SECTION 7
CRT DISPLAY PAGES

CONTENTS

DISPLAY FORMAT AND CONSTRAINTS

```
NAME ---- PROCNAME FMT=1A BR=10 QF=XXXX DMU=1 CC XXX XXX OBCX(XXXXX) JDA:HR:MN:SC
          NAME----    - IDENTIFICATION LABEL OF DISPLAYED PAGE
          PROCNAME    - CURRENT PROCEDURE
          FMT         - TELEMETRY FORMAT
          BR          - BIT RATE
          QF          - TELEMETRY QUALITY FLAGS
          DMU         - DMU SELECTED
          OBC         - OBC IN USE. MANEUVER PROCESSING
          JDA-HR-MM-SS - GMT

2 ECHO LINES MINIMUM
COMMANDING LINE
FLAGS AND ALARMS
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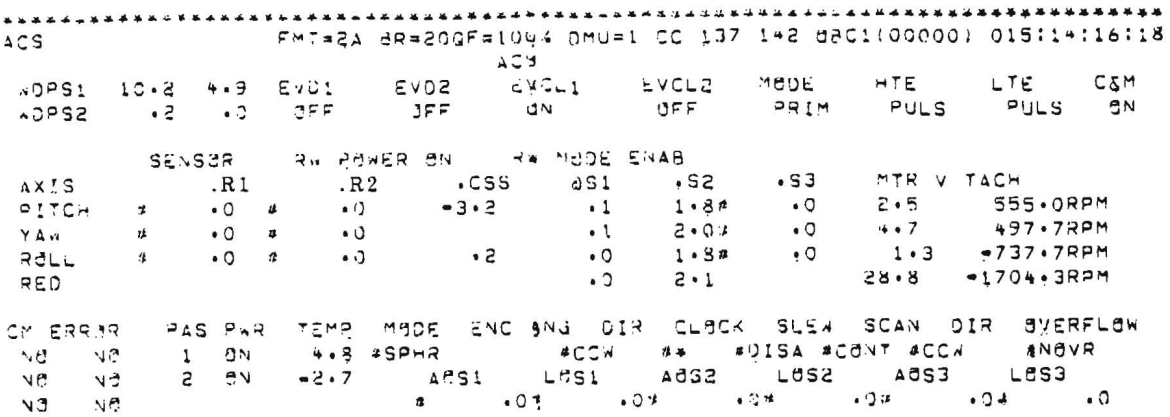
EACH DISPLAY WILL HAVE A TITLE LINE AS DEFINED ABOVE. A MAXIMUM OF 19 LINES OF INFORMATION. A MINIMUM OF 2 LINES TO DISPLAY CONSOLE ACTIVITY. 1 LINE TO ENTER COMMANDS AND 1 LINE FOR ALARMS



PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
WDPS1	AS2CH00	WDA P.S. #1 +10V
WDPS1	AS1CH58	WDA P.S. #1 +5V
WDPS2	AS2CH05	WDA P.S. #2 +10V
WDPS2	AS2CH04	WDA P.S. #2 +5V
EVD1	EVD1	ENG. VALVE DRIVER 1 ON/OFF 1=ON
EVD2	EVD2	ENG. VALVE DRIVER 2 ON/OFF 1=ON
EVCL1	EVP10V#1	EVCL1 DSC04 BIT 11, 1=ON, 0=OFF
EVCL2	EVP10V#2	EVCL2 DSC05 BIT 11, 1=ON, 0=OFF
MODE	EVC	MODE CONTROL, {0=SECONDARY 1=PRIMARY
HTE	EVHPUL#1,EVHPUL#2	{DSC04 BIT 12 EV1 MODE 0=CONT, 1=PULSE DSC05 BIT 12 EV2 MODE 0=CONT, 1=PULSE
LTE	EVLPUL#1,EVLPUL#2	{DSC04 BIT8 EV1 MODE 0=CONT, 1=PULSE DSC05 BIT8 EV2 MODE 0=CONT, 1=PULSE
C&M	TCMONOFF	COMPENSATION & MIXING ON/OFF
SENSOR		
RW POWER	TRWMD1#1	RW-1,DSC06 BIT 1 CEA 1, 1=ON (10V)
RW MODE	TRWMD2#1	RW-1,DSC06 BIT 2 CEA 1, 1=ENABLE
R1	TRWMD8#1	RW-1,DSC06 BIT8, CEA1, 1=ENABLE (RATE 1 TO C&M)
R2	TRWMD7#1	RW-1,DSC06 BIT7, CEA1, 1=ENABLE (RATE 2 TO C&M)
CSS	TRWMD6#1	RW-1,DSC06 BIT6, CEA 1, 1=ENABLE (COARSE SUN SENSOR)
S1	TRWMD4#1	RW-1,DSC06 BIT4, CEA1, 1=ENABLE (D/A 1 TO WHEEL)
S2	TRWMD3#1	RW-1,DSC06 BIT3, CEA1, 1=ENABLE (D/A 2 TO WHEEL)
S3	TRWMD5#1	RW-1,DSC06 BIT5, CEA1, 1=ENABLE (C&M CMD. TO WHEEL)
PITCH AXIS		
(PITCH R1)	TPRAT1	AMC20,PITCH RATE1
(PITCH R2)	TPRAT2	AMC27,PITCH RATE2
(PIOTCHCSS)	CSSPE	AMC23,COARSE SUN SENSOR PITCH ERROR (C&M)

ACS - ATTITUDE CONTROL SYSTEM STATUS

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
PITCH AXIS (CONT)		
(PITCHS1)	AS2CH35	CEA PITCH WHEEL CMD-1
(PITCHS2)	AS2CH36	CEA PITCH WHEEL CMD-2
(PITCHS3)	PITCHCM	AMC15 PITCH WHEEL CMD (C&M)
(PITCHMTRV)	AS2CH07	PITCH WHEEL DRIVER MOTOR VOLTAGE
(PITCHTACH)	AS2CH11	PITCH WHEEL DRIVER - TACH
YAW AXIS		
(YAWR1)	TYRAT1	AMC21, YAW RATE 1
(YAWR2)	TYRAT2	AMC29, YAW RATE 2
(YAWS1)	AS2CH37	CEA YAW WHEEL CMD-1
(YAWS2)	AS2CH38	CEA YAW WHEEL CMD-2
(YAWS3)	YAWCM	AMC17 YAW WHEEL CMD (C&M)
(YAWMTRV)	AS2CH08	YAW WHEEL DRIVER MOTOR VOLTAGE
(YAWTACH)	AS2CH12	YAW WHEEL DRIVER - TACH
ROLL AXIS		
(ROLLR1)	TRRAT1	AMC19, ROLL RATE 1
(ROLLR2)	TRRAT2	AMC24, ROLL RATE 2
(ROLLCSS)	CSSRE	AMC31, COARSE SUN SENSOR ROLL ERROR (C&M)
(ROLLS1)	AS2CH39	CEA ROLL WHEEL CMD-1
(ROLLS2)	AS2CH40	CEA ROLL WHEEL CMD-2
(ROLLS3)	ROLLCM	AMC25, ROLL WHEEL CMD (C&M)
(ROLLMTRV)	AS2CH09	ROLL WHEEL DRIVER MOTOR VOLTAGE
(ROLLTACH)	AS2CH13	ROLL WHEEL DRIVER - TACH
RED AXIS		
(REDS1)	AS2CH41	CEA RED WHEEL CMD-1
(REDS2)	AS2CH42	CEA RED WHEEL CMD-2
(REDMTRV)	AS2CH10	RED WHEEL DRIVER MOTOR VOLTAGE
(REDTACH)	AS2CH14	RED WHEEL DRIVER - TACH
CM ERROR		
(-P)	AS3CH00	IRA PITCH RATE NO. 1
(+P)	AS3CH00	IRA PITCH RATE NO. 1
(-Y)	AS3CH02	IRA YAW RATE NO. 1
(+Y)	AS3CH02	IRA YAW RATE NO. 1
(-R)	AS3CH04	IRA ROLL RATE NO. 1
(+R)	AS3CH04	IRA ROLL RATE NO. 1
PAS1PWR	PASPWR#1	DSC-28 PAS1 ON/OFF
PAS2PWR	PASPWR#2	DSC-29 PAS2 ON/OFF
PAS1TEMP	AS3CH26	PAS SENSOR 1 TEMP
PAS2TEMP	AS3CH27	PAS SENSOR 2 TEMP
PAS NO. 1		DMC-CH7
PAS NO. 2		DMC-CH9
MODE	TPSMOD	BIT 13, 1-PLANAR, 2=SPHERICAL
ENC ANG	TPSDAT	BITS2-10,ENCODER ANGLE BIT2-MSB
DIR	TPSCND	BIT 19, 1=CW SCAN DIRECTION
CLOCK	TPSCLK	BITS 17-18
SLEW	TPSLEW	BIT 14, 1=SLEW ENABLE
SCAN	TPSCAN	BIT 15, 1=SELECTOR SCAN
DIR	TPSCND	BIT 19, 1=CWSCAN DIRECTION
OVERFLOW	TPSTAR	BIT 20, 1=TARGET OVERFLOW
AOS1	AOS1	BITS 71, 72-80 — AOS=
LOS1	LOS1	BITS 61, 62-70 — ACQUISITION
AOS2	AOS2	BITS 51, 52-60 — OF SIGNAL
LOS2	LOS2	BITS 41, 42-50 — LOS=
AOS3	AOS3	BITS 31, 32-40 — LOSS
LOS3	LOS3	BITS 21, 22-30 — OF SIGNAL

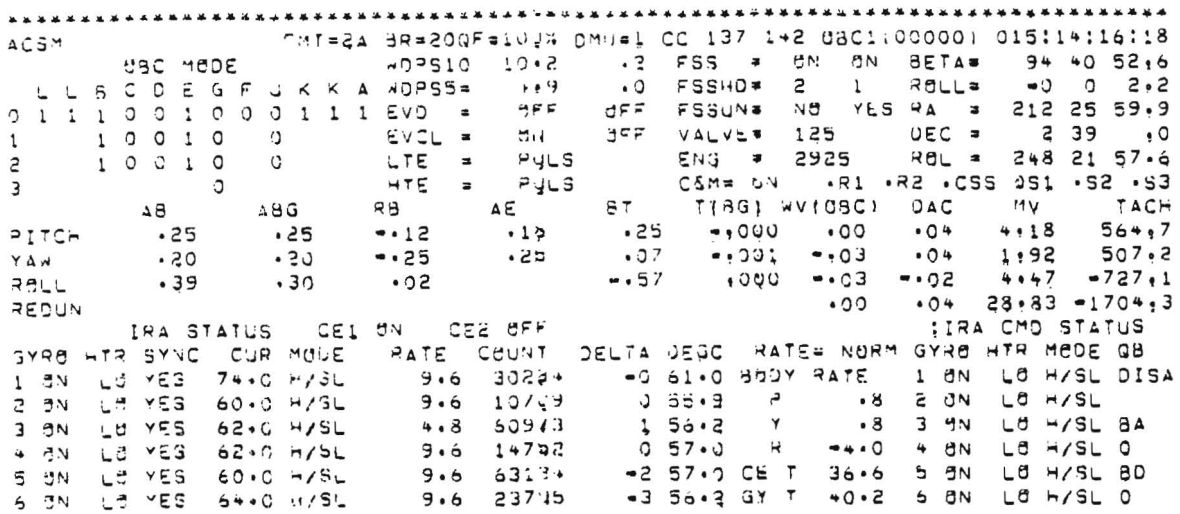
NOTE: AOS AND LOS VALUES ARE COUNTS. TO CONVERT TO DEGREES, MULTIPLY COUNTS BY 0.707.

ACS - ATTITUDE CONTROL SYSTEM STATUS

DESCRIPTION

PLANAR MODE	SPHERICAL MODE
SIX 9 BIT HYBRID GREY CODES REPRESENTING ENCODER POSITION BITS 22, 32, 42, 52, 62, 72, ARE MSB'S.	SIX 10 BIT COUNTERS
BITS 21, 31, 41, 51, 61, 71 REPRESENT DIRECTION OF SCAN 1=CW	BITS 21, 31, 41, 51, 61, 71 ARE MSB'S
	BITS 30, 40, 50, 60, 70, 80 ARE LSB'S

ACSM - ATTITUDE CONTROL SYSTEM (MISSION MODE)

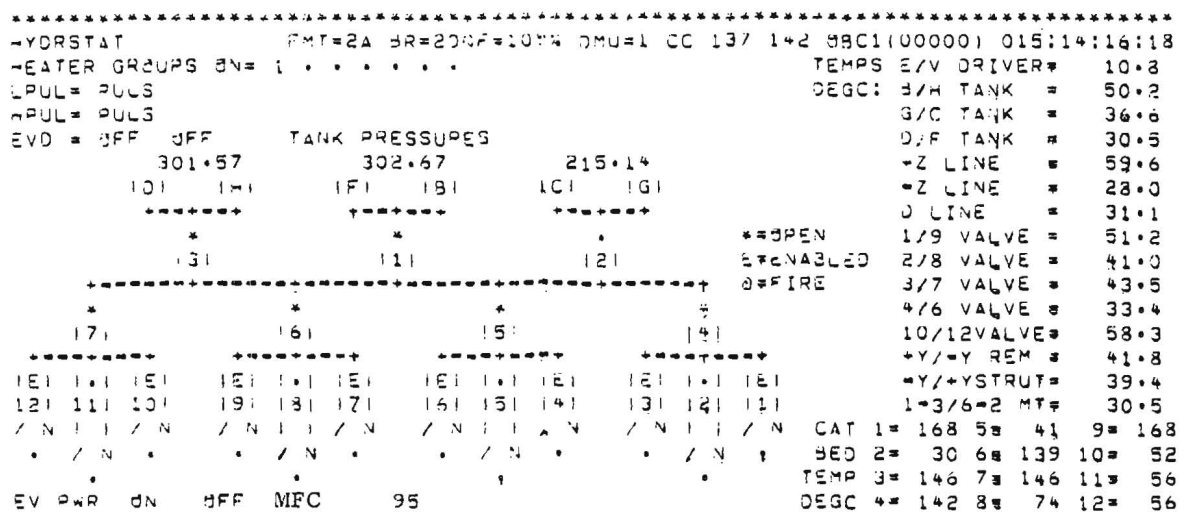


PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
OBC MODE	0=PITCH 1=YAW 2=ROLL 3=RED.	
L	ML	FES PROCESSOR
B	MB	KALMAN FILTER
C	MC	GYRO & FES (FILTER)
D	MD	HOLD/SLEW
E	ME	HIGH/LOW GAINS
G	MG	WHEEL BIAS VOLTAGE
F	MF	UPDATE WHEEL VOLTAGE
J	MJ	ACCEPT SLEW COMMAND
K	MK	GYRO BIAS CALIBRATION
A	MA	ATTITUDE WITH OBC GYRO TRIM
WDPS10	AS2CH00, AS2CH05	WDA P.S. #1, #2 +10V
WDPS5	AS1CH58, AS2CH04	WDA P.S. #1, #2 +5V
EVD	EVD	ENGINE/VALVE DRIVER #1, #2 (ON,OFF)
EVCL	EVP10V#1	ENGINE/VALVE CMND LOGIC (ON, OFF)
LTE	EVLPUL	LOW THRUST ENGINE MODE (CONT, PULSE)
HTE	EVHPUL	HIGH THRUST ENGINE MODE (CONT, PULSE)
FSS	AS1CH59, AS1CH60	FINE SUN SENSOR #1, #2 +5V
FSSHD	FSSHD	FSS HEAD #
FSSUN	FSSUN	SUN PRESENT, FSS #1 or #2
VALVE	EVALVE	ENGINE VALVES, 0=CLOSE
ENG	ENG	ENGINES ENABLED
C&M	TCMONOFF	DSC-8, BIT1 1=ON
R1	TRWMD8	R1, 1=ENABLE RATE 1 to C&M CARD
R2	TRWMD7	R2, 1=ENABLE RATE 2 to C&M CARD
CSS	TRWMD6	CSS, 1=ENABLE COARSE SUN SENSOR
S1	TRWMD4	S1, 1=ENABLE D/A TO WHEEL
S2	TRWMD3	S2, 1=ENABLE D/A TO WHEEL
S3	TRWMD5	S3, 1=ENABLE C&M CMD TO WHEEL
BETA		SUN BETA ANGLE
ROLL		S/C ROLL ANGLE
RA	HDOVER1	RIGHT ASCENSION
DEC	HDOVER2	DECLINATION
ROL	HDOVER3	ROLL

ACSM - ATTITUDE CONTROL SYSTEM (MISSION MODE)

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
PITCH		
AB	AB1	PITCH BODY ANGLE ESTIMATE
ABG	ABG1	PITCH GYRO MEASURED BODY ANGLE
RB	RB1	PITCH BODY RATE ESTIMATE
AE	AE1	PITCH FES ANGLE
BT	BT1	PITCH BIAS ACCELERATION ANGLE
T(BG)	TBG1	PITCH GYRO DRIFT
WV(OBC)	WV1	PITCH WHEEL VOLTAGE
DAC1	AS2CH35	CEA PITCH WHEEL CMD-1
MTV	AS2CH07	PITCH WHEEL DRIVER MOTOR VOLTAGE
TACH	AS2CH11	PITCH WHEEL DRIVER TACH
YAW		
AB	AB2	YAW BODY ANGLE ESTIMATE
ABG	ABG2	YAW GYRO MEASURED BODY ANGLE
RB	RB2	YAW BODY RATE ESTIMATE
AE	AE2	YAW FES ANGLE
BT	BT2	YAW BIAS ACCELERATION ANGLE
T(BG)	TBG2	YAW GYRO DRIFT
WV(OBC)	WV2	YAW WHEEL VOLTAGE
DAC1	AS2CH37	CEA YAW WHEEL CMD-1
MTV	AS2CH08	YAW WHEEL DRIVER MOTOR VOLTAGE
TACH	AS2CH12	YAW WHEEL DRIVER TACH
ROLL		
AB	AB3	ROLL BODY ANGLE ESTIMATE
ABG	ABG3	ROLL GYRO MEASURED BODY ANGLE
RB	RB3	ROLL BODY RATE ESTIMATE
BT	BT3	ROLL BIAS ACCELERATION ANGLE
T(BG)	TBG3	ROLL GYRO DRIFT
WV(OBC)	WV3	ROLL WHEEL VOLTAGE
DAC1	AS2CH39	CEA ROLL WHEEL CMD-1
MTV	AS2CH09	ROLL WHEEL DRIVER MOTOR VOLTAGE
TACH	AS2CH13	ROLL WHEEL TACH
RED		
WV(OBC)	WV4	REDUN WHEEL VOLTAGE
DAC1	AS2CH41	CEA REDU. WHEEL CMD-1
MTV	AS2CH10	REDU. WHEEL DRIVER MOTOR VOLTAGE
TACH	AS2CH14	REDU. WHEEL TACH
CE1	IRAC1#1	COMMON ELECTRONTICS #1 ON/OFF
CE2	IRAC2#2	COMMON ELECTRONICS #2 ON/OFF
GYRO		
1-6 ON/OFF	IRAGY1-6	GYRO ON/OFF STATUS
1-6 HTR	IRAHT1-6	HI/LO HEATER
1-6 SYNC	IRASYN1-6	GYRO SYNC
1-6 CUR	AS2CH43, 45, 47, 49, 51, 53	GYRO MOTOR CURRENT
1-6 MODE	IRAMCT1-6	H/S-RATE MODE
1-6 RATE	AS3CH06, 07, 08, 09, 10, 11	GYRO RATES
1-6 COUNT	DMC CH15, 27, 20, 29, 23, 31	GYRO INCREMENTAL ANGLE
1-6 DELTA	NDEL1-6	GYRO COUNT CHANGE
1-6 DEG C	AS2CH44, 46, 48, 50, 52, 54	GYRO TEMPERATURES
RATE	IRARC	RATE NORMAL/COLD
P	AS3CH00	PITCH RATE
Y	AS3CH02	YAW RATE
R	AS3CH04	ROLL RATE
CE T	AS1CH19	COMMON ELECTRONICS NO. 1 TEMPS
GE T	AS1CH30	IRA SENSOR TEMP.
GYRO CMD		
1-6 ON/OFF	IRAGYR	GYRO SELECT
1-6 HTR	IRAHTR	HEATER SELECT
1-6 MODE	IRAMC	MODE CONTROL
1-6 QB	IRAQB	QUALIFIER BIT ENAB/DISA

HYDRSTAT - HYDRAZINE STATUS



PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
HTR GRP 1	HYDHTR1	1=ON DSC11 B1 LTE 1, 3, 4, 6, 7 & 9
HTR GRP 2	HYDHTR2	1=ON DSC11 B6 BACKUP FOR GRP 1
HTR GRP 3	HYDHTR3	1=ON DSC11 B7 BACKUP FOR GRP 7
HTR GRP 4	HYDHTR4	1=ON DSC11 B2 +Y&-Y STRUTS, MOUNTS, LTE 4&6
HTR GRP 5	HYDHTR5	1=ON DSC11 B8 BACKUP FOR GRP 4
HTR GRP 6	HYDHTR6	1=ON DSC11 B3 HTE 5 & 11
HTR GRP 7	HYDHTR7	1=ON DSC11 B4 -Z LN & TKS C,D,F & G
LPUL	EVLPUL#1	DSC4 B8 0=CONT 1=PULSE
HPUL	EVHPUL#1	DSC4 B12 0=CONT 1=PULSE
EVD	EVD1, EVD2	ENG VALVE DRIVER STATUS SB#22,SB#23, 0=OFF
D/H PRESS	AS1CH44	TANK PRESSURE
F/B PRESS	AS1CH43	TANK PRESSURE
C/G PRESS	AS1CH42	TANK PRESSURE
VALVEOPEN3	EVALV3#1	DSC4 B5 1=OPEN
VALVEOPEN1	EVALV1#1	DSC4 B7 1=OPEN
VALVEOPEN2	EVALV2#1	DSC4 B6 1=OPEN
VALVEOPEN7	EVALV7#1	DSC4 B1 1=OPEN
VALVEOPEN6	EVALV6#1	DSC4 B2 1=OPEN
VALVEOPEN5	EVALV5#1	DSC4 B3 1=OPEN
VALVEOPEN4	EVALV4#1	DSC4 B4 1=OPEN
JETENA12	DFSPAVAR ENG	GND COMMAND B13
JETENA11	DFSPAVAR ENG	GND COMMAND B14
JETENA10	DFSPAVAR ENG	GND COMMAND B15
JETENA09	DFSPAVAR ENG	GND COMMAND B16
JETENA08	DFSPAVAR ENG	GND COMMAND B17
JETENA07	DFSPAVAR ENG	GND COMMAND B18
JETENA06	DFSPAVAR ENG	GND COMMAND B19
JETENA05	DFSPAVAR ENG	GND COMMAND B20
JETENA04	DFSPAVAR ENG	GND COMMAND B21
JETENA03	DFSPAVAR ENG	GND COMMAND B22
JETENA02	DFSPAVAR ENG	GND COMMAND B23
JETENA01	DFSPAVAR ENG	GND COMMAND B24

HYDRSTAT - HYDRAZINE STATUS

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
JETFIRE12	EVTRQC#1	JET FIRE LTE DSC4 B13
JETFIRE11	EBTRQB#1	JET FIRE HTE DSC4 B14
JETFIRE10	EBTRQA#1	JET FIRE LTE DSC4 B15
JETFIRE09	EVTRQ9#1	JET FIRE LTE DSC4 B16
JETFIRE08	EVTRQ8#1	JET FIRE HTE DSC4 B17
JETFIRE07	EVTRQ7#1	JET FIRE LTE DSC4 B18
JETFIRE06	EVTRQ6#1	JET FIRE LTE DSC4 B19
JETFIRE05	EVTRQ5#1	JET FIRE HTE DSC4 B20
JETFIRE04	EVTRQ4#1	JET FIRE LTE DSC4 B21
JETFIRE03	EVTRQ3#1	JET FIRE LTE DSC4 B22
JETFIRE02	EVTRQ2#1	JET FIRE HTE DSC4 B23
JETFIRE01	EVTRQ1#1	JET FIRE LTE DSC4 B24
EVPWR#1,#2	EVP10V#1,EVP10V#2	EVPOWER S. 10V#1/2
EVDRIVER1/2	AS1CH20	EVDRIVER TEMP #1 DSYS1.#2 ON DSYS#2
B/HTNKT	AS2CH16#1,AS2CH16#2	TANK B DSYS1,TANK H DSYS2 TEMP
C/GTNKT	AS2CH17#1,AS2CH17#2	TANK C DSYS1, TANK G DSYS2 TEMP
D/FTNKT	AS2CH18#1,AS2CH18#2	TANK D DSYS1, TANK F DSYS2 TEMP
+ZLINE	AS2CH21	+Z LINE TEMP.
-ZLINE	AS2CH19	-Z LINE TEMP.
D LINE	AS2CH24#1,AS2CH24#2	D LN DSYS1,F&D VA 3 DSYS2 TEMP
1/9LINE	AS2CH27#1,AS2CH27#2	VALV1 DSYS1/VALV9 DSYS2 TEMP
2/8 VALV	AS2CH26#1,AS2CH26#2	VALV2 DSYS1/VALV8 DSYS2 TEMP
3/7 VALV	AS2CH25#1,AS2CH25#2	VALV3 DSYS1/VALV7 DSYS2 TEMP
4/6 VALV	AS2CH20#1,AS2CH20#2	VALV4 DSYS1/VALV6 DSYS2 TEMP
10/12 VALV	AS2CH22#1,AS2CH22#2	VALVE10DSYS1/VALV 12DSYS2TEMP
+Y/-Y REM	AS2CH28#1,AS2CH28#2	+YREM DSYS1/-YREM DSYS2 TEMP
-Y/+YSTRUT	AS2CH29#1,AS2CH29#2	-YSTRUT DSYS1/+Y STRUT DSYS2 TEMP
1-3/6-2MT	AS2CH23	LV1&3 DATSYS1/6-2MOUNT DATSYS2 TEMP
CATBEDTMP1	AS1CH45	TEMP. DEG. C
CATBEDTMP2	AS1CH46	TEMP. DEG. C
CATBEDTMP3	AS1CH47	TEMP. DEG. C
CATBEDTMP4	AS1CH48	TEMP. DEG. C
CATBEDTMP5	AS1CH49	TEMP. DEG. C
CATBEDTMP6	AS1CH50	TEMP. DEG. C
CATBEDTMP7	AS1CH51	TEMP. DEG. C
CATBEDTMP8	AS1CH52	TEMP. DEG. C
CATBEDTMP9	AS1CH53	TEMP. DEG. C
CATBEDTMP10	AS1CH54	TEMP. DEG. C
CATBEDTMP11	AS1CH55	TEMP. DEG. C
CATBEDTMP12	AS1CH56	TEMP. DEG. C
MFC	TFRAME	MINOR FRAME COUNTER

CAM - ALL CAMERA STATUS

```
CAM                    FMT=2A BR=203F=103% DMU=1 CC 137 142 08C1(00000) 015:14:26:37
  CAM1 28V  OFF          CAM2 28V  ON           CAM3 28V  ON           CAM4 28V  OFF
  CAM1 VID #     .0      CAM2 VID #     .0      CAM3 VID #     .0      CAM4 VID #     .0

  LW C MIR  1            FOCUS +P       .0      HV1 IMON       .0      EEA CONV     41.0
  SW C MIR  2            FOCUS -P       .0      HV2 IMON       .0      1 MIR +Y      -.7
  LW GRAT   1            1A1FOCUS  LOW          EEA1 +12     12.2      1 MIR -Y     -1.3
  SW GRAT   1            2A1FOCUS  HIGH         EEA2 +12      .0       2 MIR        23.9
  SI SHUTR  0            1B1FOCUS  LOW          EEA1 -5V      4.9      2 MIR OR      6.8
  APERTURE  1            2B1FOCUS  LOW          EEA2 +5V      .0       TELE 133     -55.0
  FOC LIMT  0            1A2FOCUS  HIGH         EEA  +8V     7.9       TELE 92      -18.8
                         2A2FOCUS  HIGH         EEA +15V     14.8      DECK LW        5.1
  FES1STAR  NO           1B2FOCUS  HIGH         EEA -15V     23.7      DECK SW        4.8
  FES2STAR  YES          2B2FOCUS  HIGH         TUNG PS1  OFF          DECK FES       3.4
                                                TUNG PS2  OFF

 CAM   G1   G2   G3   G4   JVC  SEC TARG HTRI  FOC LINE COIL HEAD SECT FOAC LOAC
  1    57   52   51   51   -57   47   93   47   50   46   137  135  121   72   119
  2   246    1    0    6    0     0   193   86    0   130   112  110  123   50   125
  3   242    1    0    6    0     0   193   86    0   131   129  125  121   54   119
  4    58   55   53   53   -59   51   91   52   53   47   126  127  138   75   126
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PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
CAM1 28V	C28V#1	DSC 24 0=OFF
CAM1 VID	SPECV1	AMC 04 VIDEO LWP
CAM2 28V	C28V#2	DSC 5 0=OFF
CAM2 VID	SPECV2	AMC 10 VIDEO LWR
CAM3 28V	C28V#3	DSC 6 0=OFF
CAM3 VID	SPECV3	AMC 06 VIDEO SWP
CAM4 28V	C28V#4	DSC 7 0=OFF
CAM4 VID	SPECV4	AMC 12 VIDEO SWR
LW C MIR	CSTATL	DSC 16 B17-18 00=SLEW 01=REDU 10=PRI
SW C MIR	CSTATS	DSC 16 B19-20 11=BAD CAMERA SELECT
LW GRAT	DSTATL	DSC 16 11 12 } 00=SLEW 01=HI 10=LO 11=BAD
SW GRAT	DSTATS	DSC 16 13 14 } DISPERSION STATUS
SI SHUTR	SSOPEN	SB6&7 00=OPEN 11=CLOSED
APERTURE	ASTAT	DSC 16 B15,16 10=CLOSE 01=OPEN 00=SLEW
FOC LIMT	FOCLIM	DSC 16 B09,10 11=BAD
FES1STAR	TFESSP#1	DSC 14 B8 0=NO
FES2STAR	TFESSP#2	DSC 15 B8 1=YES
FOCUS +P	AS1CH63	RETRACT (FOCUS MECH. POSITION)
FOCUS -P	AS1CH62	EXTEND (FOCUS MECH. POSITION)
1A1FOCUS	FOCS1A#1	DSC 16 B1 FOCUS DR#1 POS.0=LO 1=HI/OFF
2A1FOCUS	FOCS2A#1	DSC 16 B2 FOCUS DR#1 POS.0=LO 1=HI/OFF
1B1FOCUS	FOCS1B#1	DSC 16 B3 FOCUS DR#1 POS.0=LO 1=HI/OFF
2B1FOCUS	FOCS2B#1	DSC 16 B4 FOCUS DR#1 POS.0=LO 1=HI/OFF
1A2FOCUS	FOCS1A#2	DSC 16 B5 FOCUS DR#2 POS.0=LO 1=HI/OFF
2A2FOCUS	FOCS2A#2	DSC 16 B6 FOCUS DR#2 POS.0=LO 1=HI/OFF
1B2FOCUS	FOCS1B#2	DSC 16 B7 FOCUS DR#2 POS.0=LO 1=HI/OFF
2B2FOCUS	FOCS2B#2	DSC 16 B8 FOCUS DR#2 POS.0=LO 1=HI/OFF
HV1 IMON	AS1CH61	SI CAL PS#1 HV CURRENT MONITOR
HV2 IMON	AS2CH02	SI CAL PS#2 HV CURRENT MONITOR

CAM - ALL CAMERA STATUS

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
EEA1 +12	AS2CH56	0=OFF 255=ON CONVERTER #1
EEA2 +12	AS2CH58	0=OFF 255=ON CONVERTER #2
EEA1 +5V	AS2CH57	+5V CONVERTER 1
EEA2 +5V	AS2CH59	+5V CONVERTER 2
EEA +8V	AS2CH62	CONV1 DATASYS1, CONV2 DATASYS2
EEA +15V	AS2CH60	CONV1 DATASYS1, CONV2 DATASYS2
EEA -15V	AS2CH61	CONV1 DATASYS1, CONV2 DATASYS2
TUNG PS1	TLAMP#1	DSC 30 ON/OFF
TUNG PS2	TLAMP#2	DSC 31 ON/OFF
EEA CONV	AS2CH31	TEMP CONV1 DATASYS1, CONV2 DATASYS2
1 MIR +Y	AS3CH22	TEMP SI PRIMIRROR -LOCATION 1 +X
1 MIR -Y	AS3CH23	TEMP SI PRI MIRROR -LOCATION 2 -Y
2 MIR	AS3CH20	SEC. MIRROR TEMP. -MIRROR
2 MIR DR	AS3CH21	SEC. MIRROR TEMP. -FOCUS DRIVE
TELE 133	AS3CH24	TEMP. STA133 +ZAXIS.DSYS1,-ZAXIS DSYS2
TELE 92	AS3CH25	TEMP. STA92 +ZAXIS DSYS1,-ZAXIS DSYS2
DECK LW	AS3CH29	CAMDK TEMP NR(LWP DSYS1,LWR DSYS2)
DECK SW	AS3CH29	CAMDK TEMP NR (SWP DSYS1,SWR DSYS2)
DECK FES	AS3CH30	CAMDK TEMP NR FES1 DSYS1,ACQ DK TEMP DSY2
CAM1 G1	ES1CH04	STATUS
CAM2 G1	ES1CH17	STATUS
CAM3 G1	ES1CH30	STATUS
CAM4 G1	ES1CH43	STATUS
CAM1 G2	ES1CH09	STATUS
CAM2 G2	ES1CH22	STATUS
CAM3 G2	ES1CH35	STATUS
CAM4 G2	ES1CH48	STATUS
CAM1 G3	ES1CH10	STATUS
CAM2 G3	ES1CH23	STATUS
CAM3 G3	ES1CH36	STATUS
CAM4 G3	ES1CH49	STATUS
CAM1 G4	ES1CH02	STATUS
CAM2 G4	ES1CH15	STATUS
CAM3 G4	ES1CH28	STATUS
CAM4 G4	ES1CH41	STATUS
CAM1 UVC	ES1CH00	UVC EHT STATUS
CAM2 UVC	ES1CH13	UVC EHT STATUS
CAM3 UVC	ES1CH26	UVC EHT STATUS
CAM4 UVC	ES1CH39	UVC EHT STATUS
CAM1 SEC	ES1CH01	SEC EHT STATUS
CAM2 SEC	ES1CH14	SEC EHT STATUS
CAM3 SEC	ES1CH27,ES2CH27	SEC EHT STATUS
CAM4 SEC	ES1CH40,ES2CH40	SEC EHT STATUS
CAM1 TARG	ES1CH03,ES2CH03	TARGET BIAS STATUS
CAM2 TARG	ES1CH16,ES2CH16	TARGET BIAS STATUS
CAM3 TARG	ES1CH29,ES2CH29	TARGET BIAS STATUS
CAM4 TARG	ES1CH42,ES2CH42	TARGET BIAS STATUS
CAM1 HTRI	ES1CH05,ES2CH05	HEATER CURRENT STATUS
CAM2 HTRI	ES1CH18,ES2CH18	HEATER CURRENT STATUS
CAM3 HTRI	ES1CH31,ES2CH31	HEATER CURRENT STATUS
CAM4 HTRI	ES1CH44,ES2CH44	HEATER CURRENT STATUS
CAM1 FOC	ES1CH08,ES2CH08	FOCUS STATUS
CAM2 FOC	ES1CH21,ES2CH21	FOCUS STATUS
CAM3 FOC	ES1CH34,ES2CH34	FOCUS STATUS
CAM4 FOC	ES1CH47,ES2CH47	FOCUS STATUS
CAM1 LINE	ES1CH06,ES2CH06	LINE STATUS
CAM2 LINE	ES1CH19,ES2CH19	LINE STATUS
CAM3 LINE	ES1CH32,ES2CH32	LINE STATUS
CAM4 LINE	ES1CH45,ES2CH45	LINE STATUS

CAM - ALL CAMERA STATUS

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
CAM1 COIL	ES1CH52,ES2CH52	LWP DEFLN COIL TEMP
CAM2 COIL	ES1CH55,ES2CH55	LWR DEFLN COIL TEMP
CAM3 COIL	ES1CH58,ES2CH58	SWP DEFLN COIL TEMP
CAM4 COIL	ES1CH61,ES2CH61	SWR DEFLN COIL TEMP
CAM1 HEAD	ES1CH53	LWP HEAD AMP
CAM2 HEAD	ES1CH56	LWR HEAD AMP
CAM3 HEAD	ES1CH59	SWP HEAD AMP TEMP
CAM4 HEAD	ES1CH62	SWR HEAD AMP TEMP
CAM1 SECT	ES2CH53	LWP SEC EHT TEMP
CAM2 SECT	ES2CH56	LWR SEC EHT TEMP
CAM3 SECT	ES2CH59	SWP SEC EHT TEMP
CAM4 SECT	ES2CH62	SWR SEC EHT TEMP
CAM1 FDAC	ES1CH54	LWP FRAME DAC TEMP
CAM2 FDAC	ES1CH57	LWR FRAME DAC TEMP
CAM3 FDAC	ES1CH60	SWP FRAME DAC TEMP
CAM4 FDAC	ES1CH63	SWR FRAME DAC TEMP
CAM1 LDAC	ES2CH54	LWP LINE DAC TEMP
CAM2 LDAC	ES2CH57	LWR LINE DAC TEMP
CAM3 LDAC	ES2CH60	SWP LINE DAC TEMP
CAM4 LDAC	ES2CH63	SWR LINE DAC TEMP

CAM# - CAMERA# STATUS (#1-4)

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**********************************************************************************
CAM#                 PAT=2A BR=200F=100% DMU=1 CC 137 142 88C1(000001) 015:14:19:12
    POWER             OFF      EXPOSE MODE      OFF        GRID1          -30.3
    SCAN BIT          NO       READ  MODE       OFF        GRID2           69.7
    STEP SIZE         0        ERASE MODE       OFF        GRID3           93.0
    LINE NUMBER       #-1      TGT BIAS MODE    OFF        GRID4           93.9
    SAMPLE NUM        #-1      LOW GAIN MODE    OFF        HTR CURRENT     44.8
    LINES REM         #-1                 1       2       UV CONVTR       -1.4
    SAMPLE REM        #-1      FOCUS 1A   LOW     HIGH     SEC HV           1.7
    APERTURE          1        FOCUS 1B   LOW     HIGH     TARG BIAS        3.3
    FOCUS LIMIT       0        FOCUS 2A   HIGH    HIGH     LINE STAT      -150.8
    GRATING           1        FOCUS 2B   LOW     HIGH     FRAME STAT     -154.2
    MIRROR            1          FES              1       2  FOCUS STAT      14.5
    WAVE L CAL        ....     FES MODE   #-1      0       X ALIGN         38.8
    FIDUCIAL LAMP     ....     FES STAR   #NO     YES      Y ALIGN         39.2
    UV LAMP           ....     FES PREH    NO     YES      COIL TEMP        2.1
    TUNGSTEN L1       ....     STAR MAG   #-1     253      HEAD TEMP        2.8
    TUNGSTEN L2       ....     X POS      #-1     4085     SEC  TEMP        7.5
                               Y POS      #-1     2        F DAC TEMP      24.8
                               FRAME SC   #-1     3        L DAC TEMP       8.2
    CAMERA ID         0        LINE SC    #-1     4
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PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
CAM1 PWR	C28V#1	DSC24 BIT8 LWP 28V ON/OFF
CAM2 PWR	C28V#2	DSC25 BIT8 LWR 28V ON/OFF
CAM3 PWR	C28V#3	DSC26 BIT8 SWP 28V ON/OFF
CAM4 PWR	C28V#4	DSC27 BIT8 SWR 28V ON/OFF
CAM1 SCN BIT	SCANBT#1	DMC 04 B4 1=SCAN IN PROGRESS
CAM2 SCN BIT	SCANBT#2	DMC 10 B4 1=SCAN IN PROGRESS
CAM3 SCN BIT	SCANBT#3	DMC 06 B4 1=SCAN IN PROGRESS
CAM4 SCN BIT	SCANBT#4	DMC 12 B4 1=SCAN IN PROGRESS
CAM1 STEP SZ	TSTEP#1	DMC 04 BITS 7&8 B8=LSB
CAM2 STEP SZ	TSTEP#2	DMC 10 BITS 7&8 B8=LSB
CAM3 STEP SZ	TSTEP#3	DMC 06 BITS 7&8 B8=LSB
CAM4 STEP SZ	TSTEP#4	DMC 12 BITS 7&8 B8=LSB
CAM1 LINE NO.	TILA#1	DMC 04 BITS 47-56,START LINE
CAM2 LINE NO.	TILA#2	DMC 10 BITS 47-56,START LINE
CAM3 LINE NO.	TILA#3	DMC 06 BITS 47-56,START LINE
CAM4 LINE NO.	TILA#4	DMC 12 BITS 47-56,START LINE
CAM1 LINES REM	TLSR#1	DMC 04 BITS 27-36 LINES REMAIN AT READOUT
CAM2 LINES REM	TLSR#2	DMC 10 BITS 27-36 LINES REMAIN AT READOUT
CAM3 LINES REM	TLSR#3	DMC 06 BITS 27-36 LINES REMAIN AT READOUT
CAM4 LINES REM	TLSR#4	DMC 12 BITS 27-36 LINES REMAIN AT READOUT
CAM1 SAMPLE REM	TSSR#1	DMC 04 BITS 17-26 SAMPL REM AT READOUT
CAM2 SAMPLE REM	TSSR#2	DMC 10 BITS 17-26 SAMPL REM AT READOUT
CAM3 SAMPLE REM	TSSR#3	DMC 06 BITS 17-26 SAMPL REM AT READOUT
CAM4 SAMPLE REM	TSSR#4	DMC 12 BITS 17-26 SAMPL REM AT READOUT
CAM1 WAVE L CAL	TWLC#1	DMC 04 BIT 5 0=OFF 1=ENABLED
CAM2 WAVE L CAL	TWLC#2	DMC 10 BIT 5 0=OFF 1=ENABLED
CAM3 WAVE L CAL	TWLC#3	DMC 06 BIT 5 0=OFF 1=ENABLED
CAM4 WAVE L CAL	TWLC#4	DMC 12 BIT 5 0=OFF 1=ENABLED
CAM1 FOCUS LIMIT	FOCLIM	DSC 16 BITS 9-10
CAM2 FOCUS LIMIT	FOCLIM	DSC 16 BITS 9-10 00=MID,01=MIN
CAM3 FOCUS LIMIT	FOCLIM	DSC 16 BITS 9-10 10=LOW,11=BAD
CAM4 FOCUS LIMIT	FOCLIM	DSC 16 BITS 9-10
CAM1 GRATING	DSTATL	DSC 16 BITS 11-12 00=SLEW,01=HI
CAM2 GRATING	DSTATL	DSC 16 BITS 11-12 10=LO,11=BAD
CAM3 GRATING	DSTATS	DSC 16 BITS 13-14
CAM4 GRATING	DSTATS	DSC 16 BITS 13-14

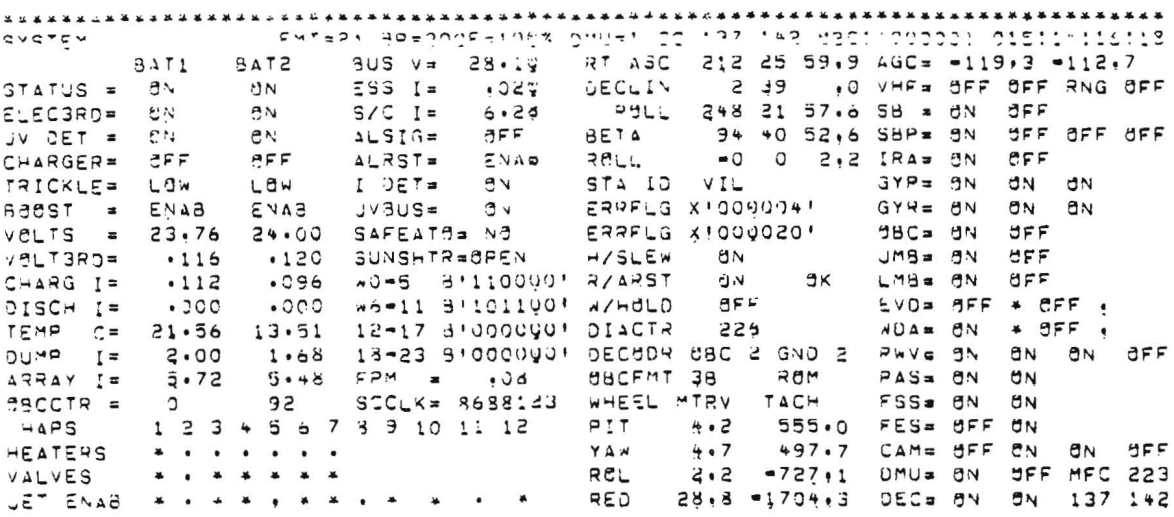
CAM# - CAMERA# STATUS (#1-4)

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
CAM1 MIRROR	CSTATL	DSC 16 BITS 17-18,LW CAM MIRROR
CAM2 MIRROR	CSTATL	00=SLEW,10=PRIME,01=REDUNDANT.11=BAD
CAM3 MIRROR	CSTATS	DSC 16 BITS 19-20 SW CAM MIRROR
CAM4 MIRROR	CSTATS	00=SLEW,10=PRIME,01=REDUNDANT,11=BAD
CAM1 APERTURE	ASTAT	DSC 16 BITS 15-16
CAM2 APERTURE	ASTAT	DSC 16 BITS 15-16 10=CLOSE, 01=OPEN
CAM3 APERTURE	ASTAT	DSC 16 BITS 15-16 00=SLEW,11=BAD
CAM4 APERTURE	ASTAT	DSC 16 BITS 15-16
CAM1 FUD LAMP	TBHFID#1	DMC 04 B9 BACK HOLE & FUD LMP STAT 1=ENA
CAM2 FUD LAMP	TBHFID#2	DMC 10 B9 BACK HOLE & FUD LMP STAT 1=ENA
CAM3 FUD LAMP	TBHFID#3	DMC 06 B9 BACK HOLE & FUD LMP STAT 1=ENA
CAM4 FUD LAMP	TBHFID#4	DMC 12 B9 BACK HOLE & FUD LMP STAT 1=ENA
CAM1 UV FLOOD	TUVF#1	DMC 04 B11 UV FLOOD STATUS 1=ENA,0=OFF
CAM2 UV FLOOD	TUVF#2	DMC 10 B11 UV FLOOD STATUS 1=ENA,0=OFF
CAM3 UV FLOOD	TUVF#3	DMC 06 B11 UV FLOOD STATUS 1=ENA,0=OFF
CAM4 UV FLOOD	TUVF#4	DMC 12 B11 UV FLOOD STATUS 1=ENA,0=OFF
CAM1 TUNGLAMP1	TTUNG1#1	DMC 04 B12 0=OFF,1=ENABL
CAM2 TUNGLAMP1	TTUNG1#1	DMC 04 B12 0=OFF,1=ENABL
CAM3 TUNGLAMP1	TTUNG1#1	DMC 04 B12 0=OFF,1=ENABL
CAM4 TUNGLAMP1	TTUNG1#1	DMC 04 B12 0=OFF,1=ENABL
CAM1 TUNGLAMP2	TTUNG2#1	DMC 04 B6 0=OFF,1=ENABL
CAM2 TUNGLAMP2	TTUNG2#1	DMC 04 B6 0=OFF,1=ENABL
CAM3 TUNGLAMP2	TTUNG2#1	DMC 04 B6 0=OFF,1=ENABL
CAM4 TUNGLAMP2	TTUNG2#1	DMC 04 B6 0=OFF,1=ENABL
CAM1 ID	CAMID#1	DMC 04 BIT1-3 BIT3=1 LWP DIG STATUS DATA
CAM2 ID	CAMID#2	DMC 10 BIT1-3 BIT2=1 LWR DIG STATUS DATA
CAM3 ID	CAMID#3	DMC 06 BIT1-3 BIT2=1&3=1 SWP DIG STAT DATA
CAM4 ID	CAMID#4	DMC 12 BIT1-3 BIT1=1 SWR DIG STATUS DATA
CAM1 MODE	TCAMOD#1	DMC 04 BIT 10 1=LO GAIN BIT 13 TARG BIAS
CAM2 MODE	TCAMOD#2	DMC 10 BIT 14 1=ERASE BIT 15 1=READ
CAM3 MODE	TCAMOD#3	DMC 06 BIT 16 1=EXPOSE
CAM4 MODE	TCAMOD#4	DMC 12
FOCUS 1A1	FOCS1A#1	DSC16 B1
FOCUS 2A1	FOCS 2A#1	DSC16 B2
FOCUS 1B1	FOCS1B#1	DSC16 B3
FOCUS 2B1	FOCS2B#1	DSC16 B4
FOCUS 1A2	FOCS1A#2	DSC16 B5
FOCUS 2A2	FOCS2A#2	DSC16 B6
FOCUS 1B2	FOCS1B#2	DSC16 B7
FOCUS 2B2	FOCS2B#2	DSC16 B8
----------	----------	F E S ----------
FES1 MODE	TFESSM#1	DMC03\B1&2/00=PRI,01=SEARCH&TRACK
FES2 MODE	TFESSM#2	DMC13/ 10=FIELD CAMERA 11=NOT USED
FES1 STAR	TFESSP#1	DMC03 B32 STAR PRESENT 0=NO 1=YES
FES2 STAR	TFESSP#2	DMC13 B32 STAR PRESENT 0=NO 1=YES
FES1 FLAG	FESSP	DSC14 B8 STAR PRESENCE 0=NO 1=YES
FES2 FLAG	FESSP	DSC15 B8 STAR PRESENCE 0=NO 1=YES
FES1 STAR PRES	TFESCT#1	DMC03 B17-31 STAR MAGNITUDE COUNT
FES2 STAR PRES	TFESCT#2	DMC13 B17-31 STAR MAGNITUDE COUNT
FES1 X POS	TFESEX	DMC03 B33-44 X STAR POSITION
FES2 X POS	TFESEX	DMC13 B33-44 X STAR POSITION
FES1 Y POS	TFESEV#1	DMC03 B44-66 Y-STAR POSITION
FES2 Y POS	TFESEV#2	DMC13 B44-66 Y-STAR POSITION
FES1 FRAME SC	TFESX#1	DMC03 B3-9 FRAME START COORDINATE
FES2 FRAME SC	TFESX#2	DMC13 B3-9 FRAME START COORDINATE
FES1 LINE SC	TFESY#1	DMC03 B10-16 LINE START COORDINATE
FES2 LINE SC	TFESY#2	DMC13 B10-16 LINE START COORDINATE
CAM1 GRID1	ES1CH04	G 1 STATUS
CAM2 GRID1	ES1CH17	G 1 STATUS
CAM3 GRID1	ES1CH30	G 1 STATUS
CAM4 GRID1	ES1CH43	G 1 STATUS
CAM1 GRID2	ES1CH09	G- 2 STATUS
CAM2 GRID2	ES1CH22	G- 2 STATUS
CAM3 GRID2	ES1CH35	G- 2 STATUS
CAM4 GRID2	ES1CH48	G- 2 STATUS

CAM# - CAMERA# STATUS (#1-4)

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
CAM1 GRID3	ES1CH10	G-3 STATUS
CAM2 GRID3	ES1CH23	G-3 STATUS
CAM3 GRID3	ES1CH36	G-3 STATUS
CAM4 GRID3	ES1CH49	G-3 STATUS
CAM1 GRID 4	ES1CH02	G 4 STATUS
CAM2 GRID 4	ES1CH15	G 4 STATUS
CAM3 GRID 4	ES1CH28	G 4 STATUS
CAM4 GRID 4	ES1CH41	G 4 STATUS
CAM1 HTR CUR	ES1CH05	HEATER CURRENT STATUS
CAM2 HTR CUR	ES1CH18	HEATER CURRENT STATUS
CAM3 HTR CUR	ES1CH31	HEATER CURRENT STATUS
CAM4 HTR CUR	ES1CH44	HEATER CURRENT STATUS
CAM1 UVCONV	ES1CH00	UVC EHT STATUS
CAM2 UVCONV	ES1CH13	UVC EHT STATUS
CAM3 UVCONV	ES1CH26	UVC EHT STATUS
CAM4 UVCONV	ES1CH39	UVC EHT STATUS
CAM1 SEC HV	ES1CH01	SEC EHT STATUS
CAM2 SEC HV	ES1CH14	SEC EHT STATUS
CAM3 SEC HV	ES1CH27	SEC EHT STATUS
CAM4 SEC HV	ES1CH40	SEC EHT STATUS
CAM1 TARG B	ES1CH03	TARGET BIAS STATUS
CAM2 TARG B	ES1CH16	TARGET BIAS STATUS
CAM3 TARG B	ES1CH29	TARGET BIAS STATUS
CAM4 TARG B	ES1CH42	TARGET BIAS STATUS
CAM1 LNSTAT	ES1CH06	LINE STATUS
CAM2 LNSTAT	ES1CH19	LINE STATUS
CAM3 LNSTAT	ES1CH32	LINE STATUS
CAM4 LNSTAT	ES1CH45	LINE STATUS
CAM1 FRAME STAT	ES1CH07	STATUS
CAM2 FRAME STAT	ES1CH20	STATUS
CAM3 FRAME STAT	ES1CH33	STATUS
CAM4 FRAME STAT	ES1CH46	STATUS
CAM1 FOCUS STAT	ES1CH08	STATUS
CAM2 FOCUS STAT	ES1CH21	STATUS
CAM3 FOCUS STAT	ES1CH34	STATUS
CAM4 FOCUS STAT	ES1CH47	STATUS
CAM1 X ALIGN	ES1CH11	STATUS
CAM2 X ALIGN	ES1CH24	STATUS
CAM3 X ALIGN	ES1CH37	STATUS
CAM4 X ALIGN	ES1CH50	STATUS
CAM1 Y ALIGN	ES1CH12	STATUS
CAM2 Y ALIGN	ES1CH25	STATUS
CAM3 Y ALIGN	ES1CH38	STATUS
CAM4 Y ALIGN	ES1CH51	STATUS
CAM1 COIL TEMP	ES1CH52	TEMP.
CAM2 COIL TEMP	ES1CH55	TEMP.
CAM3 COIL TEMP	ES1CH58	TEMP.
CAM4 COIL TEMP	ES1CH61	TEMP.
CAM1 HEAD TEMP	ES1CH53	TEMP.
CAM2 HEAD TEMP	ES1CH56	TEMP.
CAM3 HEAD TEMP	ES1CH59	TEMP.
CAM4 HEAD TEMP	ES1CH62	TEMP.
CAM1 SEC TEMP	ES2CH53	TEMPERATURE
CAM2 SEC TEMP	ES2CH56	TEMPERATURE
CAM3 SEC TEMP	ES2CH59	TEMPERATURE
CAM4 SEC TEMP	ES2CH62	TEMPERATURE
CAM1 F DAC TEMP	ES1CH54	TEMPERATURE
CAM2 F DAC TEMP	ES1CH57	TEMPERATURE
CAM3 F DAC TEMP	ES1CH60	TEMPERATURE
CAM4 F DAC TEMP	ES1CH63	TEMPERATURE
CAM1 L DAC TEMP	ES2CH54	TEMPERATURE
CAM2 L DAC TEMP	ES2CH57	TEMPERATURE
CAM3 L DAC TEMP	ES2CH60	TEMPERATURE
CAM4 L DAC TEMP	ES2CH63	TEMPERATURE

SYSTEM STATUS



PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
BATTERY	BAT#1 BAT#2	
STATUS	PSBAT#1 PSBAT#2	BATTERY ON/OFF
ELEC3RD	PS3EV1 PS3EV2	3RD ELECTRODE ON/OFF
UV DET	PSUBAT#1 PSUBAT#2	UNDER VOLTAGE ON/OFF
CHARGER	PSBCHG#1 PSBCHG#2	CHARGER 1,2 ON/OFF
TRICKLE	PSTCHG#1 PSTCHG#2	TRICKLE CHARGER HIGH/LOW
BOOST	PSBCON#1 PSBCON#2	BOOST CONVERTER#1 ENAB/DISA
VOLTS	AS1CH10 AS1CH14	BAT 1,2 VOLTAGE
VOLTS3RD	AS1CH13 AS1CH33	BAT 1,2 3RD ELECTRODE VOLTS
CHARG I	AS1CH11 AS1CH15	BAT 1,2 CHARGE CURRENT
DISCH I	AS1CH12 AS1CH32	BAT 1,2 DISCHARGE CURRENT
TEMP C	AS1CH29 AS1CH30	BAT 1,2 TEMPERATURE
DUMP I	AS1CH38 AS1CH37	DUMP CURRENT
ARRAY I	AS1CH39 AS1CH40	SOLAR ARRAY CURRENT
OBCCTR	OCTR1 OCTR2	OBC TO DECODER 1,2 COMMAND COUNTER
HAPS	1 THRU 12	
HEATERS	HYDHTR1, HYDHTR2,...., HYDHTR7	HAPS HEATER GROUPS 1-7
VALVES	EVALV1#1, EVALV2#1...., EVALV7#1	ENGINE VALVES
JET ENAB	DFSPAVAR ENG	DATA BASE INDICATION OF JET STATUS
BUS V	AS1CH34	+28V BUSS VOLTAGE
ESS I	AS1CH36	ESSENTIAL LOAD CURRENT AMPS
S/C I	SCI	AMC-01 S/C SWITCHED LOAD CURRENT
ALSIG	PSALRSIG	AUTO LOAD REMOVAL SIGNAL
ALRST	PSALRST	AUTO LOAD REMOVAL STATUS (ENAB/DISA)
I DET	PSOVCD	OVER CURRENT DETECTOR (ON/OFF)
UVBUS	PSUVBUS	U.V. MAIN BUS DETECTOR
SAFEATO	SAFEATO	DB11TAC FR17 W5-6 TIME REMAINING AT SAFE ATTITUDE
SUNSHTR	DFUPDTXT SPECTEXT	SUN SHUTTER (OPEN/CLOSE)
W0-5	ONOFFW	OBC WORKERS
W6-11		FRAME 1, WORDS 1-3
12-17		OBC TELEMETRY
18-23		

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
FPM	AS2CH01	FLUX PARTICLE MONITOR
SCCLK	SCLOCK	1 CNT = .4096 SEC
RT ASC	HDOVER1	ATTITUDE IN DEGREES MIN SEC
DECLIN	HDOVER2	OBC FR6-7 HDOVER1 FR6, WD1-4 RT ASC
ROLL	HDOVER3	HDOVER2 FR6 W5-6 FR7 WD1-2 DECLIN HDOVER3 FR7 WD3-6 ROLL
BETA	SPECTEXT	ATTITUDE RELATIVE TO THE SUN
ROLL	SPECTEXT	
STA ID	MTEXT	FR1, WD 4 BITS 7-8 0=XFER 1=GSFC 2=VIL
ERRFLG	OBCF00A	OBC FRAME 0 BITS 1-24
ERRFLG	OBCF00B	OBC FRAME 0 BITS 25-48
H/SLEW	HSWORKER	HOLD/SLEW WORKER ON/OFF
R/ARST	ONOFFW RATEARST	RATE/ARREST ON/OFF
W/HOLD	WHWORKER	WHEEL/HOLD ON/OFF
DIACTR	DIAOCTR	W.0. TIME OUT CNTR
DECODER	OBC "OSTAT" GND "DECODER"	DECODER ADDRESS BY OBC DECODER ADDRESS BY GND
OBCFMT	OBCROM OBCSRC	
WHEEL	MTRV TACH	MTRV=MOTOR VOLTAGE
PIT	AS2CH07 AS2CH11	MTRV;TACH
YAW	AS2CH08 AS2CH12	MTRV:TACH
ROL	AS2CH09 AS2CH13	MTRV:TACH
RED	AS2CH10 AS2CH14	MTRV;TACH
AGC	AS1CH06 AS1CH07	VHF RECEIVER 1,2 AGC
VHF	"AS1CH04" "AS1CH05"	VHF SYS 1,2 +12V (ON/OFF)
SB	AS1CH02 AS1CH03	S-BAND XMTR 1,2 +16V (ON/OFF)
SBP	SBPA1 SBPA2 SBPA3 SBPA4	S-BAND POWER AMPLIFIERS ON/OFF STATUS BITS
IRA	IRAC1#1 IRAC2#2	COMMON ELECTRONICS #1/2 ON/OFF
GYP	IRAGY1#1,IRAGY3#1, IRAGY5#1	GYROS 1,3,5 (ON/OFF) PRIME
GYR	IRAGY2#1,IRAGY4#1, IRAGY6#1	GYROS 2,4,6 (ON/OFF) REDUN
OBC	AS2CH03 AS2CH55	OBC CONVERTER #1/2 ON/OFF
UMB	OBCUB#1 OBCUB#2	UPPER MEMORY BUS 1,2 ON/OFF
LMB	OBCLB#1 OBCLB#2	LOWER MEMORY BUS 1,2 ON/OFF
EVD	EVD1 EVD10V#1 EVD2 EVP10V#2	EVD#1,EVCL#1, EVD#2,EVCL#2
WDA	AS1CH58 AS2CH00 AS2CH04 AS2CH05	WDA PS#1 10V, 5V WDA#2, 10V, 5V 10V ON/OFF 5V */.
RWV	AS2CH07 AS2CH08 AS2CH09 AS2CH10	WHEEL MTRV (ON /OFF)
PAS	PASPWR#1 PASPWR#2	PANORAMIC ATT. SENSORS ON/OFF
FSS	AS1CH59 AS1CH60	FINE SUN SENSOR #1, #2, +5V (ON/OFF)
FES	SPECTEXT	FINE ERROR SENSOR 1,2 POWER (ON/OFF)
CAM	C28V#1 C28V#2 C28V#3 C28V#4	CAMERAS ON/OFF
DMU	DATSYS1 DATSYS2	DMU ON/OFF
DEC	CMDEC1 CMDEC2 CMDCTR1 CMDCTR2	DECODER #1/#2 ON/OFF CMD COUNTER #1&2
MFC	TFRAME	MINOR FRAME COUNTER
RNG	RANGST	RANGING ON/OFF

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**********************************************************************************
TLMCMD              FMT=2A BR=200F=100% DMU=1 CC 137 142 OBC1(000C01) 015:14:19:40
DATA MUX UNIT ON     OFF    INDIRECT ADDRESS 1   13      DMU A/D GAMA          2.94
   TEMP          27.5       INDIRECT ADDRESS 2   13      DMU A/D REMAINDER  #  .00
SBAND XMITR   16.5    .0    COMPUTER FORMAT      ROM     DATAPLEXER CAL1B   #  .00
   TEMP       23.9  21.2    TELEMETRY FORMAT     2A      DATAPLEXR CAL2M    #  .00
  PWRAMP1/2   ON    OFF     CODED                0       DMU 2.5V CALIB        2.46
  PWRAMP3/4   OFF   OFF     MULTIPLEX RATIO      X'1'    DMU GND  CALIB         .00
   TEMP          29.5       S RATE               X'1'    RADIATION MON         .68
VHF SYSTEM     .0    .0     TX VAM               0       TEST INPUT DIGITAL  #=1
   TEMP       26.5  23.9     TX CLOCK             PRIM    TEST INPUT ANALOG   #=1
CMD DECODER   ON    ON       EXECUTION ADDRESS    0       BUSS V FINE SC        28.1
  RECV AGC  -119.3 -112.0    VAM WORD          161  64    BUSS V FINE MC        28.1
  CMD COUNT   137   142      VAM PARITY           NO      BUSS V COSE MC        28.0
  DATA PRES   NO    NO       OBC ADDRESS          0       BUSS CURRENT           6.5
  ADDRESSED   YES   YES      OBC COMP SYNC        YES     SA 1 CURRENT           5.7
  PARITY      YES   YES      OBC TLM SYNC         YES     SA 2 CURRENT           5.5
  +10 V        9.8   9.7     OBC CMD COUNT     0    184
  -10 V      -10.0  -9.9     OBC SRC & FMT     ROM   3B  BIT RATE              20.0
   TEMP          34.6                                   MINOR FRAME            223
                             BUFFER #OF FRAMES  32      S/C CLOCK          8688571
```

PAGE ENTRY	DATA BASE MNEM.	DESCRIPTION
DATA MUX UNIT	DATSYS1 DATSYS2	DATA SYSTEM #1 #2 ON/OFF 1=ON
TEMP	AS1CH25	DATA SYSTEM TEMP
SBAND XMITR	AS1CH02 AS1CH03	SBAND XMITR #1 #2 +16V (ON/OFF)
TEMP	AS1CH17 AS1CH18	SBAND XMITR #1 #2 TEMP
PWRAMP1/2	SBPA1 SBPA2	SBAND PWR.AMP#1#2 ON/OFF 1=ON
PWRAMP3/4	SBPA3 SBPA4	SBAND PWR.AMP#3#4 ON/OFF 1=ON
TEMP	AS3CH12	SBAND POWER AMP.TEMP
VHF SYSTEM	AS1CH04 AS1CH05	VHF SYS #1 #2 +12V (XMITR ON/OFF)
TEMP	AS1CH23 AS1CH24	VHF XMITR #1 #2 TEMP
CMD DECODER	CMDEC1 CMDEC2	COMMAND DECODER #1 #2(ON/OFF)1=ON
RECV AGC #	AS1CH06 AS1CH07	VHF REC #1 #2 AGC
CMD COUNT	CMDCTR1 CMDCTR2	COMMAND EXECUTION COUNTER #1 #2
DATA PRES	CDATA1 CDATA2	COMMAND DECODER #1 #2(DATA) 1=DP
ADDRESSED	CADD1 CADD2	COMMAND DECODER #1 #2(ADDR) 1=NA
PARITY	CPAR1 CPAR2	COMMAND DECODER #1 #2(PAR) 1=NP
+10V	AS1CH00 AS1CH35	COMMAND DECODER #1 #2 +10V
-10V	AS1CH01 AS1CH63	COMMAND DECODER #1 #2 -10V
TEMP	AS1CH16	COMMAND DECODER #1 #2 TEMP
INDIRECT ADDRESS 1	TIA1	INDIRECT ADDRESS REGISTER 1
INDIRECT ADDRESS 2	TIA2	INDIRECT ADDRESS REGISTER 2
COMPUTER FORMAT	TCFMT	COMPUTER FORMAT 0=DIR 1=NOP 2=OBCVAM 3=ROM
TELEMETRY FORMAT	TFORMAT	TELEMETRY FORMAT 0=1A,1=2A, 2=1B, 3=2B (BITS 8&9)
CODED	TBITRATE	BLOCK CODE (TDMU B10) 0=BLOCK 1=CONV
MULTIPLEX RATIO	TBITRATE	MULTIPLEX RATIO (TDMU B11-13) HEX 0—6
S RATE	TBITRATE	TRANSFER RATIO (TDMU B14-16) HEX 0-5
TX VAM	TDMU	TDMU B2 0=CYCLE TLM VAM,LD OBCVAM 1=REVSE
TX CLOCK	TDMU	TDMU B3 0=RD CLK 1=MAIN CLK
EXECUTION ADDRESS	EXUADD	EXECUTION ADDRESS GROUND TLM 128 ADDR.
VAM WORD	TVAM#1, TVAM#2	VAM WORD 0-28 ARRAY
VAM PARITY	VAMPAR	VARIABLE ADDRESS MEMORY PAR 1=ERR
OBC ADDRESS	COMADD	EXECUTION ADDRESS OBC TLM
OBC COMP SYNC	OSTAT B3	COMP SYNC 0=OUT OF SYNC 1=IN SYNC
OBC TLM SYNC	OSTAT B2	TLM SYNC 0=OUT OF SYNC 1=IN SYNC
OBC CMD COUNT	OCTR1, OCTR2	OBC TO DECODER COMMAND COUNTER 1&2
OBC SRC & FMT	OBCROM	OBC DATA SOURCE OBC FRAME1 WD4 BIT 5, 0 =3A, 1=3B
BUFFER # OF FRAMES	TLMBUFSZ	TLM BUFFER SIZE

PAGE ENTRY	DATA BASE MNEM.	DESCRIPTION
DMU A/D RAMP	DMUCAL	DMU A/D CONV CALIB RAMP
DMU A/D REMAINDER	DMUR	DMU A/D CONV REMAINDER
DATAPLEXR CALIB	CAL2P5	DATAPLEXER 2.5V CAL
DATAPLEXR .CAL2M	CAL2M	DATAPLEXER 2.5V CAL AT 2MEG
DMU 2.5V CALIB	AS1CH08	DATA SYSTEM 2.5V CAL
DMU GND CALIB	AS1CH09	SIGNAL GROUND
DMU RADIATION MON	DMURAD	DMU RADIATION MONITOR
TEST INPUT DIGITAL	DTEST	TEST INPUT
TEST INPUT ANALOG	ATEST	TEST INPUT
BUSS V FINE SC	AS1CH34	S/C +28V BUS VOLTAGE (27 to 29V)
BUSS V FINE MC	SCBUS	S/C +28V BUS VOLTAGE (27 TO 29V)
BUSS V CRSE MC	SC28V	S/C +28V BUS VOLTAGE (0 to 30V)
BUSS CURRENT	SCI	S/C SWITCHED LOAD CURRENT
SA 1 CURRENT	AS1CH39	SOLAR ARRAY #1 CURRENT
SA 2 CURRENT	AS1CH40	SOLAR ARRAY #2 CURRENT
BIT RATE	TBITRATE	DOWN-LINK TLM RATE IN KBPS
MINOR FRAME	TFRAME	TLM MINOR FRAME COUNT
S/C CLOCK	SCLOCK	S/C CLOCK 1CNT= .4096 SEC

OBCRAW - OBC RAW DATA

```
OBCRAW              FMT=2A BR=200F=104% DMU=1 CC 137 142 OBC1(000000) 015:14:19:40
                  TCFMT=  3 SYNCTR=  1   TMSYNC=  YES SH=  HOLD
 00  X'000004'   X'000020'  01  X'C20000'   X'7A7201'  02  X'89AECE'   X'891702'
 X'00000' X'00002' X'00010' X'0000E' X'0000C' X'00003'DIAGCTR X'E2'MEMYCTR X'00'
 06  X'013B52'   X'943FBD'  07  X'71EC41'   X'455B5C'  08  X'0000037'  X'000029'
 09  X'0000BE'   X'000194'  10  X'004004'   X'000004'  11  X'FFFFFF'   X'000005'
 12  X'000004'   X'FFFFFE'  13  X'FC4FFF'   X'FDFFF5'  14  X'000900'   X'03FFE5'
 15  X'FFFE00'   X'010000'  16  X'0000FF'   X'000000'  17  X'9E9090'   X'030000'
 18  X'FFF800'   X'110007'  19  X'FFFEFF'   X'F1FFE7'  20  X'E6FA00'   X'D701A0'
 21  X'000000'   X'03FC06'  22  X'57A6A3'   X'067001'  23  X'000000'   X'015D00'
 24  X'025F02'   X'5F0020'  25  X'009000'   X'500000'  26  X'003A00'   X'3A0000'
 27  X'022502'   X'250086'  28  X'EBFB1A'   X'51CD9E'  29  X'0042FF'   X'F3FFA6'
 30  X'005800'   X'580000'  31  X'FFFFFF'   X'FFFFFF'                   #1   #2
P A      .20   R    -.02   B    -.001   A      .66        V(RE)   .000 CONV  ON  OFF
Y B      .20   B    -.07   G     .000   E      .50             P   .000 CPU   ON  OFF
R       -.05          -.27          .000                      Y   .000 UPMB  ON  OFF
    ABG1       RBG1          BT              ABG        AEF     R  -.031 LOMB  ON  OFF
P   -2.24        .01           .22             .25        .18     CONVT  CPUT   0&2MT
Y    2.94       -.00           .07             .20        .32   34.0   51.2   34.6
R    1.52       -.02          -.66            -.10
```

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
TCFMT	TCFMT	TELEMETRY FORMAT
SYNCTR	SYNCTR	OBC DROP SYNC COUNTER
TMSYNC	OSTAT, BIT2	TLM SYNC STATUS OBC FR01 BIT 26
SH	OSTAT, BIT16	WORKER 0 STATUS HOLD/SLEW(FRM01, BIT 40)
OBCFR	TBD	OBC FRAME COUNT(0-31) SEE T&C BOOK PGS. 53 THRU 59
CELL (1,2,3,4,5,6)	OBCDATA1,2,3,4,5,6	DATA CONTAINED IN ADDRESSES DEFINED BY DB 13 (FRM 03,04,05)
AB(1,2,3)	AB1,AB2,AB3	OBC BODY ANGLE EST. (P,Y,R)
RB(1,2,3)	RB1,RB2,RB3	OBC BODY RATE EST.(P,Y,R)
BG(0,1,2)	BG0,BG1,BG2	OBC DATA BLOCK 10 PARAMETER
AE(1,2)	AE1, AE2	FES ANGLE FROM REF (P,Y)
V(RE),P,Y,R	WV1,WV2,WV3,WV4	WHEEL VOLTAGES 1,2,3,4
ABG1 (1,2,3)	ABG11,ABG12,ABG13	SUN ACO, SPACECRAFT ANG. POS
RBG1 (1,2,3)	RBG11,RBG12,RBG13	SUN ACO, SPACECRAFT AXIAL RATE
BT (1,2,3)	BT1,BT2,BT3	BIAS ACCELERATION ESTIMATE (P,Y,R)
ABG(1,2,3)	ABG1,ABG2,ABG3	HOLD SLEW, SPACECRAFT ANG. POSITION
AEF(1,2)	AEF1,AEF2	OBC FILTERED AE P,Y
CONV1	AS2CH03	CPU CONVERTER #1 ON/OFF
CONV2	AS2CH55	CPU CONVERTER #2 ON/OFF
CPU1	CPUPWR#1	CPU PWR#1 DSC09 0=OFF 255=ON
CPU2	CPUPWR#2	CPU PWR#2 DSC10 0=OFF 255=ON
UPMB1	OBCUB#1	UPPER MEM BUS1 0=OFF 255=ON
UPMB2	OBCUB#2	UPPER MEM BUS2 0=OFF 255=ON
LOMB1	OBCLB#1	LOWER MEM BUS1 0=OFF 255=ON
LOMB2	OBCLB#2	LOWER MEM BUS2 0=OFF 255=ON
CONV T	AS1CH26	CONV.#1/#2 TEMP
CPU T	AS1CH27	CPU #1/#2 TEMP
0&2M T	AS1CH28	MEMORY 0&2 TEMP

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**********************************************************************************
OBC                    FMT=2A BR=20QF=10Q% DMD=1 CC 137 142 OBC1(000000) 015:14:22:01
OBCDATSORC=  RCV       ---- CAM ----       ---- ACS ----      ---- SYSTEM #1   #2
OBC  TCFMT=  3         CAM SHTDWN=  NO     WKER 0 OUT=  YES      DATSYS=  ON   OFF
ROM SELECT=  3B        GT.2.CAMEX=  NO     WKER 0 MOD=  HOLD  CONV STAT=  ON   OFF
OBCTLMRATE=  X'1'      SHTRSHTDWN=  NO     SAFE  COND=  X'3'   PWR-UP V=   5.1   .0
OBC INSYNC=  ON        FES SHTDWN=  NO     T SAFE ATT=        .0 UP  MEM=  ON   OFF
TLM INSYNC=  ON        FES DISA?*=  NO     SLEWREMAIN=  0        LO  MEM=  ON   OFF
OBC  MODE=   0         FES METER =  OFF    RATETACH S=  ON     CONV TEMP=  34.0 34.0
CPU  TEST=   OFF       STARMAG VT= 286/4.0 SAFE ATT T=  OFF     CPU TEMP=  51.2 51.2
MEM CHKSUM=  OFF       LAMP ELAPT=  9144.8 SAFE  SLEW=  OFF    O&2M TEMP=  34.6 34.6
SYNC&T OUT=  OFF                           RATE ARRST=  OFF       TBITR=  20.00
MODE(1)***MODE(2)***MODE(3)***MODE(4)      2ND ACSWRK=  OFF      S/C CLK=  8688939
MB0=  1   MB1=  1   MB2=  1   MB3=  0      FAULT SW  =  OFF       MF CTR=  95
MC0=  0   MC1=  0   MC2=  0   MG3=  0      DIAGNOSTIC=  B'00'D1/D2CMDCTR  0     183
MD0=  0   MD1=  0   MD2=  0   MG2=  0      PNT SHTDWN=  OFF   OBC# SELCT=  2
ME0=  1   ME1=  1   ME2=  1   MG1=  0      BRIGHT LIT=  OFF   UPL CMDCTR=  137   142
MA =  1                       MG0=  0           DLYCTR=  0     STATION ID= VIL
MK =  B'11'                   ML =  B'11'       DLYTAG=        .0 6==>1===>5===>2=>#
MJ0=  0   MJ1=  0   MJ2=  0                 WORKER STAT=  B'11000010110000000000000000'
OBCDATA #1= X'00000'#2= X'00002'#3= X'00010'#4= X'0000E'#5= X'0000C'#6= X'00003'
```

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION		
OBC		ON-BOARD COMPUTER SYSTEM		
OBCDATSORC	OSTAT B1	OBC DATA SOURCE 0=ROM		1=DIRECT
OBC TCFMT	TCFMT	COMPUTER TLM FORMAT		0=DIRECT 1=NOP 1=OBCVAM 3=ROM
ROM SELECT	OSTAT B5	ROM SELECT	0=3A	1=3B
OBCTLMRATE	OSTAT B22-23	OBC TLM 0=40K	1=20K	2=10K 3= 5K
OBC NOSYNC	OSTAT B3	COMP SYNC	0=OUT OF SYNC 1=IN SYNC	
TLM NOSYNC	OSTAT B2	T/M SYNC	0=OUT OF SYNC 1=IN SYNC	
OBC MODE	OSTAT B13	MONITOR MODE	0=CMD	1=MONITOR
CPU TEST	ERRF6 B2	ALARM-CPU TEST-SWITCHED TO MONITOR		
MEM CHKSUM	ERRF6 B1	ALARM-MEMORY CHECKSUM-SWITCHED TO MONITOR		
SYNC&T OUT	ERRF3 B7	ALARM-OBC TIMING OUT OF SYNC		
HOLD & SLEW MODES	SHMODE 1-4	SEE T&C MANUAL FOR DETAILS		
CAM SHTDWN	ERRF2 B5	ALARM-CAMERA SHUTDOWN INITIATED		
GT.2.CAMEX	ERRF3 B8	ALARM-MORE THAN 2 CAMERAS		
SHTRSHTDWN	ERRF2 B6	ALARM-SHUTTER SHUTDOWN INITIATED		
FES SHTDWN	ERRF2 B4	ALARM-FES SHUTDOWN INITIATED		
FES DISA?*	ERRF1 B8	ALARM-FES DISABLED-LOSS OF STAR		
FES METER	OSTAT B6	EXP FES SWITCH	0=DISABLED 1=ENABLED	
STARMAG VT	BRLCT B1-16	STAR MAGNITUDE AT VIOLATION FR22 W5&6		
LAMP ELAPT	LMPTOT B1-16	TOTAL LAMP ON-TIME (MAX 480 HR) FR 23 W4&5		
ACS		ATTITUDE CONTROL SYSTEM		
WKER 0 OUT	ERRF6 B3	ALARM-WORKER 0 TIMEOUT-SWITCHED TO MONITOR		
WKER 0 MOD	OSTAT B16	WORKER 0	0=HOLD	1=SLEW FR 01
SAFE COND	OSTAT B11-12	SAFE CONDITION	0=SHUTDOWN&SLEW 1=SHUTDOWN 2=SLEW 3=NO ACTION	
T SAFE ATT	DB11TAG B1-16	TIME REMAINING AT SAFE ATTITUDE FR 17 W 5&6 (SECONDS)		
SLEWREMAIN	DB11CTR B1-8	NUMBER OF SLEWS YET TO BE EXECUTED		F16 W5

OBC - LOGIC OF SHMODE

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
RATETACH S	OSTAT B10	RATETACH SWITCH 0=ENABLE F01 1=DISABLE
SAFE ATT T	ERRF1 B2	ALARM-SAFE ATTITUDE TIME-OUT
SAFE SLEW	ERRF1 B4	ALARM-SAFE SLEW INITIATED
RATE ARRST	ERRF2 B1	ALARM-RATE ARREST-WHEEL SPEED VIOLATION
2ND ACSWRK	ERRF4 B3	ERROR-ATTEMPT TURNON 2ND ACS WORKER IN OBC
FAULT SW	OSTAT	OBC DATA FR00WD1BIT ILLEGAL BRANCH TO LOCATION 0
DIAGNOSTIC	OSTAT	OBC DATA FR01WD5BIT17-18 DIAG. MODE N=0=OFF 1=OBC T/M N=2=STOP CPU
PNT SHTDWN	ERRF1 B6	ALARM-POINTING CONSTRAINT- SHUT DOWN
BRIGHT LIT	ERRF1 B5	ALARM-BRIGHT LIGHT VIOLATED- SHUT DOWN
DLYCTR	DLYCTR B1-8	NUMBER OF COMMANDS REMAINING TO BE EXECUTED
DLYTAG	DLYTAG B1-15	TIME UNTIL NEXT CMD-SECONDS
DATSYS #1	DATSYS1	DATA SYSTEM#1 ON/OFF ON=1
#2	DATSYS2	#2 ON=1
CONV STAT #1	AS2CH03	CONVERTER #1 ON/OFF
#2	AS2CH55	#2
PWR UP#1	CPUPWR#1	CPU #1 DSC09 BIT8=0=ON 1=OFF
PWR UP #2	CPUPWR#2	CPU #2 DSC10 BIT8=0=ON 1=OFF
UP MEM #1	OBCUB#1	UPPER MEMORY BUSS#1 ON/OFF TEXT
#2	OBCUB#2	#2
LO MEM #1	OBCLB#1	LOWER MEMORY BUSS#1 ON/OFF TEXT
#2	OBCLB#2	#2
CONV TEMP #1	AS1CH26 (1/2)	CONVERTER TEMP (WITH DMU#1)
#2	AS1CH26	(WITH DMU#2)
CPU TEMP#1	AS1CH27 (1/2)	CPU TEMP (WITH DMU#1)
#2	AS1CH27	(WITH DMU#2)
M0&2 TEMP	AS1CH28	MEMORY BANKS 0&2 TEMPERATURE
TBITR	TBITRATE	TDMU BITS10-16(1.25,2.5,5.0,10, 20,40,KB/SEC)
S/C CLOCK	SCLOCK B1-24	S/C CLOCK
MF CTR	TFRAME B1-8	TLM FRAME COUNT 0-255
D1/2CMDCTR		SEE D1CMDCTR D2CMDCTR ENTRIES
D1CMDCTR	OCTR1 B1-8	OBC TO DECODER 1 COMMAND COUNTR
D2CMDCTR	OCTR2 B1-8	OBC TO DECODER 2 COMMAND COUNTR
DEC# SELECT	OSTAT B4	CMD DECODER 0=DECODER1 1=DECODER2
UPL CMDCTR	CMDCTR1 B1-8	UPLINKED CMD TO DECODER1 COUNT
	CMDCTR2 B1-8	UPLINKED CMD TO DECODER2 COUNT
STATION ID	OSTAT B7-8	STATION ID 0=XFER 1=GSFC 2=VILFRA
WORKER STAT	ONOFFW B1-24	ON/OFF FLAGS FOR WORKER ON=1
OBCDATA	OBCDATA1 B1-18 (HEXWORD 1 DEFINED BY DATA BLOCK 13	
	OBCDATA2 B23-40(HEXWORD 2	
	OBCDATA3 B1-18 (HEXWORD 3 DEFINED BY DATA BLOCK 13	
	OBCDATA4 B23-40(HEXWORD 4	
	OBCDATA5 B1-18 (HEXWORD 5	
	OBCDATA6 B23-40(HEXWORD 6	

NOTE:'ON' AND 'YES' FLAGS INDICATE A STATEALARM EXISTS. THE EXCEPTION IN ****SYSTEM #1&#2 FLAGS ONLY.

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**********************************************************************************
SISTAT          0  FMT=2A BR=20GFa10% DMU=1 CC 137 142 MSC1(000001) 015:14:22:01
    IMG# 28V **MODE**  TIME  *** STATUS *** ****** LAMPS ****** TDC   THDA  TFDC
LWP1177  OFF  OFF      0  :0                 ** ** *** *** ***   2.1   2.8  24.8
LWR3496  ON   STBY     0  :0                 ** ** *** *** ***  10.5  11.2  36.6
SWP3923  ON   STBY     0  :0                 ** ** *** *** ***   5.1   6.1  34.0
SWR1145  OFF  OFF      0  :0                 ** ** *** *** ***   5.8   5.5  23.5
PS1 PS2 MUX LP MEC   FES1    FES2    PHDC  DAC  CSL   CSS   DSPL  DSPS   SS    AP
 ON  OFF 1   1  1     OFF     ON     214.0   8  REDU  PRIM   HI    HI   OPEN  OPEN
T133= -55.0 T 92= -18.8  PM1=   -.7 PM2=  -1.3 COL=   5.1 COS=   4.8 COF=   3.4
SWP STBY SZ= 0 SCAN= 0 ILA=#=1   LSR=#=1   ISA=#=1   SSR=#=1   BETA   94 40 52.6
FPM    .10              511       0         511       0    ROLL   =0  0  2.2
      X-AL  Y-AL  MTR FOCUS  LINE   FRAME  G=1   G=2    G=3   G=4   TGT   UVC  SEC
        MA    MA    MA   MA    MA     MA     /     V      V     V     V     KV
LWP   38.8  39.2  44 14.5 -149.1 -154.2  -30   68.7   91.2  93.9   3.3  -1.4  1.7
LWR    -.3   -.5  82   -.1    -.7   -2.2 -131    1.4    .1  11.0  11.9   -.0   .0
SWP    -.0    .4  82   -.1    1.0   -4.0 -128    1.4    .1  11.0  12.0   -.0   .0
SWR   34.9  34.8  49 15.4 -147.3 -152.4  -30   73.7   96.6  97.6   3.2  -1.5  1.8
FES    X=    9.0 EX=   -10.0 MODE= PRI1      XC=9     XF =12   MODE=0     FESTE= 1
 2     Y=    4.0 EY=     2.0 TMP1=  109.1    YC=4     YF =16   TRAK=0     STP1 = NO
   STAR= YES     CT= 277      TMP2=   3.5    DL=0     THD=0    FLAP=1     STP2 = YES
```

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
LWP		
IMG#	DSYMS66 (DTLM)	IMAGE NUMBER
28V	C28V#1	28 VOLTS FOR LWP CAMERA
MODE	SPECTEXT (DTLM)	CAMERA MODE
TIME	CTIME	OPERATION TIME REMAINING
STATUS	SISTEXT (DTLM)	CAMERA STATUS
LAMPS		
T1	TTUNG1#1	TUNGSTEN FLOOD LAMP #1
T2	TTUNG2#1	TUNGSTEN FLOOD LAMP #2
FBH	TBHFID#1	BACK HOLE AND FIDUCIAL LAMP
UVF	TUVF#1	UV FLOOD LAMP
WLC	TWLC#1	WAVELENGTH CALIBRATION LAMP
TDC	ES1CH52	DEFLECTION COIL TEMP
THDA	ES1CH53	HEAD AMPLIFIER TEMP
TFDC	ES1CH54	FRAME DAC TEMP
LWR		
IMG#	DSYMS66 (DTLM)	IMAGE NUMBER
28V	C28V#2	28 VOLTS FOR LWR CAMERA
MODE	SPECTEXT (DTLM)	CAMERA MODE
TIME	CTIME	OPERATION TIME REMAINING
STATUS	SITEXT (DTLM)	CAMERA STATUS
LAMPS		
T1	TTUNG1#2	TUNGSTEN FLOOD LAMP #1
T2	TTUNG2#2	TUNGSTEN FLOOD LAMP #2
FBH	TBHFID#2	BACK HOLE AND FIDUCIAL LAMP
UVF	TUVF#2	UV FLOOD LAMP
WLC	TWLC#2	WAVELENGTH CALIBRATION LAMP
TDC	ES1CH55	DEFLECTION COIL TEMP
THDA	ES1CH56	HEAD AMPLIFIER TEMP
TFDC	ES1CH57	FRAME DAC TEMP
SWP		
IMG#	DSYMS66 (DTLM)	IMAGE NUMBER
28V	C28V#3	28 VOLTS FOR SWP CAMERA
MODE	SPECTEXT (DTLM)	CAMERA MODE
TIME	CTIME	OPERATION TIME REMAINING
STATUS	SITEXT (DTLM)	CAMERA STATUS
LAMPS		
T1	TTUNG1#3	TUNGSTEN FLOOD LAMP #1
T2	TTUNG2#3	TUNGSTEN FLOOD LAMP #2

SISTAT - SCIENTIFIC INSTRUMENT STATUS

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
FBH	TBHFID#3	BACK HOLE AND FIDUCIAL LAMP
UVF	TUVF#3	UV FLOOD LAMP
WCL	TWLC#3	WAVELENGTH CALIBRATION LAMP
TDC	ES1CH58	DEFLECTION COIL TEMP
THDA	ES1CH59	HEAD AMPLIFIER TEMP
TFDC	ES1CH60	FRAME DAC TEMP
SWR		
IMG#	DSYMS66 (DTLM)	IMAGE NUMBER
28V	C28V#4	28 VOLTS FOR SWR CAMERA
MODE	SPECTEXT (DTLM)	CAMERA MODE
TIME	CTIME	OPERATION TIME REMAINING
STATUS	SITEXT (DTLM)	CAMERA STATUS
LAMPS		
T1	TTUNG1#4	TUNGSTEN FLOOD LAMP #1
T2	TTUNG2#4	TUNGSTEN FLOOD LAMP #2
FBH	TBHFID#4	BACK HOLE AND FIDUCIAL LAMP
UVF	TUVF#4	UV FLOOD LAMP
WCL	TWLC#4	WAVELENGTH CALIBRATION LAMP
TDC	ES1CH61	DEFLECTION COIL TEMP
THDA	ES1CH62	HEAD AMPLIFIER TEMP
TFDC	ES1CH63	FRAME DAC TEMP
PS1	AS2CH56	EEA CONVERTER #1 +12V
PS2	AS2CH58	EEA CONVERTER #2 +12V
MUX	DSYMS64 (DTLM)	EXPERIMENT MULTIPLEXER
LP	DSYMS64 (DTLM)	LAMP POWER SUPPLY
MEC	DSYMS64 (DTLM)	MECHANISM CONTROL LOGIC
FES1	AS3CH14	FES #1 TEMP
FES2	AS3CH15	FES #2 TEMP
PROC	VERSION (DTLM)	PROCEDURE VERSION
DAC	DSYMS71 (DTLM)	DAC IN USE
CSL	CSTATL	LONG WAVELENGTH CAMERA SELECT STATUS RED/PRIM DSC 16, BITS 17,18
CSS	CSTATS	SHORT WAVELENGTH CAMERA SELECT STATUS RED/PRIM DSC 16, BITS 19,20
DSPL	DSTATL (DTLM)	LONG WAVELENGTH CAMERA DISPERSION STATUS HI/LO DSC 16, BITS 11,12
DSPS	DSTATS (DTLM)	SHORT WAVELENGTH CAMERA DISPERSION STATUS HI/LO DSC 16, BITS 13, 14
SS	SSCLOS	SUN SHUTTER STATUS OPEN/CLOSE SB 6&7
AP	SPECTEXT (DTLM)	APERATURE SELECT STATUS OPEN/CLOSE
T133	AS3CH24	TELE TUBE - STA.133+Z/-Z AXIS TEMP
T92	AS3CH25	TELE TUBE - STA.92+Z/-Z AXIS TEMP
PM1	AS3CH22	PRIMARY MIRROR-LOC.1 TEMP.+Y
PM2	AS3CH23	PRIMARY MIRROR-LOC.2 TEMP.-Y
CDL	AS3CH28	CAMERA DECK TEMP. NEAR LWP/LWR
CDS	AS3CH29	CAMERA DECK TEMP.NEAR SWP/SWR
CDF	AS3CH30	CAMERA DECK TEMP.NEAR FES1/TEMP ACQ.DECK
CAM#	TCAMODE	STATUS MESSAGE, CAMERA
SZ	TSTEP#1-4	STEP SIZE
SCAN	SCANBT#1-4	SCAN BIT DMC-4,10,6,12 BIT4 SCAN IN PROGRESS
ILA	TILA#1-4	STARTING LINE
LSR	TSLR#1-4	NUMBER LINES REMAINING
ISA	TISA#1-4	STARTING SAMPLE
SSR	TSSR#1-4	NUMBER SAMPLE REMAINING

SISTAT - SCIENTIFIC INSTRUMENT STATUS

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
BETA	SPECTEXT	DEG. MN. SEC (PITCH ANGLE)
FPM	AS2CH01	RADIATION MON. (VOLTS)
ILA	CMD	INITIAL LINE ADDRESS
LSR	CMD	LINE SAMPLES REMAINING
ISA	CMD	INITIAL SAMPLE ADDRESS
SSR	CMD	SAMPLES STILL REMAINING
ROLL	SPECTEXT	DEG. MN. SEC. (ROLL ANGLE)
LWP		
X-AL	ES1CH11	X-ALIGNMENT STATUS
Y-AL	ES1CH12	Y-ALIGNMENT STATUS
HTR	ES1CH05	HEATER CURRENT STATUS
FOCUS	ES1CH08	FOCUS STATUS
LINE	ES1CH08	LINE STATUS
FRM	ES1CH07	FRAME STATUS
G-1	ES1CH04	G-1 STATUS
G-2	ES1CH09	G-2 STATUS
G-3	ES1CH10	G-3 STATUS
G-4	ES1CH02	G-4 STATUS
TGT	ES1CH03	TARGET BIAS STATUS
UVC	ES1CH00	UVC EHT STATUS
SEC	ES1CH01	SEC EHT STATUS
LWR		
X-AL	ES1CH24	X-ALIGNMENT STATUS
Y-AL	ES1CH25	Y-ALIGNMENT STATUS
HTR	ES1CH18	HEATER CURRENT STATUS
FOCUS	ES1CH21	FOCUS STATUS
LINE	ES1CH19	LINE STATUS
FRM	ES1CH20	FRAME STATUS
G-1	ES1CH17	G-1 STATUS
G-2	ES1CH22	G-2 STATUS
G-3	ES1CH23	G-3 STATUS
G-4	ES1CH15	G-4 STATUS
TGT	ES1CH16	TARGET BIAS STATUS
UVC	ES1CH13	UVC EHT STATUS
SEC	ES1CH14	SEC EHT STATUS
SWP		
X-AL	ES1CH37	X-ALIGNMENT STATUS
Y-AL	ES1CH38	Y-ALIGNMENT STATUS
HTR	ES1CH31	HEATER CURRENT STATUS
FOCUS	ES1CH34	FOCUS STATUS
LINE	ES1CH32	LINE STATUS
FRM	ES1CH33	FRAME STATUS
G-1	ES1CH30	G-1 STATUS
G-2	ES1CH35	G-2 STATUS
G-3	ES1CH36	G-3 STATUS
G-4	ES1CH28	G-4 STATUS
TGT	ES1CH29	TARGET BIAS STATUS
UVC	ES1CH26	UVC FHT STATUS
SEC	ES1CH27	SEC EHT STATUS
SWR		
X-AL	ES1CH50	X-ALIGNMENT STATUS
Y-AL	ES1CH51	Y-ALIGNMENT STATUS
HTR	ES1CH44	HEATER CURRENT STATUS
FOCUS	ES1CH47	FOCUS STATUS
LINE	ES1CH45	LINE STATUS
FRM	ES1CH46	FRAME STATUS
G-1	ES1CH43	G-1 STATUS
G-2	ES1CH48	G-2 STATUS

SISTAT - SCIENTIFIC INSTRUMENT STATUS

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
G-3	ES1CH49	G-3 STATUS
G-4	ES1CH41	G-4 STATUS
TGT	ES1CH42	TARGET BIAS STATUS
UVC	ES1CH39	UVC EHT STATUS
SEC	ES1CH40	SEC EHT STATUS
FES		
X	TFESX#1 OR#2	FRAME START COORDINATE
EX	TFESEX#1 OR#2	X-STAR POSITION
MODE	TFESSM#1 OR#2	SYSTEM MODE PRIM STRK FCAM
XC	FESX	CMD-FRAME START COORDINATE OFFSET
XF	FESXF	CMD-HORIZONTAL FINE POSITIONING
MODE	FESSM	CMD-SYSTEM MODE Ø = PRIME 1 = STRK 2 = FCAM
FESTE	FESTE	CMD-TRACK ENABLE 1 OR Ø
Y	TFESY#1 OR #2	LINE START COORDINATE
EY	TFESEY#1 OR #2	Y-STAR POSITION
TMP1	AS3CH14	FES#1 TEMPERATURE
YC	FESY	CMD-LINE START COORDINATE OFFSET
YF	FESYF	CMD-VERTICAL FINE POSITIONING
TRAK	FESTSR	CMD-TRACK SCAN RATE 0 = FAST 1 = SLOW
STP1	FESSP#1	STAR PRESENCE FLAG #1
STAR	TFESSP#1 OR #2	STAR PRESENT
CT	TFESCT#1 OR #2	STAR MAGNITUDE COUNT
TMP2	AS3CH15	FES#2 TEMPERATURE
DL	FESL	CMD-FRAME AND LINE LENGTH
THD	FESTHD	CMD-THRESHOLD 0 = +11, 2=+9 2 = 9 3 = +8
FLAP	FLAP	CMD-UNDERLAP 1 = UNDERLAP 0 = OVERLAP
STP2	FESSP#2	STAR PRESENCE FLAG #2

```
FES       NO PROC   FMT=2A BR=20QFs1DQ% DMU=1 CC 137 142 JBC:(000000) 015:14:27:53
    IMG# 28V **MODE**  TIME  *** STATUS *** ****** LAMPS ****** TDC   THDA  TFDC
LWP0      OFF  OFF       =1                        ** ** *** *** ***   2.1   2.8  24.2
LWR0      ON   STBY      =1                        ** ** *** *** ***  10.5  11.2*  36.6
SWP0      ON   STBY      =1                        ** ** *** *** ***   5.1   6.1  34.0
SWR0      OFF  OFF       =1                        ** ** *** *** ***   3.3   3.5  23.5
FS1 FS2 MUX LP MEC   FES1   FES2   PROC  DAC  CSL   CSS   DSPL  DSPS   SS     AP
 ON  OFF 0   0  0     0       127   214.0   0   REDU  PRIM   HI    HI   OPEN  OPEN
T133=  23.9 T 92=    6.8 PM1=   =.7 PM2=  =1.3 CDL=   5.1 CDS=   4.8 CDF=   3.4
SWP STBY SZ= 0   AEP      .31 AEY      .00 OPCU6 3      AEFP      .43 AEFY      .11
EEA 1/2=   41.0     T133 +Z/-Z=  =55.0  T92 +Z/-Z=  =18.8   CVR +Z/-Z=   25.6
FOCUS1= 4      FOCLIM= 0   FOCMFCEX= 0       FOCMECREE 0      FOCUS2= 15

FES2   X=   9.0EX=  =12.0 MODE= 0       *XC=9     XF= 12   MODE=0      TE=1
       Y=   4.0EY=    1.0                *YC=4     YF= 16   TRAK=0
    STAR= YES  CT= 257     TEMP=    5.5 *CL=0   THD= 0    LAP =1      OSTAR= 1

FES1   X=#   .0EX=#    .0 MODE=#=1       *XC=0     XF= 0    MODE=0      TE=0
       Y=#   .0EY=#    .0                *YC=0     YF= 0    TRAK=0
    STAR=#NO   CT=#=1      TEMP=  109.1 *CL=0   THD= 0    LAP =0      OSTAR= 0
SNAP ;
```

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
LWP		
IMG#	DSYM566	IMAGE NUMBER
28V	C28V#1	28 VOLTS FOR LWP CAMERA ON/OFF
MODE	SPECTEXT	CAMERA MODE
TIME	CTIME	OPERATION TIME REMAINING
STATUS	SISTEXT	CAMERA STATUS
LAMPS		
T1	TTUNG1#1	TUNGSTEN FLOOD LAMP #1
T2	TTUNG2#1	TUNGSTEN FLOOD LAMP #2
FBH	TBHFID#1	BACK HOLE AND FIDUCIAL LAMP
UVF	TUVF#1	UV FLOOD LAMP
WLC	TWLC#1	WAVELENGTH CALIBRATION LAMP
TDC	ES1CH52	DEFLECTION COIL TEMP
THDA	ES1CH53	HEAD AMPLIFIER TEMP
TFDC	ES1CH54	FRAME DAC TEMP
LWR		
IMG#	DSYM566	IMAGE NUMBER
28V	C28V#2	28 VOLTS FOR LWR CAMERA
MODE	SPECTEXT	CAMERA MODE
TIME	CTIME	OPERATION TIME REMAINING
STATUS	SITEXT	CAMERA STATUS
LAMPS		
T1	TTUNG1#2	TUNGSTEN FLOOD LAMP #1
T2	TTUNG2#2	TUNGSTEN FLOOD LAMP #2
FBH	TBHFID#2	BACK HOLE AND FIDUCIAL LAMP
UVF	TUVF#2	UV FLOOD LAMP
WLC	TWLC#2	WAVELENGTH CALIBRATION LAMP
TDC	ES1CH55	DEFLECTION COIL TEMP
THDA	ES1CH56	HEAD AMPLIFIER TEMP
TFDC	ES1CH57	FRAME DAC TEMP
SWP		
IMG#	DSYMS66	IMAGE NUMBER
28V	C28V#3	28 VOLTS FOR SWP CAMERA
MODE	SPECTEXT	CAMERA MODE
TIME	CTIME	OPERATION TIME REMAINING
STATUS	SITEXT	CAMERA STATUS

FES - FINE ERROR SENSOR

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
LAMPS		
T1	TTUNG1#3	TUNGSTEN FLOOD LAMP #1
T2	TTUNG2#3	TUNGSTEN FLOOD LAMP #2
FBH	TBHFID#3	BACK HOLE AND FIDUCIAL LAMP
UVF	TUVF#3	UV FLOOD LAMP
WLC	TWLC#3	WAVELENGTH CALIBRATION LAMP
TDC	ES1CH58	DEFLECTION COIL TEMP
THDA	ES1CH59	HEAD AMPLIFIER TEMP
TFDC	ES1CH60	FRAME DAC TEMP
SWR		
IMG#	DSYM566	IMAGE NUMBER
28V	C28V#4	28 VOLTS FOR SWR CAMERA
MODE	SPECTEXT	CAMERA MODE
TIME	CTIME	OPERATION TIME REMAINING
STATUS	SITEXT	CAMERA STATUS
LAMPS		
T1	TTUNG1#4	TUNGSTEN FLOOD LAMP #1
T2	TTUNG2#4	TUNGSTEN FLOOD LAMP #2
FBH	TBHFID#4	BACK HOLE AND FIDUCIAL LAMP
UVF	TUVF#4	UV FLOOD LAMP
WLC	TWLC#4	WAVELENGTH CALIBRATION LAMP
TDC	ES1CH61	DEFLECTION COIL TEMP
THDA	ES1CH62	HEAD AMPLIFIER TEMP
TFDC	ES1CH63	FRAME DAC TEMP
PS1	AS2CH56	EEA CONVERTER #1 +12V
PS2	AS2CH58	EEA CONVERTER #2 +12V
MUX	DSYMS64	EXPERIMENT MULTIPLEXER
LF	DSYMS64	LAMP POWER SUPPLY
MEC	DSYMS64	MECHANISM CONTROL LOGIC
FES1	AS3CH14	FES #1 TEMP
FES2	AS3CH15	FES #2 TEMP
PROC	VERSION	PROCEDURE VERSION
DAC	DSYMS71	DAC IN USE
CSL	SPECTEXT	LONG WAVELENGTH CAMERA SELECT STATUS
CSS	SPECTEXT	SHORT WAVELENGTH CAMERA SELECT STATUS
DSPL	SPECTEXT	LONG WAVELENGTH CAMERA DISPERSION STATUS
DSPS	SPECTEXT	SHORT WAVELENGTH CAMERA DISPERSION STATUS
SS	SSCLOS	SUN SHUTTER STATUS
AP	SPECTEXT	APERATURE SELECT STATUS
SM-M	AS3CH20	SECONDARY MIRROR TEMP.-MIRROR
SM-FD	AS3CH21	SECONDARY MIRROR TEMP.-FOCUS DRIVE
PM1	AS3CH22	PRIMARY MIRROR-LOC.1 TEMP.+Y
PM2	AS3CH23	PRIMARY MIRROR-LOC.2 TEMP.-Y
CDL	AS3CH28	CAMERA DECK TEMP. NEAR LWP/LWR
CDS	AS3CH29	CAMERA DECK TEMP. NEAR SWP/SWR
CDF	AS3CH30	CAMERA DECK TEMP. NEAR FES1/TEMP ACQ.DECK
SWP STBY	DSYMS71	STATUS MESSAGE
SZ	TSTEP#1—4	STEP SIZE
AEP	AE1	FES ANGLE(P)(EX) OBC FRAME 8
AEY	AE2	FES ANGLE(Y)(EY) OBC FRAME 8
OBCD6	OBCDATA6	OBC FRAME 5 ADDRESS DEFINED BY DB 13
AEFP	AEF1	FILTERED AE(P) OBC FRAME 9
AEFY	AEF2	FILTERED AE(Y) OBC FRAME 9
SSR	TSSR#1-4	NUMBER SAMPLE
FOCUS1	FOCUS1	FOCUS DRIVE 1 POSITION 1=HIGH/OFF 0=LOW
	FOCS1A#1	FOCUS DRIVE 1A-1 BIT 1
	FOCS2A#1	FOCUS DRIVE 2A-1 BIT 2
	FOCS1B#1	FOCUS DRIVE 1B-1 BIT 3
	FOCS2B#1	FOCUS DRIVE 2B-1 BIT 4

FES - FINE ERROR SENSOR

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
FOCUS 2	FOCUS 2	FOCUS DRIVE 2 POSITION 1=HIGH/OFF 0=LOW
	FOCS1A#2	FOCUS DRIVE 1A-2
	FOCS2A#2	FOCUS DRIVE 2A-2
	FOCS1B#2	FOCUS DRIVE 1B-2
	FOCS2B#2	FOCUS DRIVE 2B-2
FOCLIM	FOCLIM	FOCAL LIMITS
FOCMECEX	AS1CH62	FOCUS MECH POS - EXTEND
FOCMECRE	AS1CH63	FOCUS MECH POS + RETRACT
FES2		
X	TFESX#2	FRAME START COORDINATE
Y	TFESY#2	LINE START COORDINATE
STAR	TFESSP#2	STAR PRESENCE FLAG 0=NO 1=YES
EX	TFESEX#2	X-STAR POSITION
EY	TFESEY#2	Y-STAR POSITION
MAG	TFESCT#2	STAR MAGNITUDE COUNT
MODE	TFESSM#2	SYSTEM MODE 0=PRIMARY 1=SEARCH & TRACK 2=FIELD CAMERA
TEMP	AS3CH15	FES2 TEMP
*XC	FESX	CMD FRAME START COORDINATE COURSE OFFSET
*YC	FESY	CMD LINE START COORDINATE COURSE OFFSET
*DL	FESL	CMD FRAME AND LINE LENGTH
XF	FESXF	CMD HORIZ FINE POSITIONING FRAME
YF	FESYF	CMD VERT FINE POSITIONING FRAME
THD	FESTHD	CMD FES THRESHOLD 0=11,1=10,2=9,3=8
MODE	FESSM	CMD SYS MODE 0=PRIMARY 1=SEARCH AND TRACK 2=FIELD CAMERA
TRAK	FESTSR	CMD TRACK SCAN RATE 0=FAST, 1=SLOW
LAP	FLAP	CMD FES LAP 0=OVERLAP, 1=UNDERLAP
TE	FESTE	CMD TRACK ENABLE 0=MAP ONLY 1=MAP & TRACK
DSTAR	FESSP#2	DIGITAL STAR PRESENCE DS1CH15
FES1		
X	TFESX#1	FRAME START COORDINATE
Y	TFESY#1	LINE START COORDINATE
STAR	TFESSP#1	STAR PRESENCE FLAG 0=NO 1=YES
EX	TFESEX#1	X-STAR POSITION
EY	TFESEY#1	Y-STAR POSITION
MAG	TFESCT#1	STAR MAGNITUDE COUNT
MODE	TFESSM#1	SYSTEM MODE 0=PRIMARY 1=SEARCH & TRACK 2=FIELD CAMERA
TEMP	AS3CH14	FES1 TEMP
*XC	FESX	CMD FRAME START COORDINATE COURSE OFFSET
*YC	FESY	CMD LINE START COORDINATE COURSE OFFSET
*DL	FESL	CMD FRAME AND LINE LENGTH
XF	FESXF	CMD HORIZ FINE POSITIONING FRAME
YF	FESYF	CMD VERT FINE POSITIONING FRAME
THD	FESTHD	CMD FES THRESHOLD 0=11,1=10,2=9,3=8
TRAK	FESTSR	CMD TRACK SCAN RATE 0=FAST, 1=SLOW
LAP	FLAP	CMD FES LAP 0=OVERLAP, 1=UNDERLAP
MODE	FESSM	CMD SYS MODE 0=PRIMARY 1=SEARCH AND TRACK 2=FIELD CAMERA
TE	FESTSR	CMD TRACK SCAN RATE 0=FAST 1=SLOW
DSTAR	FESSP#1	FES STAR PRESENCE 1=YES

SYSTEMP - SYSTEM TEMPERATURES

```
SYSTEMP                FMT=2A BR=20QF=10% DMU=1 CC 137 1+2 OBC1(000001) 015:14:16:18
  BAT1   21.6  DEC1   34.6  MDA1   36.9  SISM   23.9  BED1  171.8  CHC1    2.1
  BAT2   13.5  OBC1   34.0  PTDR   37.4  SMFD    6.8  BED2   30.8  CHA1    2.8
  PWR1   +6.2  PR 1   51.2  YACR   37.4  PM+Y    +.7  BED3  146.5  FDC1   24.8
  PWR2   48.1  MEMO   35.2  PTMR   24.3  PM-Y   +1.J  BED4  142.9  CHC2   10.5
  MAM    +3.5  VHF1   26.5  YAMR   29.6  133+  -55.0  BED5   41.7  CHA2   11.2
  SA 1 -247.9  VHF2   23.9  EVD1   19.8   92 +  -16.6  BED6  139.2  FDC2   36.6
  SA 2   96.8  EEA1   41.0  FSS1   27.0  DKLP    5.1  BED7  146.5  CHC3    4.8
  SA 3  107.1  FES1  109.1  PAS1    9.1  DKSP    4.8  BED8   74.2  CHA3    6.1
  SA 4  -23.7  FES2    5.5  PAS2   -2.4  DKF1    3.4  BED9  168.2  FDC3   34.0
  SA 5   48.3  IRAS   40.2  TNKB   59.2  UVF    25.6  BD10   52.5  CHC4    5.8
  SA 6  107.1  IRA1   36.6  TNKG   36.6  REM-   41.8  BD11   56.1  CHA4    5.8
  SA 7   56.8  GYR1   61.0  TNKD   39.5  STR-   39.4  BD12   56.1  FDC4   23.5
  SA 8   48.3  GYR2   56.2  -ZLN   28.0  EV 6   33.4
  DMU    27.0  GYR3   56.6  +ZLN   59.6  EV10   58.3  TANK PRESS
  SB 1   23.9  GYR4   56.6  O LN   31.1  EV 7   43.5    C&G  215.1
  SB 2   21.2  GYR5   57.0  1&3M   39.5  EV 2   41.0    B&F  302.7  BETA   94 40
  SBPA   29.5  GYR6   55.9  A&M    28.2  EV 1   51.2    D&H  301.6  ROLL   +0  0
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PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
BAT1	AS1CH29	BATTERY 1 TEMP
BAT2	AS1CH30	BATTERY 2 TEMP
PWR1	AS1CH21	POWER MODULE 1 TEMP
PWR2	AS1CH22	POWER MODULE 2 TEMP
MAM	AS1CH31	MISSION ADAPTER MODULE
SA 1	TSA#1	SOLAR ARRAY 1 TEMP 1
SA 2	TSA#2	SOLAR ARRAY 2 TEMP 1
SA 3	TSA#3	SOLAR ARRAY 3 TEMP 1
SA 4	TSA#4	SOLAR ARRAY 4 TEMP 1
SA 5	TSA#5	SOLAR ARRAY 5 TEMP 1
SA 6	TSA#6	SOLAR ARRAY 6 TEMP 1
SA 7	TSA#7	SOLAR ARRAY 7 TEMP 1
SA 8	TSA#8	SOLAR ARRAY 8 TEMP 1
DMU	AS1CH25	DATA SYSTEM TEMP
SB 1	AS1CH17	S-BAND XMITTER 1 TEMP
SB 2	AS1CH18	S-BAND XMITTER 2 TEMP
SBPA	AS3CH12	S-BAND POWER AMP TEMP
DEC1	AS1CH16	COMMAND DECODER 1 TEMP
OBC1	AS1CH26	OBC CONVERTER 1 TEMP
PR 1	AS1CH27	OBC PROCESSOR 1 TEMP
MEM0	AS1CH28	OBC MEMORY 0 TEMP
VHF1	AS1CH23	VHF XMITTER 1 TEMP
VHF2	AS1CH24	VHF XMITTER 2 TEMP
EEA1	AS2CH31	EXPERIMENT ELECTRONICS 1 TEMP
FES1	AS3CH14	FINE ERROR SENSOR 1 TEMP
FES2	AS3CH15	FINE ERROR SENSOR 2 TEMP
IRAS	AS2CH30	IRA SENSOR TEMP
IRA1	AS1CH19	IRA ELECTRONICS TEMP
GYR1	AS2CH44	GYRO 1 TEMP
GYR2	AS2CH46	GYRO 2 TEMP
GYR3	AS2CH48	GYRO 3 TEMP
GYR4	AS2CH50	GYRO 4 TEMP
GYR5	AS2CH52	GYRO 5 TEMP
GYR6	AS2CH54	GYRO 6 TEMP

SYSTEMP - SYSTEM TEMPERATURES

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
WDA1	AS2CH06	WHEEL DRIVER ASSEMBLY POWER SUP 1 TEMP
PTDR	AS2CH15	PITCH DRIVER TEMP
YADR	AS2CH32	YAW DRIVER TEMP
PTWH	AS3CH16	PITCH WHEEL TEMP
YAWH	AS3CH17	YAW WHEEL TEMP
EVD1	AS1CH20	ENGINE VALVE DRIVER 1 TEMP
FSS1	AS3CH18	FINE (DIGITAL) SUN SENSOR TEMP
PAS1	AS3CH26	PAS1 TEMP
PAS2	AS3CH27	PAS2 TEMP
TNKB	AS2CH16	HYDRAZINE TANK B TEMP
TNKG	AS2CH17	HYDRAZINE TANK G TEMP
TNKD	AS2CH18	HYDRAZINE TANK D TEMP
-ZLN	AS2CH19	HYDRAZINE -Z LINE TEMP
+ZLN	AS2CH21	HYDRAZINE +Z LINE TEMP
D LN	AS2CH24	HYDRAZINE LINE D TEMP
1&3M	AS2CH23	HYDRAZINE 1&3 MOUNT TEMP
ABM	AS3CH19	APOGEE BOOST MOTOR TEMP
SISM	AS3CH20	SI SECONDARY MIRROR TEMP
SMFD	AS3CH21	SI SECONDARY FOCUS DRIVE TEMP
PM+Y	AS3CH22	SI PRIMARY MIRROR +Y TEMP
PM-Y	AS3CH23	SI PRIMARY MIRROR -Y TEMP
133+	AS3CH24	TELESCOPE TUBE STA 133 +Z TEMP
92 +	AS3CH25	TELESCOPE TUBE STA 92 +Z TEMP
DKLP	AS3CH28	CAMERA DECK NEAR LONGWAVE PRIME TEMP
DKSP	AS3CH29	CAMERA DECK NEAR SHORTWAVE PRIME TEMP
DKF1	AS3CH30	CAMERA DECK NEAR FES1 TEMP
UVF	AS3CH31	UV CAL LAMP TEMP
REM+	AS2CH28	REACTION ENGINE MODULE +Y TEMP
STR-	AS2CH29	REACTION ENGINE MODULE STRUT -Y TEMP
EV 6	AS2CH20	ENGINE VALVE 6 TEMP
EV10	AS2CH22	ENGINE VALVE 10 TEMP
EV 7	AS2CH25	ENGINE VAVLE 7 TEMP
EV 2	AS2CH26	ENGINE VALVE 2 TEMP
EV 1	AS2CH27	ENGINE VALVE 1 TEMP
BED1	AS1CH45	CATALYST BED 1 TEMP
BED2	AS1CH46	CATALYST BED 2 TEMP
BED3	AS1CH47	CATALYST BED 3 TEMP
BED4	AS1CH48	CATALYST BED 4 TEMP
BED5	AS1CH49	CATALYST BED 5 TEMP
BED6	AS1CH50	CATALYST BED 6 TEMP
BED7	AS1CH51	CATALYST BED 7 TEMP
BED8	AS1CH52	CATALYST BED 8 TEMP
BED9	AS1CH53	CATALYST BED 9 TEMP
BD10	AS1CH54	CATALYST BED 10 TEMP
BD11	AS1CH55	CATALYST BED 11 TEMP
BD12	AS1CH56	CATALYST BED 12 TEMP
CHC1	ES1CH52	CAM 1 HEAD COIL TEMP
CHA1	ES1CH53	CAM 1 HEAD AMP TEMP
FDC1	ES1CH54	CAM 1 FRAME DAC TEMP
CHC2	ES1CH55	CAM 2 HEAD COIL TEMP
CHA2	ES1CH56	CAM 2 HEAD AMP TEMP
FDC2	ES1CH57	CAM 2 FRAME DAC TEMP
CHC3	ES1CH58	CAM 3 HEAD COIL TEMP
CHA3	ES1CH59	CAM 3 HEAD AMP TEMP
FDC3	ES1CH60	CAM 3 FRAME DAC TEMP
CHC4	ES1CH61	CAM 4 HEAD COIL TEMP
CHA4	ES1CH62	CAM 4 HEAD AMP TEMP
FDC4	ES1CH63	CAM 4 FRAME DAC TEMP

SYSTEMP - SYSTEM TEMPERATURES

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
TANK PRESS		
C&G	AS1CH42	TANK PRESSURE
B&F	AS1CH43	TANK PRESSURE
D&H	AS1CH44	TANK PRESSURE
BETA	DFUPDTXT	DEG. MIN.
ROLL		DEG. MIN.

AMC/ASC3 - ANALOG MAIN COM & ANALOG SUBCOM 3 (ENGINEERING VAL)

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**********************************************************************************************
AMC                    FMT=2A BR=200F=10)% DMU=1 CC 137 142 BBC1(000CC0) 015:14:26:37
CH  MIN  MAX  VALUE   CH MIN  MAX  VALUE   CH MIN  MAX  VALUE   CH MIN  MAX  VALUE
00  0    255  80      08 0    255 #-1      16 55   195  137     24 255  0    #-1
01  2    250  154     09 0    255 #-1      17 255  0    #-1     25 255  0    #-1
02  0    255 #-1      10 0    255 #-1      18 0    250 #-1     26 30   222 #-1
03  0    255  238     11 228  238  238     19 255  0    #-1     27 255  0    #-1
04  0    255 #-1      12 0    255 #-1      20 255  0    #-1     28 0    250 #-1
05  0    255  185     13 0    255 #-1      21 255  0    #-1     29 255  0    #-1
06  0    255 #-1      14 0    255 #-1      22 0    255  -57     30 0    255  ***
07  0    255 #-1      15 255  0   #-1      23 0    255  0       31 0    255  128
ASC3
CH  MIN  MAX  VALUE   CH MIN  MAX  VALUE   CH MIN  MAX  VALUE   CH MIN  MAX  VALUE
00  255  0    ***     08 255  0    ***     16 173  40   78      24 100  76   78
01  255  0    0       09 255  0    ***     17 173  40   70      25 211  89   201
02  255  0    ***     10 255  0    ***     18 219  26   67      26 188  40   122
03  255  0    0       11 255  0    ***     19 249  14   72      27 188  40   145
04  255  0    ***     12 173  35   62      20 143  60   74      28 143  99   128
05  255  0    0       13 0    255  140     21 188  61   123     29 143  99   129
06  255  0    ***     14 173  70   0       22 157  85   145     30 143  99   133
07  255  0    ***     15 173  70   127     23 157  85   147     31 205  36   70
```

LIMITS AND VALUES IN RAW TELEMETRY.

CONVERSION FROM RAW TLM TO ENG VALUE X=RAW TLM X.02 IN VOLTS.

SEE APPENDIX B STARTING PAGE 82 OF T&C BOOK FOR CONVERSION FORMULA.

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
AMC - ANALOG MAIN COM		
0	ASUB1	SUB COM NO. 1 (64)
1	SCI	S/C SWITCHED LOAD CURRENT
2	ATEST	TEST INPUT
3	DMURAD	DMU RADIATION MONITOR
4	SPECV1	SPECTROGRAPH CAMERA NO. 1 VIDEO (LONG WAVE LENGTH PRIME)
5	DMUCAL	DMU-A/D CONVERTER CAL. (RAMP)
6	SPECV3	SPECTROGRAPH CAMERA NO. 3 VIDEO (SHORT WAVE LENGTH PRIME)
7	DMUR	DMU A/D CONVERSION REMAINDER
8	ASUB2	SUB COM NO.2 (64)
9	CAL2P5	DATAPLEXER 2.5V CAL
10	SPECV2	SPECTROGRAPH CAMERA NO. 2 VIDEO (LONG WAVE LENGTH REDUNDANT)
11	SC28V	S/C +28V BUS VOLTAGE (0 TO 30V)
12	SPECV4	SPECTROGRAPH CAMERA NO.4 VIDEO (SHORT WAVE LENGTH REDUNDANT)
13	CAL2M	DATAPLEXER 2.5V CAL AT 2 MEG
14	ASUB3	SUBCOM NO.3 (32)
15	PITCHCM	PITCH WHEEL CMD.(C&M)
16	SCBUS	S/C +28V BUS VOLTAGE (27 to 29V)
17	YAWCM	YAW WHEEL CMD.(C&M)
18	ACCELA	ACCELEROMETER A
19	TRRAT1	ROLL RATE 1
20	TPRAT1	PITCH RATE 1
21	TYRAT1	RAW RATE 1
22	EMUX 1	EXPERIMENT ANALOG MUX 1

AMC/ASC3 - ANALOG MAIN COM & ANALOG SUBCOM 3 (ENGINEERING VAL)

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
AMC - ANALOG MAIN COM		
23	CSSPE	CSS PITCH ERROR (C&M)
24	TRRAT2	ROLL RATE 2
25	ROLLCM	ROLL WHEEL CMD.(C&M)
26	ACCELVL	COMPENSATED ACCELERATION LEVEL
27	TPRAT2	PITCH RATE 2
28	ACCELB	ACCELEROMETER B
29	TYRAT2	YAW RATE 2
30	EMUX2	EXPERIMENT ANALOG MUX 2
31	CSSRE	CSS ROLL ERROR (C&M)
ASC3 - ANALOG SUBCOM 3		
0	AS3CH0	IRA PITCH RATE NO.1
1	AS3CH1	IRA PITCH RATE NO.2
2	AS3CH2	IRA YAW RATE NO.1
3	AS3CH3	IRA YAW RATE NO.2
4	AS3CH4	IRA ROLL RATE NO.1
5	AS3CH5	IRA ROLL RATE NO.2
6	AS3CH6	GYRO NO.1 RATE
7	AS3CH7	GYRO NO.2 RATE
8	AS3CH8	GYRO NO.3 RATE
9	AS3CH9	GYRO NO.4 RATE
10	AS3CH10	GYRO NO.5 RATE
11	AS3CH11	GYRO NO.6 RATE
12	AS3CH12	S-BAND POWER AMP.TEMP.
13	AS3CH13	FINE SUN SENSOR NO.2 ATA
14	AS3CH14	FINE ERROR SENSOR NO.1 TEMP
15	AS3CH15	FINE ERROR SENSOR NO.2 TEMP.
16	AS3CH16	**PITCH WHEEL/ROLL WHEEL TEMP.
17	AS3CH17	**YAW WHEEL/RED WHEEL TEMP.
18	AS3CH18	**FINE SUN SENSOR 1/SPIN MODE SUN SENSOR TEMP.
19	AS3CH19	APOGEE BOOST MOTOR TEMP.
20	AS3CH20	SI SECONDARY MIRROR TEMP.-MIRROR
21	AS3CH21	SI SECONDARY MIRROR TEMP.-FOCUS DRIVE
22	AS3CH22	SI PRIMARY MIRROR -LOCATION 1 TEMP.+Y
23	AS3CH23	SI PRIMARY MIRROR -LOCATION 2 TEMP.-Y
24	AS3CH24	**TELESCOPE TUBE -STA.133,+Z/-Z AXIS TEMP.
25	AS3CH25	**TELESCOPE TUBE -STA.92,+Z/-Z AXIS TEMP.
26	AS3CH26	PAS SENSOR 1 TEMP.
27	AS3CH27	PAS SENSOR 2 TEMP.
28	AS3CH28	**TEMP.CAMERA DECK (NEAR LONGWAVE PRIME/ NEAR LONGWAVE RED)
29	AS3CH29	**TEMP.CAMERA DECK (NEAR SHORTWAVE PRIME/ NEAR SHORTWAVE RED)
30	AS3CH30	**TEMP.CAMERA DECK (NEAR FES 1/TEMP ACQUISITION DECK)
31	AS3CH31	**SPECTROGRAPH COVER TEMP AT STRONG UV CAL LAMP TEMP

**MMM/FFF
MMM=READOUT FROM DATA SYSTEM NO.1
FFF=READOUT FROM DATA SYSTEM NO.2

ALL ASC3 TELEMETRY IS KNOWN TO CCIL AS AS3CHXX WHERE XX=CHANNEL
ALL ASC3 TELEMETRY IS KNOWN TO PCL AS ASUB3(XX) OR AS3C(XX).

ASC1 - ANALOG SUBCOM 1 (ENGINEERING VALUES)

```
**********************************************************************************************
ASC1                    FMT=2A BR=200F=100% DMU=1 CC 137 142 SBC1(000000) 015:14:26:37
CH  MIN  MAX  VALUE   CH MIN  MAX  VALUE   CH MIN  MAX  VALUE   CH MIN  MAX  VALUE
00  238  255  244     16 173  35   53      32 0    50   0       48 0    255  42
01  238  255  249     17 173  35   74      33 40   130  60      49 0    255  14
02  192  217  204     18 173  35   81      34 55   195  137     50 0    255  41
03  185  209  0       19 157  35   50      35 238  255  243     51 0    255  43
04  197  231  0       20 143  40   110     36 0    125  5       52 0    255  23
05  190  224  0       21 173  30   38      37 1    50   23      53 0    255  49
06  183  120  208     22 173  30   36      38 1    50   26      54 0    255  17
07  250  108  150     23 173  35   68      39 0    255  143     55 0    255  18
08  0    255  123     24 173  35   74      40 0    255  138     56 0    255  18
09  0    255  0       25 173  26   66      41 173  201  #-1    57 0    255  0
10  193  209  198     26 173  26   54      42 0    131  -92     58 160  173  165
11  0    75   14      27 173  32   33      43 0    131  ***     59 167  180  172
12  0    50   0       28 173  26   52      44 0    131  ***     60 167  180  171
13  40   130  58      29 140  70   80      45 0    255  50      61 0    255  0
14  193  209  200     30 140  70   103     46 0    255  11      62 255  0    0
15  0    75   12      31 173  30   41      47 0    255  43      63 0    255  0
```

LIMITS AND VALUE IN RAW TELEMETRY.

CONVERSION FROM RAW TLM TO ENG. VALUE X=RAW TLM X.02 IN VOLTS.

SEE APPENDIX B STARTING PAGE 82 OF T&C BOOK FOR CONVERSION FORMULA.

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
0	AS1CH0	CMD DECODER #1 +10V
1	AS1CH1	CMD DECODER #1 -10V
2	AS1CH2	S-BAND XMTR #1 +16V (ON/OFF)
3	AS1CH3	S-BAND XMTR #2 +16V (ON/OFF)
4	AS1CH4	VHF SYS #1 +12V (XMTR ON/OFF)
5	AS1CH5	VHF SYS #2 +12 (XMTR ON/OFF)
6	AS1CH6	VHF REC #1 AGC
7	AS1CH7	VHF REC #2 AGC
8	AS1CH8	DATA SYSTEM 2.5V CALIBRATE
9	AS1CH9	SIGNAL GROUND
10	AS1CH10	BATTERY #1 VOLTAGE
11	AS1CH11	BATTERY #1 CHARGE CURRENT
12	AS1CH12	BATTERY #1 DISCHARGE CURRENT
13	AS1CH13	BATTERY #1 3RD ELECTRODE VOLTS
14	AS1CH14	BATTERY #2 VOLTAGE
15	AS1CH15	BATTERY #2 CHARGE CURRENT
16	AS1CH16	**CMD DECODER #1/2 TEMP
17	AS1CH17	S-BAND XMTR #1 TEMP
18	AS1CH18	S-BAND XMTR #2 TEMP
19	AS1CH19	**IRA COMMON ELECTRONICS TEMP
20	AS1CH20	**E/V DRIVER #1/2 TEMP
21	AS1CH21	POWER MODULE #1 TEMP
22	AS1CH22	POWER MODULE #2 TEMP
23	AS1CH23	VHF XMTR #1 TEMP
24	AS1CH24	VHF XMTR #2 TEMP
25	AS1CH25	DATA SYSTEM TEMP
26	AS1CH26	**OBC CONVERTER #1/2 TEMP
27	AS1CH27	**OBC PROCESSOR #1/2 TEMP

ASC1 - ANALOG SUBCOM 1 (ENGINEERING VALUES)

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
28	AS1CH28	**OBC MEMORY #0/2 TEMP
29	AS1CH29	BATTERY #1 TEMP
30	AS1CH30	BATTERY #2 TEMP
31	AS1CH31	MISSION ADAPTER MODULE TEMP
32	AS1CH32	BATTERY #2 DISCHARGE CURRENT
33	AS1CH33	BATTERY #2 3RD ELECTRODE VOLTS
34	AS1CH34	+28V BUSS VOLTAGE (27-29V)
35	AS1CH35	CMD DECODER #2 +10V
36	AS1CH36	ESSENTIAL LOAD CURRENT
37	AS1CH37	DUMP #2 CURRENT
38	AS1CH38	DUMP #1 CURRENT
39	AS1CH39	SOLAR ARRAY #1 CURRENT
40	AS1CH40	SOLAR ARRAY #2 CURRENT
41	AS1CH41	***SOLAR ARRAY TEMP (COMUTATED)
42	AS1CH42	HYDRAZINE PRESSURE TANKS C & G
43	AS1CH43	HYDRAZINE PRESSURE TANKS B & F
44	AS1CH44	HYDRAZINE PRESSURE TANKS D & H
45	AS1CH45	HYDRAZINE CAT BED #1 TEMP
46	AS1CH46	HYDRAZINE CAT BED #2 TEMP
47	AS1CH47	HYDRAZINE CAT BED #3 TEMP
48	AS1CH48	HYDRAZINE CAT BED #4 TEMP
49	AS1CH49	HYDRAZINE CAT BED #5 TEMP
50	AS1CH50	HYDRAZINE CAT BED #6 TEMP
51	AS1CH51	HYDRAZINE CAT BED #7 TEMP
52	AS1CH52	HYDRAZINE CAT BED #8 TEMP
53	AS1CH53	HYDRAZINE CAT BED #9 TEMP
54	AS1CH54	HYDRAZINE CAT BED #10 TEMP
55	AS1CH55	HYDRAZINE CAT BED #11 TEMP
56	AS1CH56	HYDRAZINE CAT BED #12 TEMP
57	AS1CH57	FINE SUN SENSOR NO.1 ATA
58	AS1CH58	WDA PS #1 +5V (ON/OFF)
59	AS1CH59	FINE SUN SENSOR #1 +5V (ON/OFF)
60	AS1CH60	FINE SUN SENSOR #2 +5V (ON/OFF)
61	AS1CH61	SI CAL PS#1 HV CURRENT MONITOR
62	AS1CH62	FOCUS MECH.POSITION -(EXTEND)
63	AS1CH63	FOCUS MECH.POSITION +(RETRACT)

**=MMM/FFF
MMM=READOUT FROM DATA SYSTEM #1
FFF=READOUT FROM DATA SYSTEM #2

*** SOLAR ARRAY TEMPERATURES ARE SUB COMMUTATED AND STORED IN TSA(1)-TSA(8). ORDER MARKED BY GND FOLLOWED 0-30V BUS VOLTS THEN & SOLAR ARRAY TEMPS.
ALL OTHER ASC1 TELEMETRY IS AVAILABLE TO CCIL AS AS1CHXX WHERE XX=CHANNEL.
ALL OTHER ASC1 TELEMETRY IS AVAILABLE TO PCL AS ASUB1(XX) OR AS1C(XX).

ASC2 - ANALOG SUBCOM 2 (ENGINEERING VALUES)

```
**********************************************************************************************
ASC2                    FMT=2A BR=20GF=100% DMU=1 CC 137 142 OBC:(00000) 015:14:26:37
CH  MIN  MAX  VALUE  CH MIN  MAX  VALUE  CH MIN  MAX  VALUE  CH MIN  MAX  VALUE
00  164  183  172    16 114  30   34     32 196  46   58     48 145  150  148
01  2    180  6      17 110  30   50     33 0    255  113    49 29   33   31
02  0    255  0      18 110  30   60     34 0    255  114    50 146  151  150
03  0    255  255    19 114  30   65     35 255  0    123    51 28   33   30
04  160  173  0      20 107  30   53     36 255  0    33     52 148  152  150
05  164  183  4      21 114  30   26     37 255  0    123    53 29   33   32
06  196  46   59     22 107  26   27     38 255  0    26     54 145  150  147
07  255  0    174    23 114  30   60     39 255  0    126    55 0    255  1
08  255  0    188    24 114  30   58     40 255  0    36     56 166  196  184
09  255  0    184    25 107  30   41     41 255  0    123    57 219  236  225
10  255  0    0      26 107  30   44     42 255  0    22     58 166  196  0
11  255  15   193    27 107  30   33     43 35   38   37     59 219  236  0
12  255  15   187    28 107  30   43     44 152  156  160    60 214  238  224
13  255  15   210    29 107  30   46     45 28   32   30     61 207  254  244
14  255  15   4      30 98   43   45     46 144  148  147    62 215  237  224
15  196  46   58     31 173  35   44     47 30   33   32     63 238  255  247
```

LIMITS AND VALUE IN RAW TELEMETRY

CONVERSION FROM RAW TLM TO ENG VALUE X=RAW TLM X.02 VOLTS

SEE APPENDIX B STARTING PAGE 82 OF T&C BOOK FOR CONVERSION FORMULA

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
0	AS2CH0	WDA P.S. #1 +10V (ON/OFF)
1	AS2CH1	SPIN MODE SUNSENSOR+5V(ON/OFF)
2	AS2CH2	SI CAL P.S.#2HV CURRENTMONITOR
3	AS2CH3	OBC #1 CONVERTER ON/OFF STATUS
4	AS2CH4	WDA P.S. #2 +5V
5	AS2CH5	WDA P.S. #2 +10V (ON/OFF)
6	AS2CH6	**WDA P.S. #1/2 TEMP
7	AS2CH7	PITCHWHEEL DRIVERMOTOR VOLTAGE
8	AS2CH8	YAW WHEEL DRIVER-MOTOR VOLTAGE
9	AS2CH9	ROLL WHEEL DRIVERMOTOR VOLTAGE
10	AS2CH10	REDU WHEEL DRIVERMOTOR VOLTAGE
11	AS2CH11	PITCH WHEEL DRIVER-TACH
12	AS2CH12	YAW WHEEL DRIVER-TACH
13	AS2CH13	ROLL WHEEL DRIVER-TACH
14	AS2CH14	REDU WHEEL DRIVER-TACH
15	AS2CH15	**PITCH/ROLL DRIVER TEMP
16	AS2CH16	**HYDRAZINE TANK B/TANK H TEMP
17	AS2CH17	**HYDRAZINE TANK G/TANK C TEMP
18	AS2CH18	**HYDRAZINE TANK D/TANK F TEMP
19	AS2CH19	HYDRAZINE -Z LINE TEMP
20	AS2CH20	**HYDR LTE 6 VA/LTE 4 VA TEMP
21	AS2CH21	HYDRAZINE +Z LINE TEMP
22	AS2CH22	**HYDR LTE 10 VA/LTE 12VA TEMP
23	AS2CH23	**HYDR LV 1&3/2&6 MOUNT TEMP
24	AS2CH24	**HYDR D SECT LN/F&D VA 3 TEMP
25	AS2CH25	**HYDR LTE 7 VA/LTE 3 VA TEMP
26	AS2CH26	**HYDR HTE 2 VA/HTE 8 VA TEMP
27	AS2CH27	**HYDR LTE 1 VA/LTE 9 VA TEMP
28	AS2CH28	**HYDR +Y REM/-Y REM TEMP

ASC2 - ANALOG SUBCOM 2 (ENGINEERING VALUES)

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
29	AS2CH29	**HYDR -Y REM/+Y REM STRUTTEMP
30	AS2CH30	IRA SENSOR TEMP
31	AS2CH31	**EEA CONVERTER #1/2 TEMP
32	AS2CH32	**YAW DRIVER/REDU DRIVER TEMP
33	AS2CH33	**PITCH/ROLL DRIVER PHASE A
34	AS2CH34	**YAW/RED DRIVER PHASE A
35	AS2CH35	CEA PITCH WHEEL CMD-1
36	AS2CH36	CEA PITCH WHEEL CMD-2
37	AS2CH37	CEA YAW WHEEL CMD-1
38	AS2CH38	CEA YAW WHEEL CMD-2
39	AS2CH39	CEA ROLL WHEEL CMD-1
40	AS2CH40	CEA ROLL WHEEL CMD-2
41	AS2CH41	CEA REDUNDANT WHEEL CMD-1
42	AS2CH42	CEA REDUNDANT WHEEL CMD-2
43	AS2CH43	GYRO #1 MOTOR CURRENT
44	AS2CH44	GYRO #1 TEMP
45	AS2CH45	GYRO #2 MOTOR CURRENT
46	AS2CH46	GYRO #2 TEMP
47	AS2CH47	GYRO #3 MOTOR CURRENT
48	AS2CH48	GYRO #3 TEMP
49	AS2CH49	GYRO #4 MOTOR CURRENT
50	AS2CH50	GYRO #4 TEMP
51	AS2CH51	GYRO #5 MOTOR CURRENT
52	AS2CH52	GYRO #5 TEMP
53	AS2CH53	GYRO #6 MOTOR CURRENT
54	AS2CH54	GYRO #6 TEMP
55	AS2CH55	OBC #2 CONVERTER ON/OFF STATUS
56	AS2CH56	EEA CONVERTER #1 +12V (ON/OFF)
57	AS2CH57	EEA CONVERTER #1 +5V
58	AS2CH58	EEA CONVERTER #2 +12 (ON/OFF)
59	AS2CH59	EEA CONVERTER #2 +5V
60	AS2CH60	**EEA CONVERTER #1/2 +15V
61	AS2CH61	**EEA CONVERTER #1/2 -15V
62	AS2CH62	**EEA CONVERTER #1/2 +8V
63	AS2CH63	CMD.DECODER #2 -10V

**=MMM/FFF
MMM=READOUT FROM DATA SYSTEM NO.1
FFF=READOUT FROM DATA SYSTEM NO.2

ALL ASC2 TELEMETRY IS AVAILABLE TO CCIL AS AS2CHXX WHERE XX=CHANNEL.
ALL ASC2 TELEMETRY IS AVAILABLE TO PCL AS ASUB2(XX) OR AS2C(XX).

ESC1/ESC2 - EXPERIMENT SUBCOM 1/2

ESC1/ESC2 FMT=2A BR=200F=100% DMU=1 CC 137 142 BBC1(000001) 015:14:26:37

CH	MIN	MAX	VALUE	CH	MIN	MAX	VALUE	CH	MIN	MAX	VALUE	CH	MIN	MAX	VALUE
00	0	255	-57	16	190	200	194	32	127	133	131	48	0	255	55
01	0	255	47	17	240	250	246	33	127	133	129	49	0	255	53
02	0	255	51	18	81	89	86	34	0	5	0	50	255	0	49
03	0	255	53	19	127	133	130	35	0	5	1	51	255	0	50
04	255	0	57	20	127	133	130	36	0	5	0	52	143	60	137
05	0	255	47	21	0	5	0	37	125	133	128	53	143	60	135
06	0	255	46	22	0	5	1	38	125	133	128	54	143	53	72
07	0	255	46	23	0	5	0	39	0	255	-59	55	143	60	118
08	0	255	50	24	125	133	130	40	0	255	51	56	143	60	110
09	0	255	52	25	125	133	130	41	0	255	53	57	143	53	50
10	0	255	51	26	0	5	0	42	0	255	51	58	143	60	128
11	255	0	-0	27	0	5	0	43	255	0	58	59	143	60	125
12	255	0	-0	28	4	9	6	44	0	255	52	60	143	53	54
13	0	5	0	29	190	200	194	45	0	255	47	61	143	60	126
14	0	5	0	30	240	250	246	46	0	255	47	62	143	60	127
15	4	9	6	31	82	90	86	47	0	255	53	63	143	53	75

LIMITS AND VALUE IN RAW TELEMETRY.

CONVERSION FROM RAW TLM TO ENG. VALUE X=RAW TLM X.02 VOLTS.

SEE APPENDIX B STARTING PAGE 82 OF T&C BOOK FOR CONVERSION FORMULA.

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
0	ES1CH0	CAMERA NO.1 UVC EHT STATUS
1	ES1CH1	CAMERA NO.1 SEC EHT STATUS
2	ES1CH2	CAMERA NO.1 G-4 STATUS
3	ES1CH3	CAMERA NO.1 TARGET BIAS STATUS
4	ES1CH4	CAMERA NO.1 G-1 STATUS
5	ES1CH5	CAMERA NO.1 HEATER CURRENT STATUS
6	ES1CH6	CAMERA NO.1 LINE STATUS
7	ES1CH7	CAMERA NO.1 FRAME STATUS
8	ES1CH8	CAMERA NO.1 FOCUS STATUS
9	ES1CH9	CAMERA NO.1 G-2 STATUS
10	ES1CH10	CAMERA NO.1 G-3 STATUS
11	ES1CH11	CAMERA NO.1 X-ALIGNMENT STATUS
12	ES1CH12	CAMERA NO.1 Y-ALIGNMENT STATUS
13	ES1CH13	CAMERA NO.2 UVC EHT STATUS
14	ES1CH14	CAMERA NO.2 SEC EHT STATUS
15	ES1CH15	CAMERA NO.2 G-4 STATUS
16	ES1CH16	CAMERA NO.2 TARGET BIAS STATUS
17	ES1CH17	CAMERA NO.2 G-1 STATUS
18	ES1CH18	CAMERA NO.2 HEATER CURRENT STATUS
19	ES1CH19	CAMERA NO.2 LINE STATUS
20	ES1CH20	CAMERA NO.2 FRAME STATUS
21	ES1CH21	CAMERA NO.2 FOCUS STATUS
22	ES1CH22	CAMERA NO.2 G-2 STATUS
23	ES1CH23	CAMERA NO.2 G-3 STATUS
24	ES1CH24	CAMERA NO.2 X-ALIGNMENT STATUS
25	ES1CH25	CAMERA NO.2 Y-ALIGNMENT STATUS
26	ES1CH26	CAMERA NO.3 UVC EHT STATUS
27	ES1CH27	CAMERA NO.3 SEC EHT STATUS
28	ES1CH28	CAMERA NO.3 G-4 STATUS
29	ES1CH29	CAMERA NO.3 TARGET BIAS
30	ES1CH30	CAMERA NO.3 G-1 STATUS
31	ES1CH31	CAMERA NO.3 HEATER CURRENT STATUS

ESC1/ESC2 - EXPERIMENT SUBCOM 1/2

PAGE ENTRY	DATA BASE MNEMONIC	DESCRIPTION
32	ES1CH32	CAMERA NO.3 LINE STATUS
33	ES1CH33	CAMERA NO.3 FRAME STATUS
34	ES1CH34	CAMERA NO.3 FOCUS STATUS
35	ES1CH35	CAMERA NO.3 G-2 STATUS
36	ES1CH36	CAMERA NO.3 G-3 STATUS
37	ES1CH37	CAMERA NO.3 X-ALIGNMENT STATUS
38	ES1CH38	CAMERA NO.3 Y-ALIGNMENT STATUS
39	ES1CH39	CAMERA NO.4 UVC EHT STATUS
40	ES1CH40	CAMERA NO.4 SEC EHT STATUS
41	ES1CH41	CAMERA NO.4 G-4 STATUS
42	ES1CH42	CAMERA NO.4 TARGET BIAS STATUS
43	ES1CH43	CAMERA NO.4 G-1 STATUS
44	ES1CH44	CAMERA NO.4 HEATER CURRENT STATUS
45	ES1CH45	CAMERA NO.4 LINE STATUS
46	ES1CH46	CAMERA NO.4 FRAME STATUS
47	ES1CH47	CAMERA NO.4 FOCUS STATUS
48	ES1CH48	CAMERA NO.4 G-2 STATUS
49	ES1CH49	CAMERA NO.4 G-3 STATUS
50	ES1CH50	CAMERA NO.4 X-ALIGNMENT STATUS
51	ES1CH51	CAMERA NO.4 Y-ALIGNMENT STATUS
52	ES1CH52	LWP DEFLN COIL TEMP
53	ES1CH53	LWP HEAD AMP/SEC EHT TEMP
54	ES1CH54	LWP FRAME DAC/LINE DAC TEMP
55	ES1CH55	LWR DEFLN COIL TEMP
56	ES1CH56	LWR HEAD AMP/SEC EHT TEMP
57	ES1CH57	LWR FRAME DAC/LINE DAC TEMP
58	ES1CH58	SWP DEFLN COIL TEMP
59	ES1CH59	SWP HEAD AMP/SEC EHT TEMP
60	ES1CH60	SWP FRAME DAC/LINE DAC TEMP
61	ES1CH61	SWR DEFLN COIL TEMP
62	ES1CH62	SWR HEAD AMP/SEC EHT TEMP
63	ES1CH63	SWR FRAME DAC/LINE DAC TEMP

CAMERA NO.1=LONG WAVELENGTH PRIME
CAMERA NO.2=LONG WAVELENGTH REDUNDANT
CAMERA NO.3=SHORT WAVELENGTH PRIME
CAMERA NO.4=SHORT WAVELENGTH REDUNDANT

NOTE: THIS PAGE DOCUMENTS ESC1 AND ESC2. THE THERMISTERS ON CHANNELS 52-63 ARE DIFFERENT IN EACH ESC.(ESC1/ESC2)

ALL ESC TELEMETRY IS KNOWN TO CCIL AS ESYCHXX WHERE Y=SUBCOM#,XX=CHANNEL .
ALL ESC TELEMETRY IS KNOWN TO PCL AS EMUXY(XX) OR EMUXYC(XX).

NOTE: SEE T&C BOOK PAGE 47 (CHANNELS 52-63) FOR DIFFERENT ESC2 VALUES