0.001728612843322	
5	1105	A1, bearing SSE or NNW on magnetic compass	3105	Howland	0556	1746	NN	40	45	6.4	0.782448098406136	
5	1115-1120	carrier hrd, seemingly on prearranged schedule	3105	CGSF	0335	1253	NN	40	-3	16.1	0.003771778041963	
5	1130-1230	"281" message.	3105	Wailupe	0518	1555	NN	43	17	9.0	0.001902367563672	
5	1130-1230	"281" message, with rcvr BW set for CW reception	3105	Wailupe	0518	1555	NN	31	17	9.0	0.059585711555453	
5	1215-1220	carrier hrd, seemingly on prearranged schedule	3105	CGSF	0335	1253	NN	40	7	11.7	0.002431283338257	
5	1223	Itasca requests AE send 4 long dashes	3105	Gardner	0538	1747	NN	45	56	6.6	0.953149554844355	
5	1223-1236	unsteady A3, approx brg 144, believed to be AE	3105	Wake	0736	1820	NN	41	21	6.2	0.000596588119237	
5	1223-1236	Itasca source ?	3105	Wake	0736	1820	NN	41	38	6.2	0.313456659130332	
5	1230-1251	2 groups of 3 dashes responding to Itasca rqst	3105	L. A. (0 dB)	0308	1246	NND	40	-12	7.1	0.000000000000129	
5	1230-1251	2 groups of 3 dashes responding to Itasca rqst	3105	L. A. (10 dB)	0308	1246	NND	40	-2	7.1	0.000000001734666	
5	1305	carrier hrd, seemingly on prearranged schedule	3105	CGSF	0335	1253	NN	40	10	9.1	0.000515274306749	
5	1350	carrier, too short for DF	3105	Mokapu	0518	1555	NN	40	21	8.1	0.009681659412445	
5	1417-1419	hrd "NRUI" on CW, followed immed by 4 dashes	3105	CGSF	0335	1253	ND	42	6	9.6	0.000089716156059	
5	2100-2130	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-1	15.5	0.002224447171793	
5	2130-2230	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	9	7.6	0.000003618472907	
5	2230-2315	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	9	8.4	0.000023781547406	
5	unk	AE calling Itasca	unk	Maui	0518	1555						

Post-Loss Signal Statistics for Source at Gardner  
 Gardner Sunset: 0538Z Sunrise: 1747Z

Day	GMT	Signal	Freq	Receiver	Rcvr Sun			Signal Statistics			
					Set	Rise	Path	Rqd	Med	SDev	Prob
6	0831	A3 distress signal (no frq)	3105	Dennison	0058	1002	NN	43	-33	8.0	0.000000000000000
6	0831	A3 distress signal (no frq)	6210	Dennison	0058	1002	NN	43	0	6.7	0.000000000077689
6	1130	weak A1 message, slow, fragmented (no frq)	3105	L.A.	0308	1246	NN	40	-8	11.7	0.000021017496348
6	1130	weak A1 message, slow, fragmented (no frq)	6210	L.A.	0308	1246	NN	40	20	9.0	0.013004178845401
6	1435	A3 SOS from KHAQQ to NRUI	3105	Oakland	0518	1555	NN	43	-34	6.6	0.000000000000000
6	1625	CGSF informs Itasca of ML3 above									
6	2100-2130	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	3	12.3	0.000554813478788
6	2130-2230	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	7	6.4	0.000000009574868
6	2230-2315	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	7	7.5	0.000000793328147
7	0330-0340	carrier	3105	El Paso	0215	1206	DN	40	-75	7.3	0.000000000000000
7	0700	woman A3, weak unreadable	3105	El Paso	0215	1206	NN	42	-31	14.5	0.000000219969317
7	0747-0907	rippling carrier	3105	Hawaii	0518	1555	NN	40	19	7.3	0.002121049037490
7	0747-0907	rippling carrier	3105	L.A.	0308	1246	NN	40	-18	14.7	0.000039249638900
7	0922	rippling carrier, similar to ML 37b above	3105	L.A.	0308	1246	NN	40	-17	15.9	0.000162764485016
7	1230	AE A3 loud & clear. Near Japanese sta. No freq.	15525	St. Stephen	0019	0850	ND	44	14	7.0	0.000009920763838
7	1230	Nazaki, Japan 20 KW, music to USA	15620	St. Stephen	0019	0850	ND	44	47	7.0	0.665188933665127
7	1717-1837	rippling carrier, hams, no freq given	3105	Honolulu	0518	1555	NDDD	40	10	9.4	0.000687137937013
7	1747-1837	rippling carrier, hams, no freq given	6210	Honolulu	0518	1555	NDDD	40	30	8.4	0.115797229054792
7	2100-2130	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	5	5.9	0.000000000077689
7	2130-2230	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	3	5.9	0.00000000008093
7	2230-2315	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	3	6.7	0.00000001312433
8	1210	"We are on a coral reef", no freq given	3105	Oakland	0518	1555	NN	44	-5	6.4	0.000000000000010
8	2100-2130	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-2	5.8	0.000000000000004
8	2130-2230	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-2	5.8	0.000000000000004
8	2230-2315	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-2	6.3	0.0000000000000301
9	0245	KHBC "March of Time"	1420	Honolulu	0518	1555					
9	unk	AE msg heard by ham in Peru	1400	Callao							
9	unk	Ham hrd sig with lat 5 south, long 173 west	unk	Winnipeg							
9	0800-1400	A3 sigs from AE, hrd btwn midnight & dawn.	3105	Yreka	0349	1241	NNND	43	-28	7.9	0.000000000000000
9	0800-1400	A3 sigs from AE, hrd btwn midnight & dawn.	6210	Yreka	0349	1241	NNND	43	1	7.0	0.000000001162271
9	unk	dupe of item #39	unk	Yreka	0349	1241					
9	2100-2130	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-1	5.8	0.000000000000014
9	2130-2230	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-2	5.8	0.000000000000004
9	2230-2315	Betty (Prov date)	24840	St. Pete FL	0031	1039	DD	43	-2	6.3	0.0000000000000301
unk	unk	A3, "all's well", "posit 5 S, 173 W" , no freq	unk	Great Falls							
unk	unk	A3, "SOS KHAQQ"	6250	San Fran	0518	1555					
unk	unk	A3 AE distress call, ruled out by COM 9 NavDist	unk	Wilmette							