Analysis of Flight Id and Aircraft Registration in the MH370 satellite log

Introduction

There appears to be some inconsistent data in the MH370 satellite log with regards to the Flight Id and Aircraft registration shown after an aircraft initiated login after time 7/2/2014 18:25:27.421 UTC

Data examples prior 7/2/2014 18:25:27.421

All the aircraft initiated logins prior to 7/2/2014 18:25:27.421 UTC all contained the Aircraft Registration and Flight Id.

Examples are :

NO 1

Aircraft Registration = '9M-MRO' and flight ID = 'MH0000' (Note this is the flight Id before a flight plan is entered into the FMC).

NO 2

Aircraft Registration = '9M-MRO' and flight ID = 'MH0370' (Note this is the flight Id after a flight plan is entered into the FMC).

Data examples after 7/2/2014 18:25:27.421

All the aircraft initiated logins after 7/2/2014 18:25:27.421 UTC did not contain an Aircraft Registration and also a Flight ID.

Questions

Please refer to appendices A thru D.

Question 1

What is the reason why all aircraft initiated logins after 7/2/2014 18:25:27.421 did not contain the Aircraft Registration or Flight ID?

Question 2

Why is the last aircraft initiated login at 8/03/2014 00:19:29.416 missing at least 5 transactions compared to the prior aircraft initiated login at 7/03/2014 18:25:27.421.

Appendix A - Example MH371 aircraft logs in and Aircraft Registration and Flight-Id is sent.

Time	Channel Type	SU Type	Data
7/03/2014 01:16:47.730	R-Channel RX	0x10 - Log-on Request (ISU)/Log-on Flight Information (SSU)	!u#!!P !!!#####
7/03/2014 01:16:48.750	R-Channel RX	0x10 - Log-on Request (ISU)/Log-on Flight Information (SSU)	!u#!!!!&fnb!A##
7/03/2014 01:16:51.145	P-Channel TX	0x11 - Log-on Confirm	#!!_ #!!
7/03/2014 01:16:51.866	P-Channel TX	0x40 - P-/R-Channel Control (ISU)	#!!QA`8\
7/03/2014 01:16:51.866	P-Channel TX	Subsequent Signalling Unit	6D6V6T##
7/03/2014 01:16:52.545	P-Channel TX	0x41 - T-Channel Control (ISU)	#!!R1!6?
7/03/2014 01:16:52.545	P-Channel TX	Subsequent Signalling Unit	6:63##!#
7/03/2014 01:17:07.740	R-Channel RX	0x15 - Log-on/Log-off Acknowledge	u#!!Pp!!A#####
7/03/2014 01:17:08.698	P-Channel TX	0x15 - Log-on/Log-off Acknowledge	#!!P!!##
7/03/2014 01:17:12.731	R-Channel RX	Eleven Octet User Data	!!!2.9M-MRO
7/03/2014 01:17:13.758	R-Channel RX	Eleven Octet User Data	!Q05!S62AMH
7/03/2014 01:17:14.769	R-Channel RX	Eight Octet User Data	0371!mm!
7/03/2014 01:17:15.699	P-Channel TX	0x62 - Acknowledge User Data	#!!q!###

Appendix B - Example MH370 aircraft logs in and Aircraft Registration and Flight-Id is sent.

Time	Channel Type	SU Type	Data
7/03/2014 12:50:19.735	R-Channel RX	0x10 - Log-on Request (ISU)/Log-on Flight Information (SSU)	u#!!P!!!!#####
7/03/2014 12:50:20.524	P-Channel TX	0x11 - Log-on Confirm	#!!^! !;
7/03/2014 12:50:20.524	P-Channel TX	0x40 - P-/R-Channel Control (ISU)	#!!UQ!6V
7/03/2014 12:50:21.148	P-Channel TX	Subsequent Signalling Unit	69676<6F
7/03/2014 12:50:21.148	P-Channel TX	0x41 - T-Channel Control (ISU)	#!!V1!6:
7/03/2014 12:50:21.865	P-Channel TX	Subsequent Signalling Unit	636?##!#
7/03/2014 12:50:26.768	R-Channel RX	0x15 - Log-on/Log-off Acknowledge	u#!!Pp!!A#####
7/03/2014 12:50:27.861	P-Channel TX	0x15 - Log-on/Log-off Acknowledge	#!!P!!##
7/03/2014 12:50:32.257	R-Channel RX	Eleven Octet User Data	!Q00!S00AMH
7/03/2014 12:50:32.767	R-Channel RX	Eight Octet User Data	0000!;y!
7/03/2014 12:50:33.862	P-Channel TX	0x62 - Acknowledge User Data	#!!q!!##
7/03/2014 12:50:43.760	R-Channel RX	Eleven Octet User Data	!!!2.9M-MRO
7/03/2014 12:50:44.502	P-Channel TX	0x62 - Acknowledge User Data	#!!q!###

Appendix C - Example MH370 aircraft logs in and Aircraft Registration and Flight-Id are not sent.

Time	Channel Type	SU Type	Data
7/03/2014 18:25:27.421	R-Channel RX	0x10 - Log-on Request (ISU)/Log-on Flight Information (SSU)	u#!EP!!!!#####
7/03/2014 18:25:28.852	P-Channel TX	0x11 - Log-on Confirm	#!E^!#!7
7/03/2014 18:25:29.572	P-Channel TX	0x40 - P-/R-Channel Control (ISU)	#!E]Qa8k
7/03/2014 18:25:29.572	P-Channel TX	Subsequent Signalling Unit	6m7#6c6h
7/03/2014 18:25:30.213	P-Channel TX	0x41 - T-Channel Control (ISU)	#!E^A!6X
7/03/2014 18:25:30.213	P-Channel TX	Subsequent Signalling Unit	7!6W6b!!
7/03/2014 18:25:34.461	R-Channel RX	0x15 - Log-on/Log-off Acknowledge	u#!EPp!!A#####
7/03/2014 18:25:35.408	P-Channel TX	0x15 - Log-on/Log-off Acknowledge	#!EP!!##
7/03/2014 18:27:03.905	R-Channel RX	Eleven Octet User Data	!! &!!!!#!!
7/03/2014 18:27:04.405	R-Channel RX	Four Octet User Data	!#!#
7/03/2014 18:27:04.907	P-Channel TX	0x62 - Acknowledge User Data	#!E!!###
7/03/2014 18:27:06.407	P-Channel TX	0x71 - User Data (ISU) - RLS	#!E!!3!!
7/03/2014 18:27:06.407	P-Channel TX	Subsequent Signalling Unit	!!######

Missing Aircraft registration and flight-id

Note, this is the first aircraft initiated login after power was first restored to the aircraft's satellite terminal.

Appendix D - Example MH370 aircraft logs in and Aircraft Registration and Flight-Id are not sent.

Time	Channel Type	SU Type	Data
8/03/2014 00:19:29.416	R-Channel RX	0x10 - Log-on Request (ISU)/Log-on Flight Information (SSU)	u#!EP!!!!#####
8/03/2014 00:19:31.572	P-Channel TX	0x11 - Log-on Confirm	#!E^!#!V
8/03/2014 00:19:32.212	P-Channel TX	0x40 - P-/R-Channel Control (ISU)	#!ESQa8k
8/03/2014 00:19:32.212	P-Channel TX	Subsequent Signalling Unit	6m7#6u6v
8/03/2014 00:19:32.852	P-Channel TX	0x41 - T-Channel Control (ISU)	#!ETA!6b
8/03/2014 00:19:32.852	P-Channel TX	Subsequent Signalling Unit	6W7!6X!!
8/03/2014 00:19:37.443	R-Channel RX	0x15 - Log-on/Log-off Acknowledge	u#!EPp!!A#####
8/03/2014 00:19:38.407	P-Channel TX	0x15 - Log-on/Log-off Acknowledge	#!EP!!##

Missing Aircraft registration and flight-id

Note, this is the aircraft initiated login after power was first restored for the second time to the aircraft's satellite terminal.

Apart from missing the Aircraft registration and Flight Id this aircraft login is also missing the last 5 entries compared the first aircraft initiated login at 7/03/2014 18:25:27.421. There are other missing entries but we have just shown five of them. Please see Appendix C.

These are:

Time	Channel Type	SU Type	Data
7/03/2014 18:27:03.905	R-Channel RX	Eleven Octet User Data	!! &!!!!#!!
7/03/2014 18:27:04.405	R-Channel RX	Four Octet User Data	!#!#
7/03/2014 18:27:04.907	P-Channel TX	0x62 - Acknowledge User Data	#!E!!###
7/03/2014 18:27:06.407	P-Channel TX	0x71 - User Data (ISU) - RLS	#!E!!3!!
7/03/2014 18:27:06.407	P-Channel TX	Subsequent Signalling Unit	!!######