

VOYAGER

Space Flight Operations Schedule (SFOS)

Issue Date: December 2, 2015

For the Period: 12/03/15 to 12/21/15 (15-337 – 15-355)

DSN OPSCHIEF (1) 230-102

DSOT (1) 230-102

*Zsarina.Bulchand@jpl.nasa.gov
 *gdyke@airmail.ftops.jpl.nasa.gov
 *John.M.Grant@jpl.nasa.gov
 *dmcclena@airmail.ftops.jpl.nasa.gov
 *pquach@airmail.ftops.jpl.nasa.gov
 *mrobles@airmail.ftops.jpl.nasa.gov
 *rwilliam@airmail.ftops.jpl.nasa.gov

OTHER

* KMassej@jgld.gdscc.nasa.gov
 * Belinda.Arroyo@jpl.nasa.gov
 *DL-DSSN-MPSETA@dsn.nasa.gov

SCIENCE

CRS *bryant@mail630.gsfc.nasa.gov
 LECP *r.decker@jhuapl.edu
 UVS *holburg@argus.lpl.arizona.edu
 MAG *u2mha@lepvox.gsfc.nasa.gov
 PLS *vgr@space.mit.edu
 PWS *wsk@space.physics.uiowa.edu
 *Leonard.F.Burlaga@nasa.gov
 *Donald-Gurnett@uiowa.edu

FLIGHT TEAM (14) 600-100

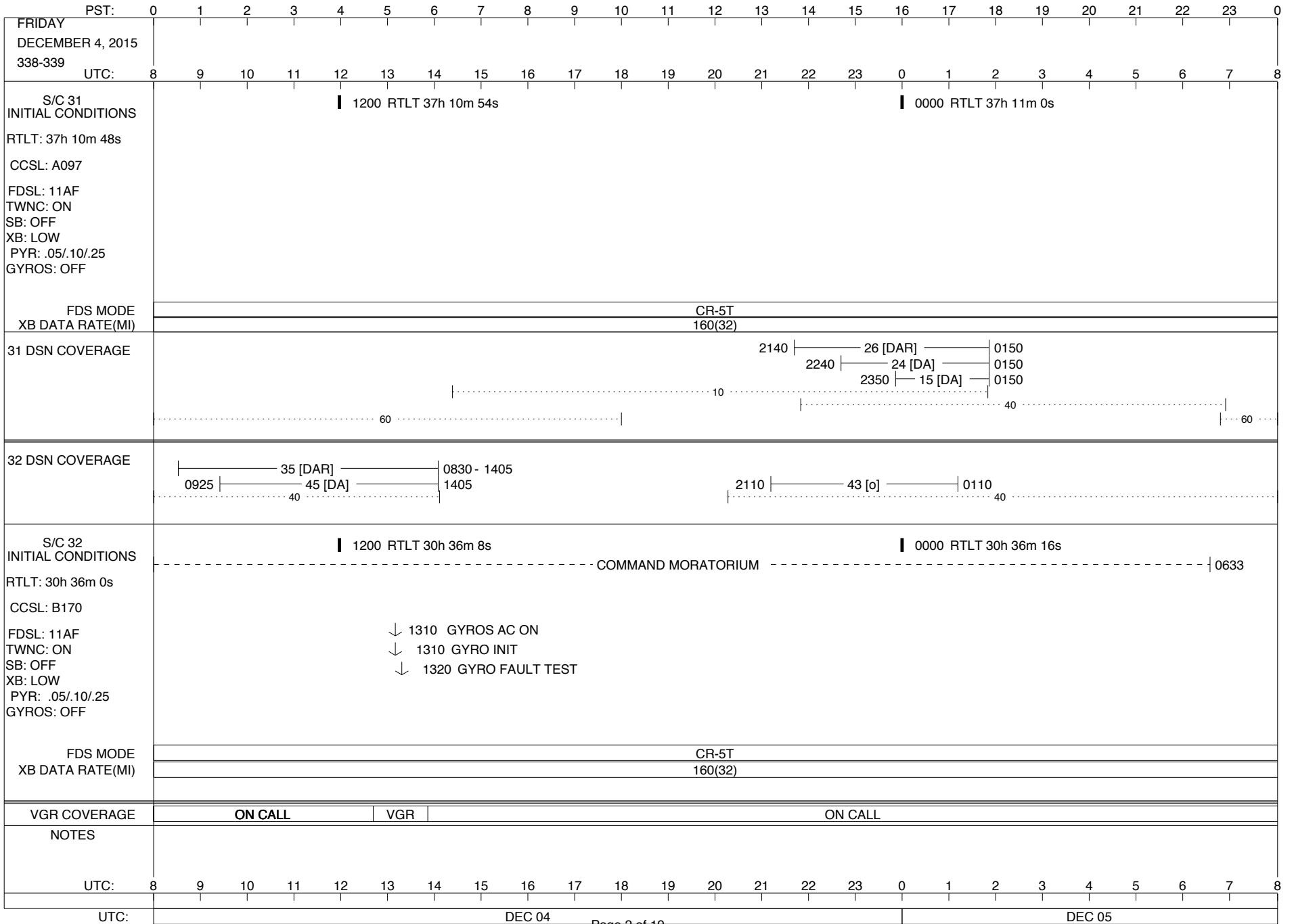
Dodd, S.
 Hall, J.
 Howard, S. (3)
 Ludwig, R. (2)
 Matsumoto, S.
 Medina
 Peralta, F.
 Weeks, T.
 Wong, R.
 Yang, L.
 Zottarelli, L.
 *odivers@san.rr.com

LEGEND:
 ▽ = R/T Command (Last chance or Contingency)
 ▼ = R/T Command (Scheduled)
 * = Result of R/T Command
 n = (where n = 1,2,3 ..) Special Note, see bottom of page
 A = Arrayed station
 B = BLF
 D = Downlink only pass
 H = High Power Transmitter
 R = Array Reference Antenna
 T = TLC Uplink
 U = Uplink only pass
 [o] = Ramp-through

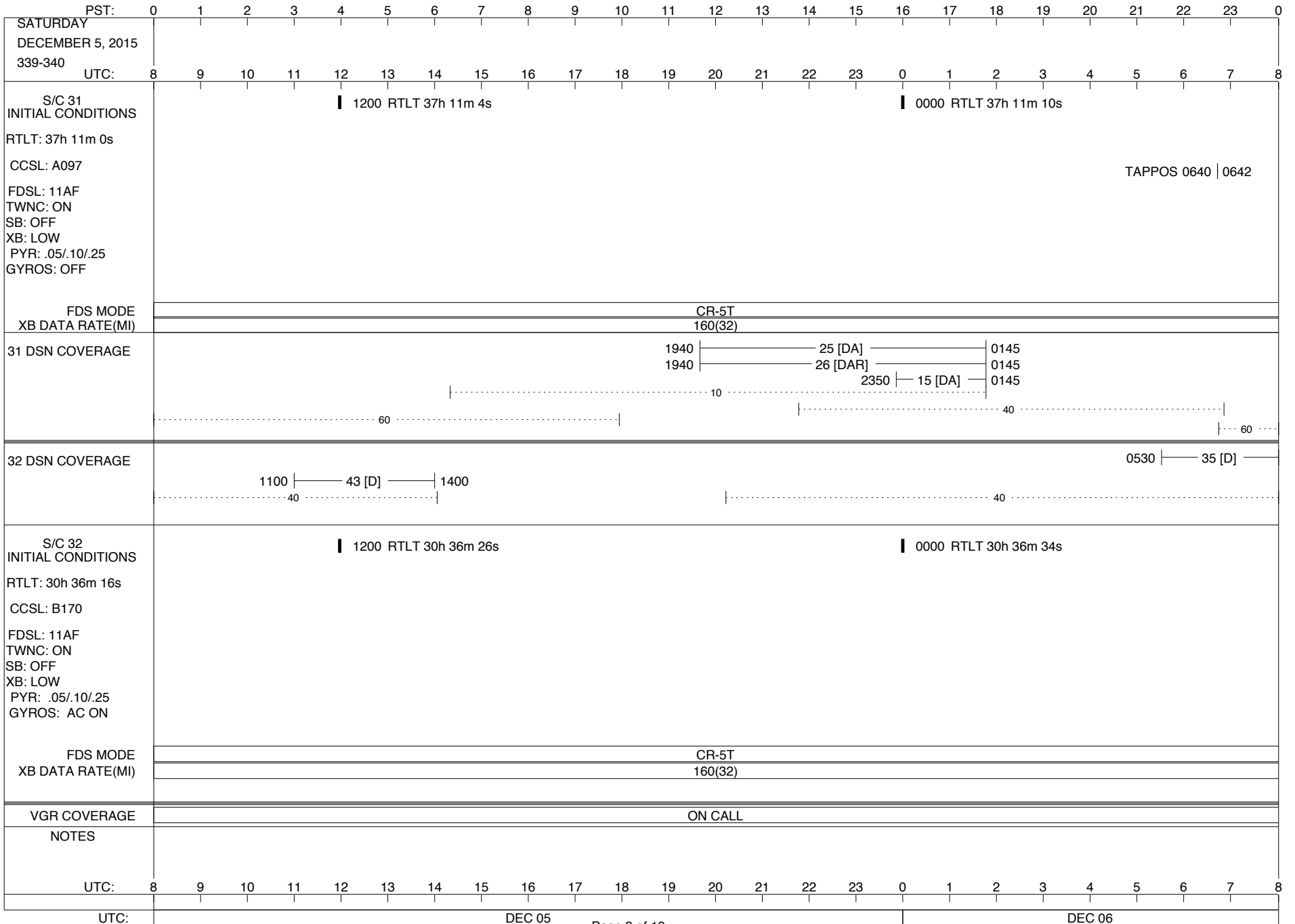
*Electronic Copy Only
 (16 – Dist/N: Paper Copies)
 09/08/10

ISSUE DATE: 12/08/15 10:36

PST: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0	
THURSDAY DECEMBER 3, 2015 337-338	
UTC: 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8	
S/C 31 INITIAL CONDITIONS RTLT: 37h 10m 38s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF	<p>1200 RTLT 37h 10m 44s</p> <p>0000 RTLT 37h 10m 48s</p> <p>0340 0353 TAPPOS PWS/RH 0642 0644 TAPPOS 0654 0655</p> <p>0642 GS-4B 0644 ↓</p>
FDS MODE	CR-5T
XB DATA RATE(MI)	160(32)
31 DSN COVERAGE	<p>2125 25 [DAR] 0150</p> <p>2125 26 [DA] 0150</p> <p>0020 15 [DA] 0150</p> <p>..... 10 40 60</p>
32 DSN COVERAGE	<p>35 [D] 0910</p> <p>..... 40 40</p>
S/C 32 INITIAL CONDITIONS RTLT: 30h 35m 42s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF	<p>1200 RTLT 30h 35m 52s</p> <p>0000 RTLT 30h 36m 0s</p> <p>----- COMMAND MORATORIUM -----</p>
FDS MODE	CR-5T
XB DATA RATE(MI)	160(32)
VGR COVERAGE	ON CALL
NOTES	[1] S/C 31=GS-4B @ 0642 XB=2.8K(41) NOT RECOVERABLE
UTC: 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8	
UTC: DEC 03 Page 1 of 19 DEC 04	

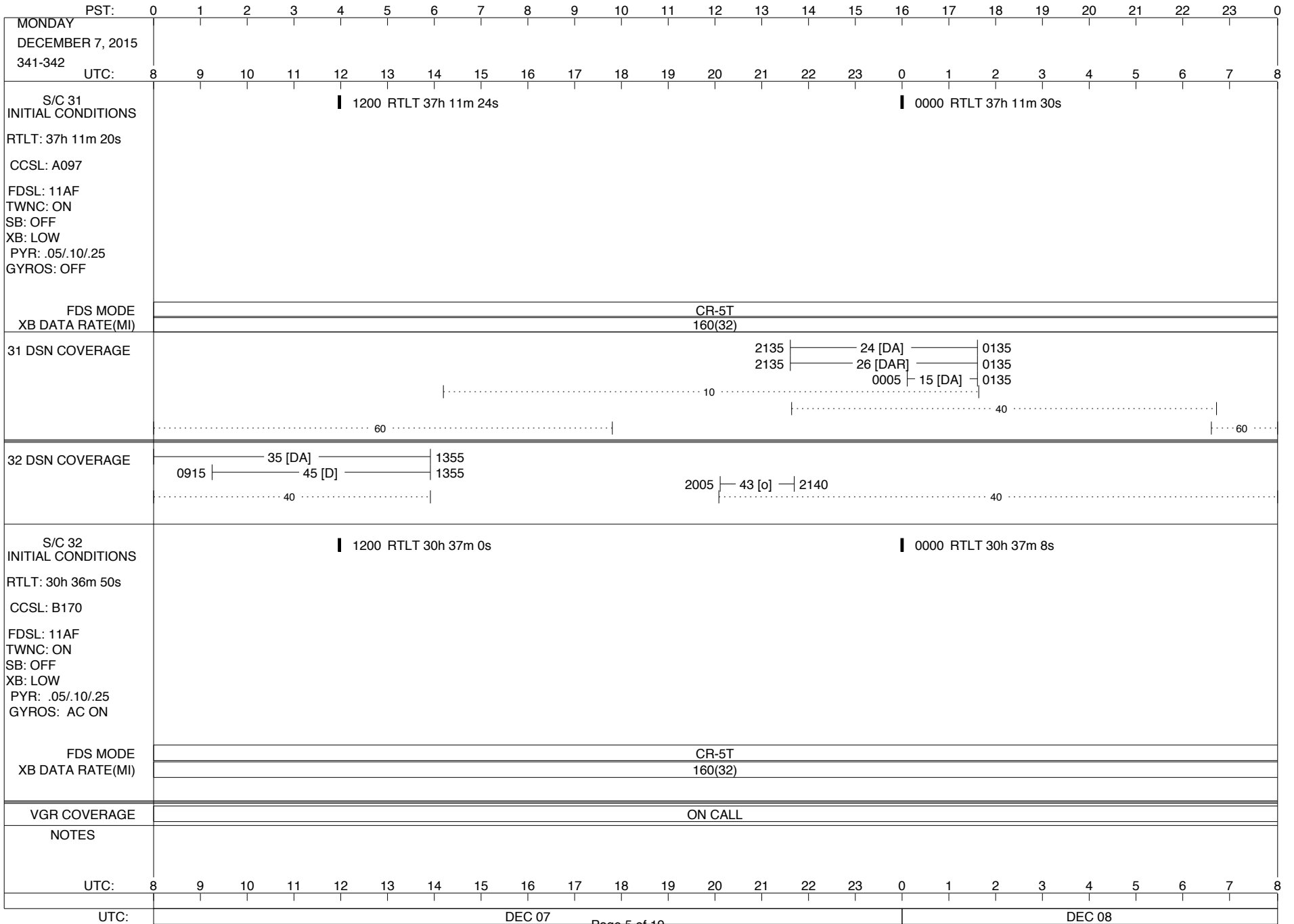


ISSUE DATE: 12/08/15 10:36

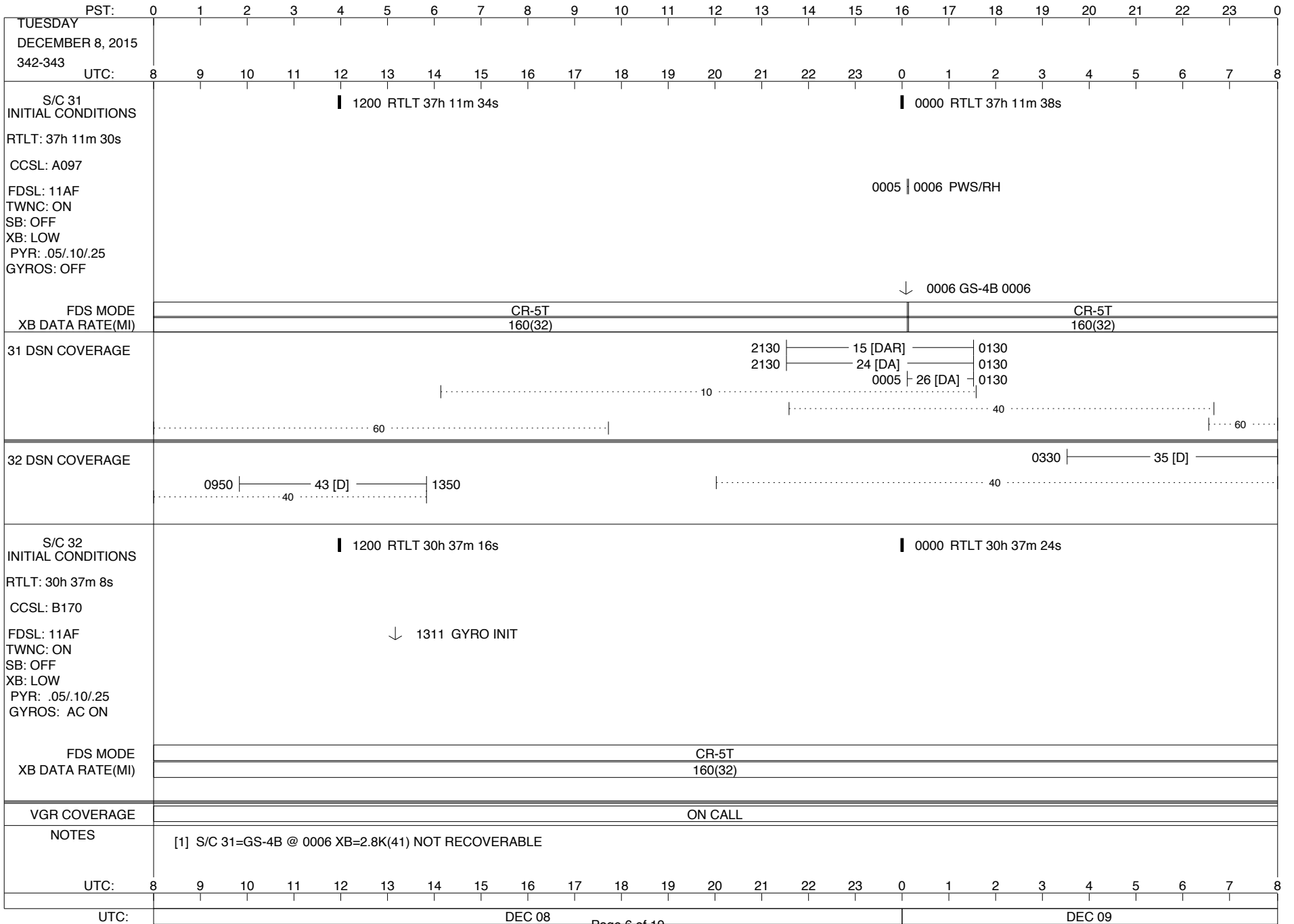


PST:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0
SUNDAY DECEMBER 6, 2015 340-341	UTC: 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
S/C 31 INITIAL CONDITIONS RTLTL: 37h 11m 10s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF	1200 RTLTL 37h 11m 14s 0942 0944 PWS/RH 0954 1009 TAPPOS ↓ 0942 GS-4B 0944												0000 RTLTL 37h 11m 20s												
FDS MODE XB DATA RATE(MI)	CR-5T 160(32)												CR-5T 160(32)												
31 DSN COVERAGE	1820 ----- 25 [DAR] ----- 0140 1820 ----- 26 [DA] ----- 0140 ----- 10 ----- ----- 2350 ----- 24 [DA] ----- 0140 ----- 40 -----												60 ----- 60 -----												
32 DSN COVERAGE	35 [D] ----- 0920 ----- 1055 ----- 43 [D] ----- 1355 ----- 40 -----												35 [DA] 0745 ----- 40 -----												
S/C 32 INITIAL CONDITIONS RTLTL: 30h 36m 34s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: AC ON	1200 RTLTL 30h 36m 42s ↓ 1311 GYRO INIT												0000 RTLTL 30h 36m 50s												
FDS MODE XB DATA RATE(MI)	CR-5T 160(32)												CR-5T 160(32)												
VGR COVERAGE	ON CALL												ON CALL												
NOTES	[1] S/C 31=GS-4B @ 0942 XB=2.8K(41) NOT RECOVERABLE																								
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
UTC:	DEC 06												DEC 07												

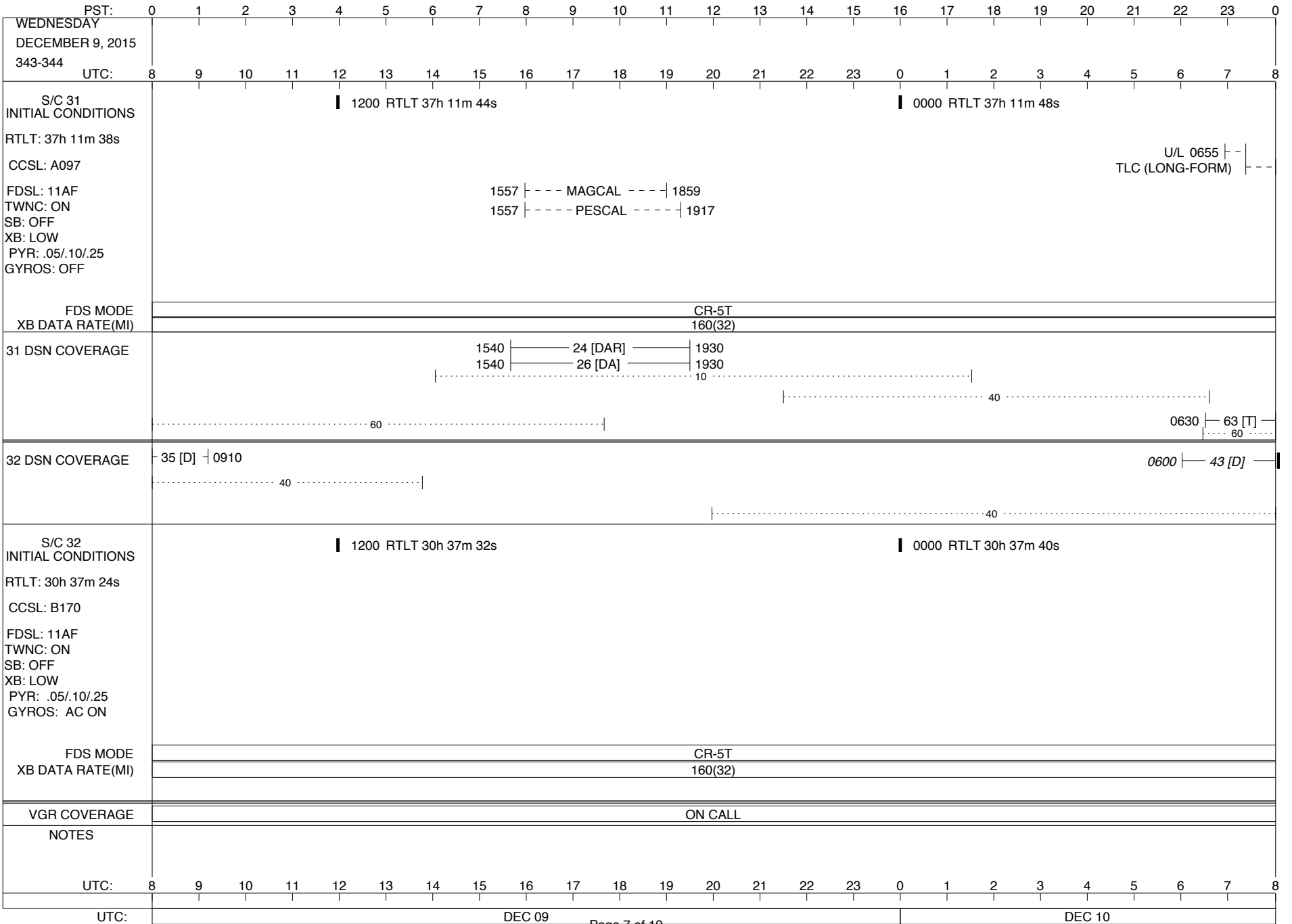
ISSUE DATE: 12/08/15 10:36



ISSUE DATE: 12/08/15 10:36



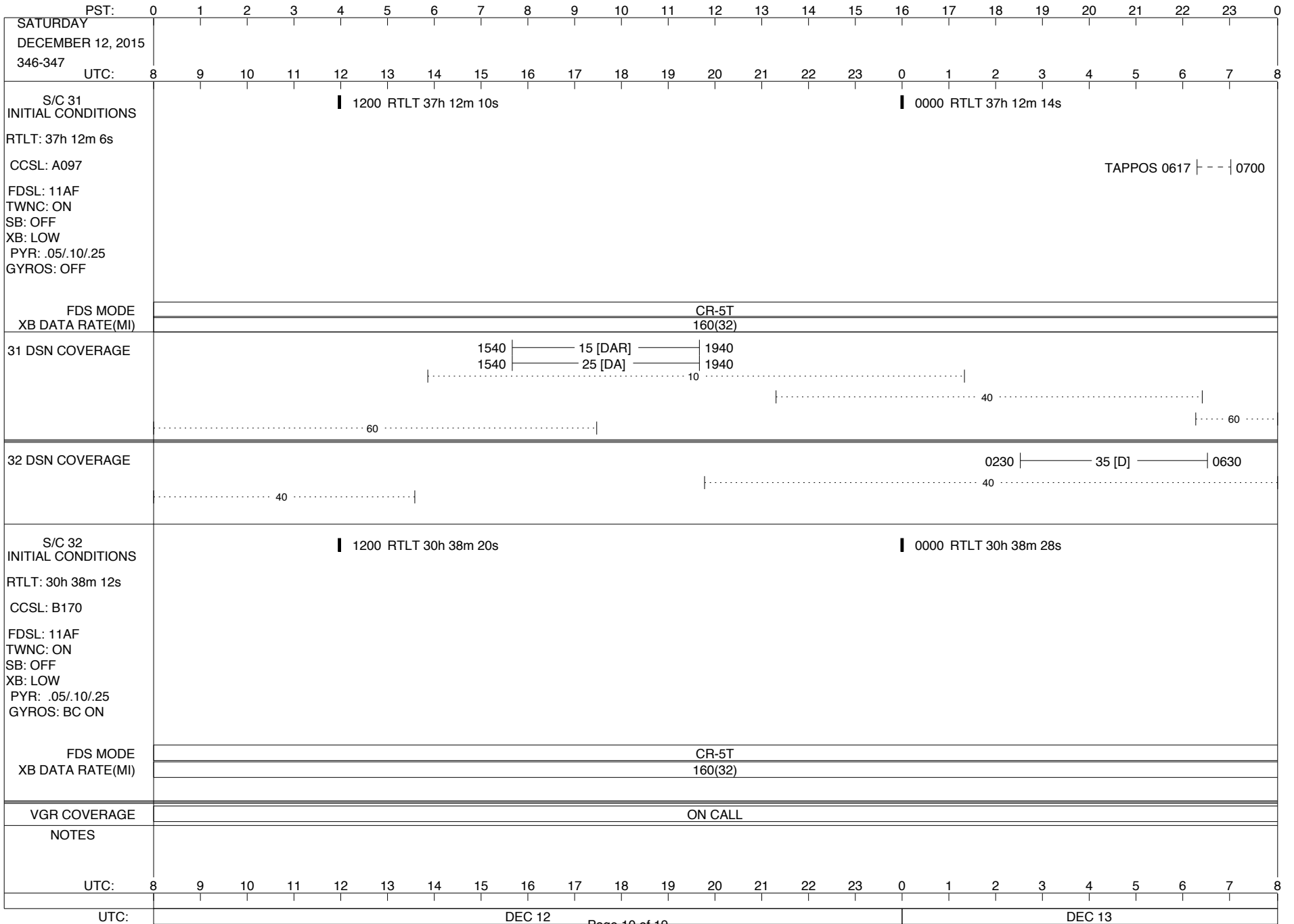
ISSUE DATE: 12/08/15 10:36



PST:		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0										
THURSDAY DECEMBER 10, 2015 344-345																																				
UTC:		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8										
S/C 31 INITIAL CONDITIONS RTLTL: 37h 11m 48s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF		1200 RTLTL 37h 11m 52s														0000 RTLTL 37h 11m 58s																				
FDS MODE XB DATA RATE(MI)		CR-5T 160(32)														CR-5T 160(32)																				
31 DSN COVERAGE		<p>63 [T] 1030</p> <p>.....60.....</p> <p>.....40.....</p>																																		
32 DSN COVERAGE		<p>43 [D] 0910</p> <p>0940 35 [DA] 1340</p> <p>0940 45 [DAR] 1340</p> <p>.....40.....</p> <p>0000 43 [B] 0145</p> <p>.....40.....</p>																																		
S/C 32 INITIAL CONDITIONS RTLTL: 30h 37m 40s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: AC ON		1200 RTLTL 30h 37m 48s														0000 RTLTL 30h 37m 56s																				
FDS MODE XB DATA RATE(MI)		CR-5T 160(32)														CR-5T 160(32)																				
VGR COVERAGE		ON CALL							VGR							ON CALL							VGR							ON CALL						
NOTES		[1] S/C 31=GS-4B @ 0619 XB=2.8K(41) NOT RECOVERABLE																																		
UTC:		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8										
UTC:		DEC 10														DEC 11																				

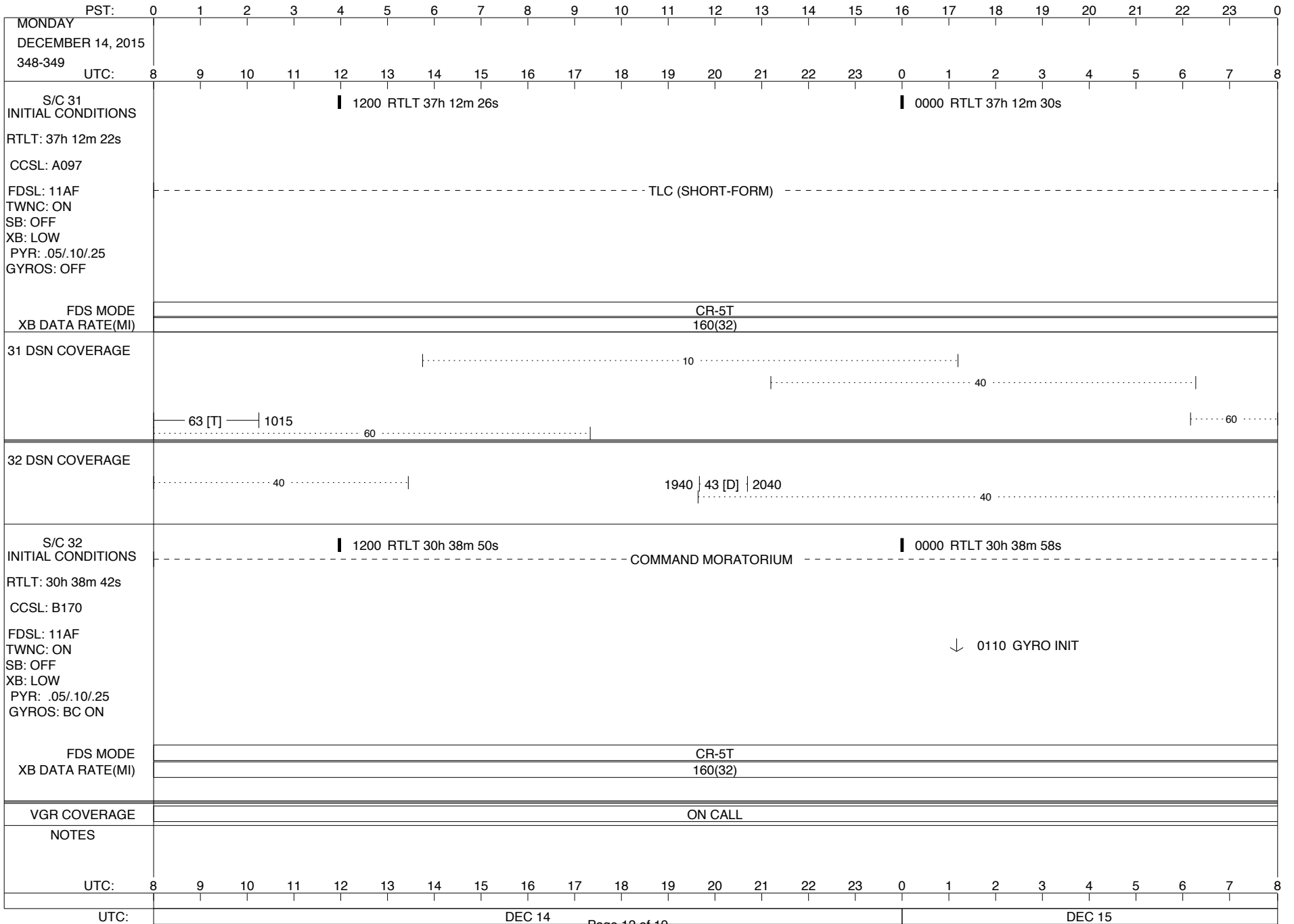
ISSUE DATE: 12/08/15 10:36

PST: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0	
FRIDAY DECEMBER 11, 2015 345-346	
UTC: 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8	
S/C 31 INITIAL CONDITIONS RTLT: 37h 11m 58s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF	<p>1200 RTLT 37h 12m 2s</p> <p>0000 RTLT 37h 12m 6s</p> <p>TLC (LONG-FORM) ----- D/L - 2135</p>
FDS MODE XB DATA RATE(MI)	CR-5T 160(32)
31 DSN COVERAGE	<p>1950 ----- 24 [DAR] ----- 2350</p> <p>1950 ----- 25 [DA] ----- 2350</p> <p>..... 10</p> <p>..... 40</p> <p>..... 60</p> <p>..... 60</p>
32 DSN COVERAGE	<p>1035 ----- 43 [D] ----- 1340</p> <p>..... 40</p> <p>1950 ----- 43 [D] ----- 2350</p> <p>..... 40</p>
S/C 32 INITIAL CONDITIONS RTLT: 30h 37m 56s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: BC ON	<p>1200 RTLT 30h 38m 4s</p> <p>0000 RTLT 30h 38m 12s</p>
FDS MODE XB DATA RATE(MI)	CR-5T 160(32)
VGR COVERAGE	ON CALL
NOTES	
UTC: 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8	
UTC:	DEC 11 Page 9 of 19 DEC 12



ISSUE DATE: 12/08/15 10:36

PST:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0
SUNDAY DECEMBER 13, 2015 347-348																									
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
S/C 31 INITIAL CONDITIONS RTLT: 37h 12m 14s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF	1200 RTLT 37h 12m 18s												0000 RTLT 37h 12m 22s												
	0919 0920 PWS/RH												U/L 0640 -												
	0931 - - - 1027 TAPPOS												TLC (SHORT-FORM) - - - -												
	↓ 0919 GS-4B 0920																								
FDS MODE	CR-5T												CR-5T												
XB DATA RATE(MI)	160(32)												160(32)												
31 DSN COVERAGE	1425 ----- 14 [D] ----- 1825												10												
60.....											40.....												
													0615 ----- 63 [T] -----												
												60.....												
32 DSN COVERAGE40.....												0145 ----- 35 [D] ----- 0645												
												40.....												
S/C 32 INITIAL CONDITIONS RTLT: 30h 38m 28s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: BC ON	1200 RTLT 30h 38m 36s												0000 RTLT 30h 38m 42s												
													0332 - COMMAND MORATORIUM -												
FDS MODE													CR-5T												
XB DATA RATE(MI)													160(32)												
VGR COVERAGE													ON CALL												
NOTES	[1] S/C 31=GS-4B @ 0919 XB=2.8K(41) NOT RECOVERABLE																								
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
UTC:	DEC 13												DEC 14												



ISSUE DATE: 12/08/15 10:36

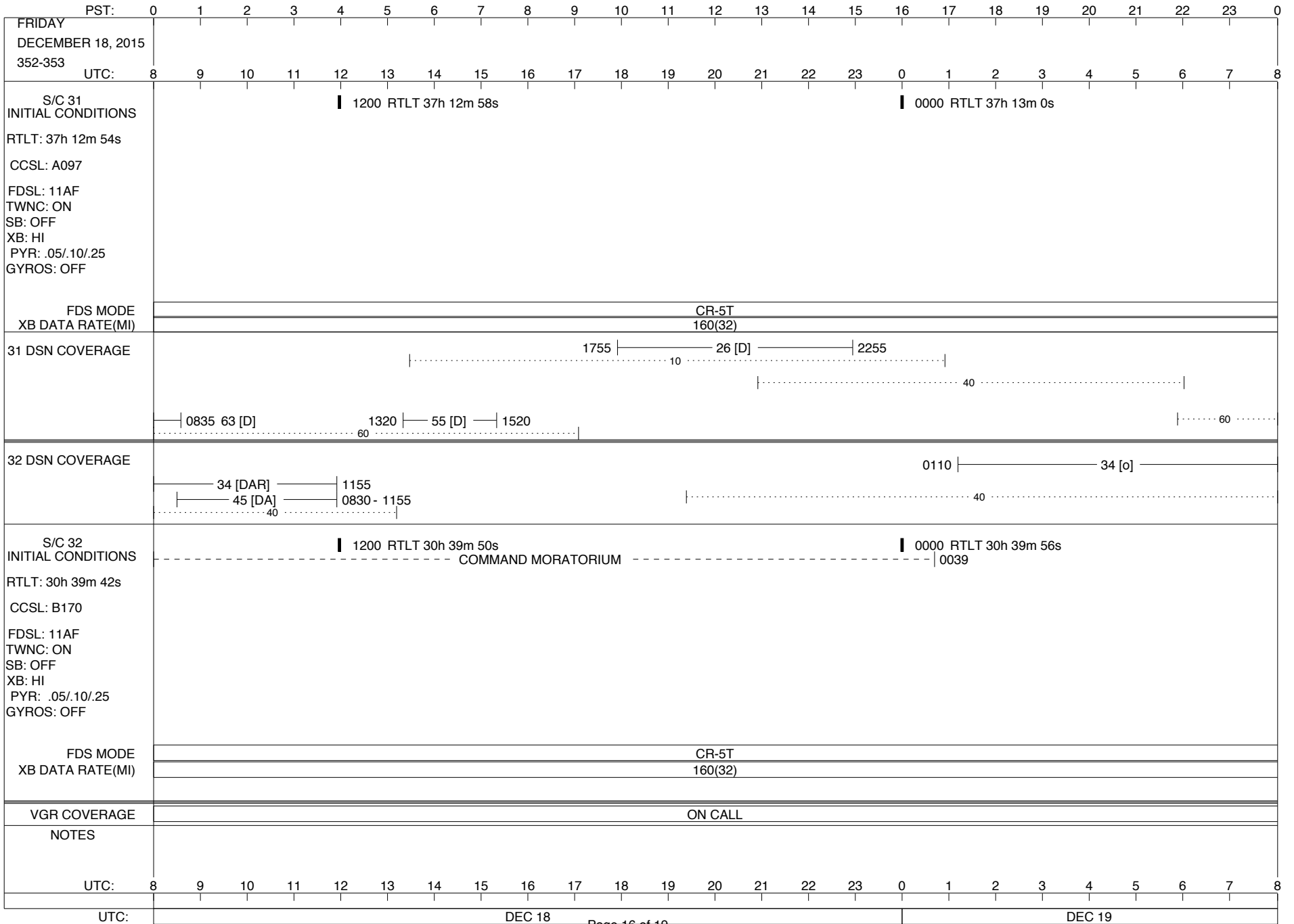
PST:		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
TUESDAY DECEMBER 15, 2015 349-350																													
UTC:		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8			
S/C 31 INITIAL CONDITIONS		1200 RTLT 37h 12m 34s														0000 RTLT 37h 12m 38s													
RTL: 37h 12m 30s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF		----- TLC (SHORT-FORM) ----- D/L - 2120 2342 2343 PWS/RH																											
FDS MODE		CR-5T														CR-5T													
XB DATA RATE(MI)		160(32)														160(32)													
31 DSN COVERAGE		<p>Timeline for S/C 31 DSN COVERAGE:</p> <ul style="list-style-type: none"> 1935 - 15 [DA] - 0105 1935 - 25 [DAR] - 0105 2330 - 24 [DA] - 0105 60 (coverage period) 40 (coverage period) 60 (coverage period) 																											
32 DSN COVERAGE		<p>Timeline for S/C 32 DSN COVERAGE:</p> <ul style="list-style-type: none"> 0925 - 43 [D] - 1325 0115 - 35 [DA] - 0515 0515 - 43 [DAR] - 40 (coverage period) 40 (coverage period) 																											
S/C 32 INITIAL CONDITIONS		1200 RTLT 30h 39m 6s														0000 RTLT 30h 39m 12s													
RTL: 30h 38m 58s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: BC ON		----- COMMAND MORATORIUM ----- ↓ 0941 BAY 1 HTR OFF ↓ 0945 X/B HI POWER ↓ 1009 ALL DB=.05 ↓ 1025 AAI 1026 - 1103 ASCAL ↓ 1100 RAI ↓ 1103 CRU ↓ 1111 YAW=.10 ↓ 1111 ROLL=.25 ↓ 1112 GYRO FAULT TEST 0954 ↓ ↓ 1106 0119 PLSCAL - 0302 0119 - - - MAGCAL - - - 0422 0119 - - - - PESCAL - - - - 0439 ↓ 0533 AAI 0536 - - - MAGROL - - -																											
FDS MODE		CR-5T				EL-40				CR-5T																			
XB DATA RATE(MI)		160(32)				40(30)				160(32)																			
VGR COVERAGE		VGR														ON CALL													
NOTES		[1] S/C 31=GS-4B @ 2342 XB=2.8K(41) NOT RECOVERABLE [3] S/C 32=EL-40 @ 0954 XB=40(30) [2] S/C 32=D/L AGC & SNR VARIATIONS EXPECTED DURING ASCAL (1026-1103) [4] S/C 32=D/L AGC & SNR VARIATIONS EXPECTED DURING MAGROL (0536-1131)																											
UTC:		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8			
UTC:		DEC 15														DEC 16													

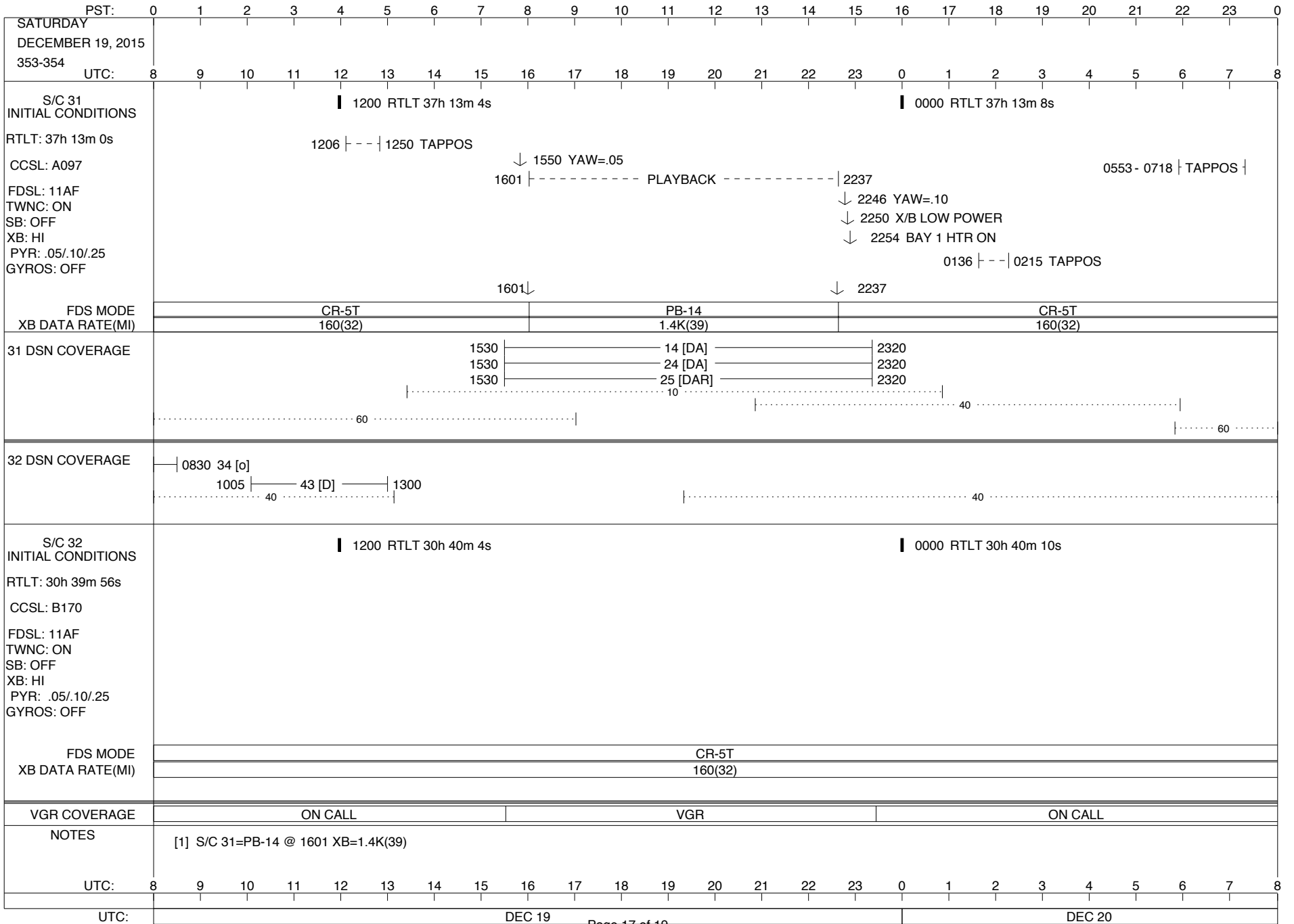
ISSUE DATE: 12/08/15 10:36

PST:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0
WEDNESDAY DECEMBER 16, 2015 350-351																									
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
S/C 31 INITIAL CONDITIONS RTLT: 37h 12m 38s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/10/25 GYROS: OFF	1200 RTLT 37h 12m 42s												0000 RTLT 37h 12m 46s												
FDS MODE	CR-5T						EL-40						CR-5T												
XB DATA RATE(MI)	160(32)						40(30)						160(32)												
31 DSN COVERAGE																									
32 DSN COVERAGE																									
S/C 32 INITIAL CONDITIONS RTLT: 30h 39m 12s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: HI PYR: .05/10/25 GYROS: BC ON	1200 RTLT 30h 39m 20s												0000 RTLT 30h 39m 28s												
FDS MODE	CR-5T																								
XB DATA RATE(MI)	160(32)																								
VGR COVERAGE	VGR						ON CALL						VGR						ON CALL						
NOTES	[1] S/C 31=EL-40 @ 2029 XB=40(30)																								
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
UTC:	DEC 16												Page 14 of 19						DEC 17						

ISSUE DATE: 12/08/15 10:36

PST:		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0			
THURSDAY																													
DECEMBER 17, 2015																													
351-352																													
UTC:		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8			
S/C 31 INITIAL CONDITIONS		1200 RTLT 37h 12m 50s														0000 RTLT 37h 12m 54s													
RTLT: 37h 12m 46s																													
CCSL: A097																													
FDSL: 11AF																													
TWNC: ON																													
SB: OFF																													
XB: HI																													
PYR: .05/10/25																													
GYROS: OFF																													
FDS MODE																													
XB DATA RATE(MI)																													
31 DSN COVERAGE		<div style="display: flex; justify-content: space-between;"> CR-5T CR-5T </div> <div style="display: flex; justify-content: space-between;"> 160(32) 160(32) </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> 10 40 </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> 1330 54 [D] 1525 0555 63 [D] </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> 60 60 </div>																											
32 DSN COVERAGE		<div style="display: flex; justify-content: space-between;"> 35 [DA] 1315 0050 - 0745 35 [D] </div> <div style="display: flex; justify-content: space-between;"> 45 [DAR] 0830 - 1315 34 [DAR] 0725 </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> 40 40 </div>																											
S/C 32 INITIAL CONDITIONS		1200 RTLT 30h 39m 34s														0000 RTLT 30h 39m 42s													
RTLT: 30h 39m 28s																													
CCSL: B170																													
FDSL: 11AF																													
TWNC: ON																													
SB: OFF																													
XB: HI																													
PYR: .05/10/25																													
GYROS: OFF																													
FDS MODE																													
XB DATA RATE(MI)																													
VGR COVERAGE		ON CALL																											
NOTES		[1] S/C 31=GS-4B @ 0555 XB=2.8K(41) NOT RECOVERABLE																											
UTC:		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8			
UTC:		DEC 17														DEC 18													





ISSUE DATE: 12/08/15 10:36

PST: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0	
SUNDAY DECEMBER 20, 2015 354-355	
UTC: 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8	
S/C 31 INITIAL CONDITIONS RTLT: 37h 13m 8s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	1200 RTLT 37h 13m 12s 0855 0857 PWS/RH 0907 TAPPOS - 1045 ↓ 0855 GS-4B 0857 0000 RTLT 37h 13m 14s
FDS MODE	CR-5T
XB DATA RATE(MI)	160(32)
31 DSN COVERAGE	1320 ----- 14 [D] ----- 1720 ----- 10 ----- ----- 40 ----- ----- 60 -----
32 DSN COVERAGE	1000 ----- 43 [D] ----- 1305 ----- 40 ----- ----- 40 ----- 0345 ----- 34 [D] -----
S/C 32 INITIAL CONDITIONS RTLT: 30h 40m 10s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: HI PYR: .05/.10/.25 GYROS: OFF	1200 RTLT 30h 40m 18s 0000 RTLT 30h 40m 24s
FDS MODE	CR-5T
XB DATA RATE(MI)	160(32)
VGR COVERAGE	ON CALL
NOTES	[1] S/C 31=GS-4B @ 0855 XB=2.8K(41) NOT RECOVERABLE
UTC: 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8	
UTC: DEC 20 DEC 21	

ISSUE DATE: 12/08/15 10:36

PST:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0										
MONDAY DECEMBER 21, 2015 355-356																																			
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8										
S/C 31 INITIAL CONDITIONS RTLT: 37h 13m 14s CCSL: A097 FDSL: 11AF TWNC: ON SB: OFF XB: LOW PYR: .05/.10/.25 GYROS: OFF	<div style="text-align: center;"> <p>█ 1200 RTLT 37h 13m 18s</p> </div>																																		
FDS MODE														CR-5T																					
XB DATA RATE(MI)														160(32)																					
31 DSN COVERAGE														1445	-----			15 [DAR]	-----			2045													
														1445	-----			25 [DA]	-----			2045													
													 60																					
32 DSN COVERAGE														0820	34 [D]																				
														1000	-----		43 [D]	-----		1300															
													 40																					
S/C 32 INITIAL CONDITIONS RTLT: 30h 40m 24s CCSL: B170 FDSL: 11AF TWNC: ON SB: OFF XB: HI PYR: .05/.10/.25 GYROS: OFF	<div style="text-align: center;"> <p>█ 1200 RTLT 30h 40m 32s</p> </div>																																		
FDS MODE														CR-5T																					
XB DATA RATE(MI)														160(32)																					
VGR COVERAGE														ON CALL																					
NOTES																																			
UTC:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8										
UTC:	DEC 21													Page 19 of 19											DEC 22										