

## Solar Orbiter SRDB release

Release Date	DB	Version	Scope
2020-11-19	MAS	7.33	CSW 3.1.2 + OPS FDIR 3.9 (PFM)

Previous release: MAS 7.32 CSW 3.1.2 + OPS FDIR 3.9 (ETB)

### Build specification

Changes since the previous release: in **red**.

Partition	Component	Supplier's data version	Supplier's TM/TC ICD	Compatible Unit HW or SW	Compatible CSW version
CSW	Central software	3.14P2	SOL.S.ASTR.ICD.00030 v20	V3.1.2	
CSW	AOCS SW	3.13	SOL-B.TER-ICD-00001 v4	V3.1.2	
CSW	NRD Parameters	18	SOL.S.ASTR.ICD.00054 v18.0	V3.1.2	
ZSCO01, ZSCO02	OPS/FDIR – HK TM	3.9	-	-	V3.1.2
ZEQT04	Thermal Limit TCs	20200630	-	Current	V3.1.2
OBC	OBC CPDU/HPTM	V3	SOL-A.RUA-ICD-10062 v13	EM+FM	
ZEQT01	SSMM	1.9.10	SOL-A.TAS-ICD-00001 v12	ASW V02.07.00	
IMU	Inertial Measuring Unit	2.0	SOL-B.SAS-ICD-00002 / FOG.0.ICD.177.T.ASTR v9.0	EM+FM	V3.1.2
RWU	Reaction Wheels (RWAB)	02.01	SOL-ASDF-RWAB-ICD-00001 v7.0	EM+FM	V3.1.2
STR	Star Tracker	1.1 e	SOL-B.SG-UM-00001 vD	2.1	V3.1.2
PCDU	PCDU	3.1	SOL-A.CRS-ICD-00061 v7	EM/PFM <sup>†</sup>	V3.1.2
RIU	RIU	2	SOL.BPATRI.ICD.53759 v7	EM+FM	V3.1.2
SADE	SADE	7.0	SOL.KDA.ICD.00007 'E'	EM+FM	V3.1.2
APME	APME HGA/MGA	01.02	SOL-B.SEN-ICD-00003 v7	EM+FM	V3.1.2
DST	Deep Space Transponder	4.12	SOL.B.TAS.TN.00003 v2	EM/PFM <sup>†</sup>	V3.1.2
ZPAY01	DEU (FDM)	V01.01	SOL-A.SEN-ICD-00028 v4	EM+FM	V3.1.2
RIU, OBC, CSW	Equipment Calibrations: RIU / OBC / CSW TM	6.4	-	Current	V3.1.2
OBC	OBC Resource alloc.	9.0	SOL.S.ASTR.TN.00169 v9.0	Current	V3.1.2
PCDU	PCDU Resource alloc.	15.0	SOL.S.ASTR.TN.00170 v15.0	Current	V3.1.2
RIU	RIU Resource alloc.	17.0	SOL.S.ASTR.TN.00171 v17.0	Current	V3.1.2
RWU	RWAB Resource alloc.	4.0	SOL.S.ASTR.TN.00354 v4.0	Current	V3.1.2
OBC	Relay Box alloc.	4.0	SOL.TN.ADSS.1000208510 v4.0	Current	
-	Electrical ICD	18	SOL.S.ASTR.ICD.00016 v18	Current	
MAG	Magnetometer	5.3	SOL-MAG-TMTCICD v5.2	QM/EM/FM/FS	
SOLOHI	SoloHI	04.40	SSD-ICD-SOLOHI-004 revE	EM+FM	
RPW	RPW	V4.3.5_ME B_PFM	(TC) RPW-SYS-MEB-DPS-ICD-000210-LES v4.3.3_MEB_EM2 (TM) RPW-SYS-MEB-DPS-ICD-000211-LES v4.3.3_MEB_EM2	FM only	
EPD	EPD	2.14	SO-EPD-PO-IF-0003 v2.11	EM+FM	
EUI	EUI	04.15	UM-MSSL-SOEUI-11001 21_B	EM+FM	
SPICE	SPICE	10.0	SPICE-RAL-ICD-5003 v9.0	FM only	
PHI	PHI	4.5	SOL-PHI-MPS-SW0000-IF-2 v4.5	EM+FM	
METIS	Metis	4.1	METIS-ATI-ICD-003 v3B	EM+FM	
ZPAY02	STIX	2.26.28	STIX-ICD-0812-ESC I4R1	FM only	
SWA	SWA	6.2.1	SO-SWA-DPU_CD-IC-003 4.2	EM+FM	

Colouring: CSW Platform Payload EGSE

DB: IO2 MAS AI2 AI1  
Usage: OPS ESOC FV/AIT AIT Spare

Changes in this version:

Reference	Title	Description	Status
<b>Changes affecting users</b>			
SOLDCR-916	Release MAS with CSW v 3.1.2 PFM to ESOC	DB applicable to CSW 3.1.2 PFM data for: SPICE, STIX, RPW	Done
<b>Changes with no impact on users</b>			
<none>			

Further details on DCRs may be found in JIRA.

**! Important user information**

† Model selection:

Calibrations on some units differ between equipment models.

Selection is made by changing a parameter in the user environment.

Unit	Model	Open Center (User variable)	SCOS (User Defined Constant)
PCDU	EM ( <b>default</b> )	USR.NPWZ0000=EM	NPWZ0000=10
	FM	USR.NPWZ0000=FM	NPWZ0000=11
DST_1	EM ( <b>default</b> )	USR.NDSZ0001=EM	NDSZ0001=0
	PFM	USR.NDSZ0001=PFM	NDSZ0001=1
	FM1	USR.NDSZ0001=FM1	NDSZ0001=2
	FM2 (spare)	USR.NDSZ0001=FM2	NDSZ0001=3
DST_2	EM ( <b>default</b> )	USR.NDSZ0002=EM	NDSZ0002=0
	PFM	USR.NDSZ0002=PFM	NDSZ0002=1
	FM1	USR.NDSZ0002=FM1	NDSZ0002=2
	FM2 (spare)	USR.NDSZ0002=FM2	NDSZ0002=3
SA +Y	QM	USR.NRUZ0000=QM	N/A
	FM ( <b>default</b> )	USR.NRUZ0000=FM	

Validity status of TM

Validity status parameters (e.g. A or B unit is operating) are associated with most of the TM from Platform equipment units. These parameters must be received in the end-user environment to enable correct determination of equipment TM validity.

**The Operator must ensure that the CSW is generating the HK TM packets containing validity conditions.**

The recommended packet configuration is defined in the DHS UM (SOL.S.ASTR.UM.00002) issue 5

Model issues

Constraints to be taken into account, depending on which unit is installed in the user environment.

Unit	Constraint is applicable on		Details
	EM	FM	
MAG	EM	FM	Refer to the MAG User Manual for details (section “Command restrictions specific to EM and/or FM”). EM: Some commands are not to be used with the EM unit. FM: Some commands may be used with FM only in restricted circumstances.
SPICE	EM	FM	An SRDB release is compatible with only an EM <u>or</u> FM unit. Check the build specification for SPICE on p.1
SoloHI	EM		Ground monitoring limits on NIH0KC7T (HW Camera Card FPA Detector Operational Temperature AR 30) should be ignored when using the EM unit.
RPW	EM	FM	An SRDB release is compatible with only an EM <u>or</u> FM unit. Check the build specification for RPW on p.1
STIX	EM	FM	An SRDB release is compatible with only an EM <u>or</u> FM unit. Check the build specification for STIX on p.1

Hazardous commands

Criticality key		
Cr	Open Center designation	SCOS DB designation
M	Dangerous	CCF_CRITICAL=Y
H	Prohibited	CCF_CRITICAL=Y

Partition	PID	TC Name	Cr	PUS	TC Description
ZEQT03	10	ZSDG0030	M	2, 128	SADE A PY Motor Move
ZEQT03	10	ZSDG0040	M	2, 128	SADE A MY Motor Move
ZEQT03	10	ZSDG0080	M	2, 128	SADE A PYMY Motor Move
ZEQT03	10	ZSDK0030	M	2, 128	SADE B PY Motor Move
ZEQT03	10	ZSDK0040	M	2, 128	SADE B MY Motor Move
ZEQT03	10	ZSDK0080	M	2, 128	SADE B PYMY Motor Move
CSW	14	ZCSF0013	H	8, 1	COMS Execute Recovery Action 1 Function
CSW	14	ZCSF0014	H	8, 1	COMS Execute Recovery Action 2 Function
CSW	14	ZCSF0026	H	8, 1	TWTA Execute Action1 Function
CSW	14	ZCSF0027	H	8, 1	DST Execute Recovery Action 1 Function
CSW	14	ZCSF0028	H	8, 1	DST Execute Recovery Action 2 Function
CSW	14	ZCSD2005	H	131, 1	Restart Spacewire Link
CSW	14	ZCSD3404	H	131, 1	Dst-Tx Set Output Power
CSW	14	ZCSD3505	H	131, 1	DST Set Ranging Mod idx
CSW	14	ZCSD3507	H	131, 1	Configure COMMS
CSW	14	ZCSD3905	M	131, 1	SADE PY Motor Move
CSW	14	ZCSD3906	M	131, 1	SADE MY Motor Move
CSW	14	ZCSD3907	M	131, 1	SADE PYMY Motor Move
CSW	14	ZCSD3912	M	131, 1	Execute SA Steering
EPD	54	ZID52361	M	129, 197	129,197 SIS_HV_MCP_LEVEL
EPD	54	ZID52362	M	129, 198	129,198 SIS_HV_MCP_LIMIT
EPD	54	ZID52363	M	129, 199	129,199 SIS_HV_MCP_STEP
EPD	54	ZID52364	M	129, 200	129,200 SIS_IRIS_AUTO
EPD	54	ZID52365	M	129, 201	129,201 SIS_IRIS_HOME
EPD	54	ZID52366	M	129, 202	129,202 SIS_IRIS_MANUAL
EUI	57	ZIU51053	M	6, 2	EUI_LoadMem&AbsAddr
EUI	57	ZIU51770	M	209, 6	EUI_FlashEraseBlocks

EUI	57	ZIU51740	M	214, 2	EUI_DisHV_Safe
EUI	57	ZIU51741	M	214, 3	EUI_SetHV
EUI	57	ZIU51807	M	214, 4	EUI_RampHV
EUI	57	ZIU51744	M	215, 1	EUI_SetupFWheelToPos
EUI	57	ZIU51745	M	215, 2	EUI_SetupFWheelRelSteps
EUI	57	ZIU51746	M	215, 3	EUI_SetupDoorToPos
EUI	57	ZIU51772	M	215, 4	EUI_SetupDoorRelSteps
EUI	57	ZIU51773	M	215, 10	EUI_LaunchLockP_FSI
EUI	57	ZIU51774	M	215, 11	EUI_LaunchLockP_Lya
EUI	57	ZIU51775	M	215, 12	EUI_LaunchLockP_EUV
EUI	57	ZIU51776	M	215, 13	EUI_LaunchLockR_FSI
EUI	57	ZIU51777	M	215, 14	EUI_LaunchLockR_Lya
EUI	57	ZIU51778	M	215, 15	EUI_LaunchLockR_EUV
EUI	57	ZIU51779	M	215, 16	EUI_LaunchLockFIRE
MAG	63	ZIM22701	M	227, 1	Set OBS Range (FM)
MAG	63	ZIM22702	M	227, 2	Set IBS Range (FM)
MAG	63	ZIM22705	M	227, 5	Enable FEE Auto Range (FM)
MAG	63	ZIM22706	M	227, 6	Disable FEE Auto Range (FM)
MAG	63	ZIM22707	M	227, 7	Set FEE Delay Val parameter (FM)
MAG	63	ZIM22734	M	227, 34	Set Active HKADC to Redundant (FM)
MAG	63	ZIM22737	M	227, 37	Set FOB Clock to Internal (FM)
MAG	63	ZIM22910	M	229, 10	Enable FIB ramp (FM)
MAG	63	ZIM22911	M	229, 11	Enable FOB ramp (FM)
MAG	63	ZIM23001	M	230, 1	Send FIB Command
MAG	63	ZIM23002	M	230, 2	Send FOB Comannd
Metis	67	ZIT2430A	M	243, 10	Configure HVU
Metis	67	ZIT2431A	M	243, 10	Configure HVU Set SCREEN
Metis	67	ZIT2432A	M	243, 10	Configure HVU Set MCP
Metis	67	ZIT2434A	M	243, 10	Configure HVU SAFE Dis.
PHI	72	ZIP06022	M	6, 2	loadConfigMem
PHI	72	ZIP06023	M	6, 2	loadSysFPGA
PHI	72	ZIP06024	M	6, 2	loadRAM
PHI	72	ZIP06025	M	6, 2	loadLEON
PHI	72	ZIP06026	M	6, 2	loadScratch
PHI	72	ZIP06027	M	6, 2	loadImageMem
PHI	72	ZIP06028	M	6, 2	loadRFPGA2Mem
PHI	72	ZIP06029	M	6, 2	jumpToAddress
PHI	72	ZIPE82C0	M	232, 44	switchFailSafe
PHI	72	ZIPE82E0	M	232, 46	switchLaunchLock
PHI	72	ZIPE8480	M	232, 72	setFiltergraphWavelength
PHI	72	ZIPE8490	M	232, 73	setHighVoltage
PHI	72	ZIPE84A0	M	232, 74	allowHighVoltage
PHI	72	ZIPE9010	M	233, 1	formatFileSystem
PHI	72	ZIPE9020	M	233, 2	mountFileSystem
PHI	72	ZIPE9170	M	233, 23	setGPIOStatus
PHI	72	ZIPE91F0	M	233, 31	executeSPICommand
PHI	72	ZIPE92B0	M	233, 43	writeSoWireRegister
PHI	72	ZIPE92F0	M	233, 47	registerSoWireStream
PHI	72	ZIPE93DX	M	233, 61	prepareSWUpdate
PHI	72	ZIPE93EX	M	233, 62	performSWUpdate
PHI	72	ZIPEA030	M	234, 3	getVersionInformation
PHI	72	ZIPEA0B0	M	234, 11	runFunctionalTest
PHI	72	ZIPEA150	M	234, 21	setService20Data
PHI	72	ZIPEA170	M	234, 23	reportService20Data
PHI	72	ZIPEAFF0	M	234, 255	forwardTCthroughSIIS

RPW	75	ZIW00033	M	180, 3	DPU_SWITCH_ON_EQUIPMENT
RPW	75	ZIW00024	M	180, 69	DPU_SET_BIAS1
RPW	75	ZIW00025	M	180, 71	DPU_SET_BIAS2
RPW	75	ZIW00026	M	180, 73	DPU_SET_BIAS3
RPW	75	ZIW00030	M	180, 77	DPU_SET_BIAS_RFREQ
RPW	75	ZIW00031	M	180, 79	DPU_SET_BIAS_SWEEP
RPW	75	ZIW00027	M	180, 81	DPU_SET_BIAS_MODE
RPW	76	ZIW00083	M	181, 61	LFR_ENABLE_CALIBRATION
SoloHI	82	ZIHHD00R	M	246, 149	IHDOOR
SPICE	85	ZIC00085	M	255, 96	SDM_OPEN_DOOR
SPICE	85	ZIC00090	M	255, 97	SDM_CLOSE_DOOR
SPICE	85	ZIC00100	M	255, 113	DA_OPEN_DOOR
SPICE	85	ZIC00145	M	255, 130	SLIT_CALIBRATE
SPICE	85	ZIC00250	M	255, 195	MCP_SET_HIGH_VOLTAGE
SPICE	85	ZIC00265	M	255, 198	GAP_SET_HIGH_VOLTAGE
SPICE	85	ZIC00355	M	255, 202	MCP_SET_OPS_HV
SPICE	85	ZIC00360	M	255, 203	MCP_SET_ENG_HV
SPICE	85	ZIC00280	M	255, 225	PDS_SWITCH_ON
STIX	90	ZIX36004	M	236, 4	STIX Power ON a STIX subsystem
STIX	90	ZIX36005	M	236, 5	STIX Power OFF a STIX subsystem

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## Object identifiers

Objects in the database are identified by 8-character (or 10-character) strings, consisting of

<i>Character position</i>	<b>1</b>	<b>2-3</b>	<b>4-8 (4-10)</b>
<i>Usage</i>	Object type	Spacecraft unit	Object identifier

1st character = Object type

<b>Z</b>	<b>Y</b>	<b>P</b>	<b>N</b>	<b>C</b>
Telecommand Packet	Telemetry Packet	Telecommand Parameter	Telemetry Parameter	Calibration (transfer function)

2nd/3rd character = Unit

## Naming patterns

Partition	Component	Names	Remarks
CSW	Central software, AOCS SW	.CD* .CS* .CF* .CA* .CL* .TC*	Exception: equipment TM in the data pool is identified per equipment, e.g. NMU* (IMU), NPW* (PCDU), NRW* (RWE), NST* (STR)
ZSCO01, ZSCO02	OPS/FDIR – HK TM	...1Z* ...2Z*	1Z = Defaults pre-configured in the CSW. 2Z = Requires activation by TC at run-time.
ZSCO02	OPS tailored commands	...2Z*	
ZEQT04	Thermal Limit TCs	ZTC4Z*	TCs for setting limits of control loops
ZEQT02 ZEQT03	1553 unit commands	Zxx* ('xx' = per equipment)	TCs 2,128 bear the identifier of the destination equipment, e.g. ZMU* (IMU), ZPW* (PCDU), ZRW* (RWE).
IMU	Inertial Measuring Unit	.MU*	
RWU	Reaction Wheels (RWAB)	.RW*	
STR	Star Tracker	.ST*	
ZEQT01	SSMM	.SM*	
OBC	OBC CPDU/HPTM	.BC*	
PCDU	PCDU	.PW*	
RIU	RIU	.RU*	
SADE	SADE	.SD*	
DST	Deep Space Transponder	.DS*	
APME	APME HGA/MGA	.AH*, .AM*	AH=APME HGA; AM=APME MGA
ZPAY01	DEU (FDM)	.DM*	
MAG	Magnetometer	.IM*	
SOLOHI	SoloHI	.IH*	
RPW	RPW	.IW*	
EPD	Energetic Particle Detector	.ID*	
EUI	Extreme-Ultraviolet Imager	.IU*	
SPICE	SPICE	.IC*	
PHI	PHI	.IP*	
METIS	METIS	.IT*	
ZPAY02	STIX	.IX*	
SWA	SWA	.IA*	

Partition	Component	Names	Remarks
SCOE_PWR	PWR SCOE – Siemens	.WP*	
SCOETMTC	TM/TC SCOE	.WT*	
ZSCO03	OTB SCOE	.WB*	
ZSCO04	RTS	.RT*	
ZSCO05	User ASSP	.USR.*	
ZSCO07	RF SCOE	.WR*	

In each of the above listed components of the SRDB, the database objects are identified with the 'Names' pattern in the table, where '.' = any single character, '\*' = a string of zero or more characters.

Examples:

Partition	Component	Names	Object type	Example objects
STR	Star Tracker	.ST*	<i>PUS Command</i>	ZST15006 STR1 FOTO Mode ZST16200 STR1 Load Mem RAM ZST25309 STR2 Set SC Velocity
			<i>TM Packet</i>	YST92407 STR2 ANGULAR RATE TOO HIGH YST92200 STR2 DEFECT PIXEL DETECTED YST92660 STR2 Mem Dump 32 Ram
			<i>Calibration</i>	CSTT6000TC MEMORY_ID CSTT6013TM RESET_TYPE
OBC	OBC CPDU/HPTM	.BC*	<i>CPDU Command</i>	ZBC04002 Select PM A EEPROM Image 0 ZBC04009 RM A Enable
			<i>HPTM Parameters</i>	NBCD0103 PM Active NBCD1025 OBC RSA25 Status B

## 1553 TM Map in CSW V3.1.2

“**TM Parameter**” identifies the CSW datapool parameter (structure) where the equipment telemetry is captured. The TM is only available on ground if a containing HK TM packet (in which the “**TM Parameter**” is packetized) is enabled in the CSW.

1553	RT Unit	SA	TM Parameter	Length	SW Alias
BUS1	APMH_A	1	NCFUAW01	62 byte	HKF_APMEHA_HKTM_TM1
BUS1	APMH_A	2	NCFUAW02	54 byte	HKF_APMEHA_HKTM_TM2
BUS1	APMH_A	3	NCFUAW03	16 byte	HKF_APMEHA_HKTM_TM3
BUS2	APMH_B	1	NCFUAX01	62 byte	HKF_APMEHB_HKTM_TM1
BUS2	APMH_B	2	NCFUAX02	54 byte	HKF_APMEHB_HKTM_TM2
BUS2	APMH_B	3	NCFUAX03	16 byte	HKF_APMEHB_HKTM_TM3
BUS1	APMM_A	1	NCFUAY01	62 byte	HKF_APMEMA_HKTM_TM1
BUS1	APMM_A	2	NCFUAY02	54 byte	HKF_APMEMA_HKTM_TM2
BUS1	APMM_A	3	NCFUAY03	16 byte	HKF_APMEMA_HKTM_TM3
BUS2	APMM_B	1	NCFUAZ01	62 byte	HKF_APMEMB_HKTM_TM1
BUS2	APMM_B	2	NCFUAZ02	54 byte	HKF_APMEMB_HKTM_TM2
BUS2	APMM_B	3	NCFUAZ03	16 byte	HKF_APMEMB_HKTM_TM3
BUS1	DEU_A	1	NCFG4XG0	26 byte	HKF_DEU_A_HAL_HK_TM
BUS2	DEU_B	1	NCFG4XJ0	26 byte	HKF_DEU_B_HAL_HK_TM
BUS1	DST_1	1	NCFU3HR1	12 byte	HKF_DSTA_HAL_TRANSPONDER_STATUS
BUS1	DST_1	2	NCFU3HR2	10 byte	HKF_DSTA_HAL_RX_STATUS
BUS1	DST_1	3	NCFU3HR3	4 byte	HKF_DSTA_HAL_RANGING_TM
BUS1	DST_1	4	NCFU3HR4	6 byte	HKF_DSTA_HAL_ANALOG_TM
BUS2	DST_2	1	NCFU3HW1	12 byte	HKF_DSTB_HAL_TRANSPONDER_STATUS
BUS2	DST_2	2	NCFU3HW2	10 byte	HKF_DSTB_HAL_RX_STATUS
BUS2	DST_2	3	NCFU3HW3	4 byte	HKF_DSTB_HAL_RANGING_TM
BUS2	DST_2	4	NCFU3HW4	6 byte	HKF_DSTB_HAL_ANALOG_TM
BUS1	IMU_11	16	NCAUAF04	18 byte	HKA_AOCSNONCORE_IMU_A_1_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL1
BUS1	IMU_11	16	NCAUAF05	18 byte	HKA_AOCSNONCORE_IMU_A_1_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL2
BUS1	IMU_11	17	NCAUAF06	4 byte	HKA_AOCSNONCORE_IMU_A_1_CORE_IMU_HAL_IMU_ACQ_DATA_CONF
BUS1	IMU_11	18	NCAUAF02	22 byte	HKA_AOCSNONCORE_IMU_A_1_CORE_IMU_HAL_IMU_ACQ_DATA_TECH1
BUS1	IMU_11	18	NCAUAF03	22 byte	HKA_AOCSNONCORE_IMU_A_1_CORE_IMU_HAL_IMU_ACQ_DATA_TECH2
BUS1	IMU_11	19	NCANAF07	2 byte	HKA_AOCSNONCORE_IMU_A_1_CORE_IMU_HAL_IMU_ACQ_DATA_STIM
BUS1	IMU_12	16	NCAUAG04	18 byte	HKA_AOCSNONCORE_IMU_A_2_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL1
BUS1	IMU_12	16	NCAUAG05	18 byte	HKA_AOCSNONCORE_IMU_A_2_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL2
BUS1	IMU_12	17	NCAUAG06	4 byte	HKA_AOCSNONCORE_IMU_A_2_CORE_IMU_HAL_IMU_ACQ_DATA_CONF
BUS1	IMU_12	18	NCAUAG02	22 byte	HKA_AOCSNONCORE_IMU_A_2_CORE_IMU_HAL_IMU_ACQ_DATA_TECH1
BUS1	IMU_12	18	NCAUAG03	22 byte	HKA_AOCSNONCORE_IMU_A_2_CORE_IMU_HAL_IMU_ACQ_DATA_TECH2
BUS1	IMU_12	19	NCANAG07	2 byte	HKA_AOCSNONCORE_IMU_A_2_CORE_IMU_HAL_IMU_ACQ_DATA_STIM
BUS1	IMU_13	16	NCAUAH04	18 byte	HKA_AOCSNONCORE_IMU_A_3_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL1
BUS1	IMU_13	16	NCAUAH05	18 byte	HKA_AOCSNONCORE_IMU_A_3_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL2
BUS1	IMU_13	17	NCAUAH06	4 byte	HKA_AOCSNONCORE_IMU_A_3_CORE_IMU_HAL_IMU_ACQ_DATA_CONF
BUS1	IMU_13	18	NCAUAH02	22 byte	HKA_AOCSNONCORE_IMU_A_3_CORE_IMU_HAL_IMU_ACQ_DATA_TECH1
BUS1	IMU_13	18	NCAUAH03	22 byte	HKA_AOCSNONCORE_IMU_A_3_CORE_IMU_HAL_IMU_ACQ_DATA_TECH2
BUS1	IMU_13	19	NCANAH07	2 byte	HKA_AOCSNONCORE_IMU_A_3_CORE_IMU_HAL_IMU_ACQ_DATA_STIM
BUS1	IMU_14	16	NCAUAJ04	18 byte	HKA_AOCSNONCORE_IMU_A_4_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL1
BUS1	IMU_14	16	NCAUAJ05	18 byte	HKA_AOCSNONCORE_IMU_A_4_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL2
BUS1	IMU_14	17	NCAUAJ06	4 byte	HKA_AOCSNONCORE_IMU_A_4_CORE_IMU_HAL_IMU_ACQ_DATA_CONF
BUS1	IMU_14	18	NCAUAJ02	22 byte	HKA_AOCSNONCORE_IMU_A_4_CORE_IMU_HAL_IMU_ACQ_DATA_TECH1
BUS1	IMU_14	18	NCAUAJ03	22 byte	HKA_AOCSNONCORE_IMU_A_4_CORE_IMU_HAL_IMU_ACQ_DATA_TECH2
BUS1	IMU_14	19	NCANAJ07	2 byte	HKA_AOCSNONCORE_IMU_A_4_CORE_IMU_HAL_IMU_ACQ_DATA_STIM
BUS2	IMU_21	16	NCAUAK04	18 byte	HKA_AOCSNONCORE_IMU_B_1_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL1
BUS2	IMU_21	16	NCAUAK05	18 byte	HKA_AOCSNONCORE_IMU_B_1_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL2
BUS2	IMU_21	17	NCAUAK06	4 byte	HKA_AOCSNONCORE_IMU_B_1_CORE_IMU_HAL_IMU_ACQ_DATA_CONF
BUS2	IMU_21	18	NCAUAK02	22 byte	HKA_AOCSNONCORE_IMU_B_1_CORE_IMU_HAL_IMU_ACQ_DATA_TECH1
BUS2	IMU_21	18	NCAUAK03	22 byte	HKA_AOCSNONCORE_IMU_B_1_CORE_IMU_HAL_IMU_ACQ_DATA_TECH2
BUS2	IMU_21	19	NCANAK07	2 byte	HKA_AOCSNONCORE_IMU_B_1_CORE_IMU_HAL_IMU_ACQ_DATA_STIM
BUS2	IMU_22	16	NCAUAL04	18 byte	HKA_AOCSNONCORE_IMU_B_2_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL1
BUS2	IMU_22	16	NCAUAL05	18 byte	HKA_AOCSNONCORE_IMU_B_2_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL2
BUS2	IMU_22	17	NCAUAL06	4 byte	HKA_AOCSNONCORE_IMU_B_2_CORE_IMU_HAL_IMU_ACQ_DATA_CONF
BUS2	IMU_22	18	NCAUAL02	22 byte	HKA_AOCSNONCORE_IMU_B_2_CORE_IMU_HAL_IMU_ACQ_DATA_TECH1
BUS2	IMU_22	18	NCAUAL03	22 byte	HKA_AOCSNONCORE_IMU_B_2_CORE_IMU_HAL_IMU_ACQ_DATA_TECH2
BUS2	IMU_22	19	NCANAL07	2 byte	HKA_AOCSNONCORE_IMU_B_2_CORE_IMU_HAL_IMU_ACQ_DATA_STIM
BUS2	IMU_23	16	NCAUAM04	18 byte	HKA_AOCSNONCORE_IMU_B_3_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL1
BUS2	IMU_23	16	NCAUAM05	18 byte	HKA_AOCSNONCORE_IMU_B_3_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL2
BUS2	IMU_23	17	NCAUAM06	4 byte	HKA_AOCSNONCORE_IMU_B_3_CORE_IMU_HAL_IMU_ACQ_DATA_CONF
BUS2	IMU_23	18	NCAUAM02	22 byte	HKA_AOCSNONCORE_IMU_B_3_CORE_IMU_HAL_IMU_ACQ_DATA_TECH1
BUS2	IMU_23	18	NCAUAM03	22 byte	HKA_AOCSNONCORE_IMU_B_3_CORE_IMU_HAL_IMU_ACQ_DATA_TECH2
BUS2	IMU_23	19	NCANAM07	2 byte	HKA_AOCSNONCORE_IMU_B_3_CORE_IMU_HAL_IMU_ACQ_DATA_STIM
BUS2	IMU_24	16	NCAUAN04	18 byte	HKA_AOCSNONCORE_IMU_B_4_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL1
BUS2	IMU_24	16	NCAUAN05	18 byte	HKA_AOCSNONCORE_IMU_B_4_CORE_IMU_HAL_IMU_ACQ_DATA_INERTIAL2
BUS2	IMU_24	17	NCAUAN06	4 byte	HKA_AOCSNONCORE_IMU_B_4_CORE_IMU_HAL_IMU_ACQ_DATA_CONF
BUS2	IMU_24	18	NCAUAN02	22 byte	HKA_AOCSNONCORE_IMU_B_4_CORE_IMU_HAL_IMU_ACQ_DATA_TECH1
BUS2	IMU_24	18	NCAUAN03	22 byte	HKA_AOCSNONCORE_IMU_B_4_CORE_IMU_HAL_IMU_ACQ_DATA_TECH2



BUS2	IMU_24	19	NCANAN07	2 byte	HKA_AOCSNONCORE_IMU_B_4__CORE_IMU_HAL_IMU_ACQ_DATA_STIM
BUS1	PCDU_A	1	NCFU9Y01	24 byte	HKF_PCDUA_TELEM__DIGITAL_LCL_MODULES
BUS1	PCDU_A	2	NCFU9Y02	36 byte	HKF_PCDUA_TELEM__DIGITAL_HTR_MODULES
BUS1	PCDU_A	3	NCFU9Y03	28 byte	HKF_PCDUA_TELEM__DIGITAL_DPL_MODULES
BUS1	PCDU_A	4	NCFU9Y04	16 byte	HKF_PCDUA_TELEM__DIGITAL_OTHER_MODULES
BUS1	PCDU_A	11	NCFU9Y05	46 byte	HKF_PCDUA_TELEM__ANALOG_CURRENTS_LCL1
BUS1	PCDU_A	12	NCFU9Y06	46 byte	HKF_PCDUA_TELEM__ANALOG_CURRENTS_LCL2
BUS1	PCDU_A	13	NCFU9Y07	46 byte	HKF_PCDUA_TELEM__ANALOG_CURRENTS_LCL3
BUS1	PCDU_A	14	NCFU9Y08	46 byte	HKF_PCDUA_TELEM__ANALOG_CURRENTS_LCL4
BUS1	PCDU_A	15	NCFU9Y09	46 byte	HKF_PCDUA_TELEM__ANALOG_CURRENTS_LCL5
BUS1	PCDU_A	16	NCFU9Y0A	58 byte	HKF_PCDUA_TELEM__ANALOG_CURRENTS_LCL_HEATER
BUS1	PCDU_A	17	NCFU9Y0B	26 byte	HKF_PCDUA_TELEM__ANALOG_DPL
BUS1	PCDU_A	18	NCFU9Y0C	50 byte	HKF_PCDUA_TELEM__ANALOG_APR
BUS1	PCDU_A	19	NCFU9Y0D	18 byte	HKF_PCDUA_TELEM__ANALOG_BCR
BUS1	PCDU_A	20	NCFU9Y0E	34 byte	HKF_PCDUA_TELEM__ANALOG_BDR
BUS1	PCDU_A	21	NCFU9Y0F	34 byte	HKF_PCDUA_TELEM__ANALOG_BEA_MEA
BUS1	PCDU_A	22	NCFU9Y0G	30 byte	HKF_PCDUA_TELEM__ANALOG_DHS
BUS1	PCDU_A	23	NCFU9Y0H	10 byte	HKF_PCDUA_TELEM__OTHER_RECONFIG_STATUS
BUS1	PCDU_A	25	NCFG3J50	4 byte	HKF_PCDUA_SSHT_STATUS
BUS1	PCDU_A	26	NCFU9Y0J	4 byte	HKF_PCDUA_TELEM__OTHER_RECONFIG_TEST
BUS1	PCDU_A	27	NCFU9Y0K	4 byte	HKF_PCDUA_TELEM__OTHER_MEMORY_REFERENCE
BUS1	PCDU_A	28	NCFU9Y0L	64 byte	HKF_PCDUA_TELEM__OTHER_MEMORY_READ
BUS2	PCDU_B	1	NCFUA101	24 byte	HKF_PCDUB_TELEM__DIGITAL_LCL_MODULES
BUS2	PCDU_B	2	NCFUA102	36 byte	HKF_PCDUB_TELEM__DIGITAL_HTR_MODULES
BUS2	PCDU_B	3	NCFUA103	28 byte	HKF_PCDUB_TELEM__DIGITAL_DPL_MODULES
BUS2	PCDU_B	4	NCFUA104	16 byte	HKF_PCDUB_TELEM__DIGITAL_OTHER_MODULES
BUS2	PCDU_B	11	NCFUA105	46 byte	HKF_PCDUB_TELEM__ANALOG_CURRENTS_LCL1
BUS2	PCDU_B	12	NCFUA106	46 byte	HKF_PCDUB_TELEM__ANALOG_CURRENTS_LCL2
BUS2	PCDU_B	13	NCFUA107	46 byte	HKF_PCDUB_TELEM__ANALOG_CURRENTS_LCL3
BUS2	PCDU_B	14	NCFUA108	46 byte	HKF_PCDUB_TELEM__ANALOG_CURRENTS_LCL4
BUS2	PCDU_B	15	NCFUA109	46 byte	HKF_PCDUB_TELEM__ANALOG_CURRENTS_LCL5
BUS2	PCDU_B	16	NCFUA10A	58 byte	HKF_PCDUB_TELEM__ANALOG_CURRENTS_LCL_HEATER
BUS2	PCDU_B	17	NCFUA10B	26 byte	HKF_PCDUB_TELEM__ANALOG_DPL
BUS2	PCDU_B	18	NCFUA10C	50 byte	HKF_PCDUB_TELEM__ANALOG_APR
BUS2	PCDU_B	19	NCFUA10D	18 byte	HKF_PCDUB_TELEM__ANALOG_BCR
BUS2	PCDU_B	20	NCFUA10E	34 byte	HKF_PCDUB_TELEM__ANALOG_BDR
BUS2	PCDU_B	21	NCFUA10F	34 byte	HKF_PCDUB_TELEM__ANALOG_BEA_MEA
BUS2	PCDU_B	22	NCFUA10G	30 byte	HKF_PCDUB_TELEM__ANALOG_DHS
BUS2	PCDU_B	23	NCFUA10H	10 byte	HKF_PCDUB_TELEM__OTHER_RECONFIG_STATUS
BUS2	PCDU_B	25	NCFG3J90	4 byte	HKF_PCDUB_SSHT_STATUS
BUS2	PCDU_B	26	NCFUA10J	4 byte	HKF_PCDUB_TELEM__OTHER_RECONFIG_TEST
BUS2	PCDU_B	27	NCFUA10K	4 byte	HKF_PCDUB_TELEM__OTHER_MEMORY_REFERENCE
BUS2	PCDU_B	28	NCFUA10L	64 byte	HKF_PCDUB_TELEM__OTHER_MEMORY_READ
BUS1	RIU	1	NCFUA201	16 byte	HKF_RIUA_TELEM__HK_TM_HK
BUS1	RIU	10	NCFUA204	64 byte	HKF_RIUA_TELEM__FSS_HK
BUS1	RIU		NCFUA203	1248 byte	HKF_RIUA_TELEM__TM_HK
BUS2	RIU	1	NCFUA501	16 byte	HKF_RIUB_TELEM__HK_TM_HK
BUS2	RIU	10	NCFUA504	64 byte	HKF_RIUB_TELEM__FSS_HK
BUS2	RIU		NCFUA503	1248 byte	HKF_RIUB_TELEM__TM_HK
BUS1	RW_1	1	NCAT0D90	20 byte	HKA_AOCSNONCORE_RW_1_STATUS_WORD
BUS1	RW_2	1	NCAT0DB0	20 byte	HKA_AOCSNONCORE_RW_2_STATUS_WORD
BUS2	RW_3	1	NCAT0DD0	20 byte	HKA_AOCSNONCORE_RW_3_STATUS_WORD
BUS2	RW_4	1	NCAT0DF0	20 byte	HKA_AOCSNONCORE_RW_4_STATUS_WORD
BUS1	SADE_A	1	NCFUBH01	8 byte	HKF_SADEA_HKACQD__SADE_STATUS
BUS1	SADE_A	2	NCFUBH02	10 byte	HKF_SADEA_HKACQD__SADM_AMOTOR_CTRL_STATUS
BUS1	SADE_A	3	NCFUBH03	8 byte	HKF_SADEA_HKACQD__SADM_APOS
BUS1	SADE_A	4	NCFUBH04	10 byte	HKF_SADEA_HKACQD__SADM_BMOTOR_CTRL_STATUS
BUS1	SADE_A	5	NCFUBH05	8 byte	HKF_SADEA_HKACQD__SADM_BPOS
BUS1	SADE_A	6	NCFUBH06	4 byte	HKF_SADEA_HKACQD__SADM_ASTATUS
BUS1	SADE_A	7	NCFUBH07	4 byte	HKF_SADEA_HKACQD__SADM_BSTATUS
BUS1	SADE_A	8	NCFUBH08	10 byte	HKF_SADEA_HKACQD__HOUSEKEEPING
BUS1	SADE_A	9	NCFUBH09	12 byte	HKF_SADEA_HKACQD__SADM_ACMD_READBACK
BUS1	SADE_A	10	NCFUBH0A	12 byte	HKF_SADEA_HKACQD__SADM_BCMD_READBACK
BUS2	SADE_B	1	NCFUBJ01	8 byte	HKF_SADEB_HKACQD__SADE_STATUS
BUS2	SADE_B	2	NCFUBJ02	10 byte	HKF_SADEB_HKACQD__SADM_AMOTOR_CTRL_STATUS
BUS2	SADE_B	3	NCFUBJ03	8 byte	HKF_SADEB_HKACQD__SADM_APOS
BUS2	SADE_B	4	NCFUBJ04	10 byte	HKF_SADEB_HKACQD__SADM_BMOTOR_CTRL_STATUS
BUS2	SADE_B	5	NCFUBJ05	8 byte	HKF_SADEB_HKACQD__SADM_BPOS
BUS2	SADE_B	6	NCFUBJ06	4 byte	HKF_SADEB_HKACQD__SADM_ASTATUS
BUS2	SADE_B	7	NCFUBJ07	4 byte	HKF_SADEB_HKACQD__SADM_BSTATUS
BUS2	SADE_B	8	NCFUBJ08	10 byte	HKF_SADEB_HKACQD__HOUSEKEEPING
BUS2	SADE_B	9	NCFUBJ09	12 byte	HKF_SADEB_HKACQD__SADM_ACMD_READBACK
BUS2	SADE_B	10	NCFUBJ0A	12 byte	HKF_SADEB_HKACQD__SADM_BCMD_READBACK

## Configuration of CSW HK/Diag packets

### TM Packets in CSW V3.1.2

Name	PID	SID	PUS	Description	Bytes	Sec	Initial Status
YCD1Z001	10	1	HK	DMS OBC Status Fast	99	30	ENABLED
YCD2Z002	10	2	HK	DMS OBC Status Slow	589	600	disabled
YCD2Z003	10	3	HK	DMS Reconfiguration Reports	175	600	disabled
YCD2Z004	10	4	HK	DMS CPU Load	839	600	disabled
YCD2Z005	10	5	HK	DMS MIL-STD-1553b-BUS Details	775	900	disabled
YCD2Z006	10	6	HK	DMS SGM Group Status	411	600	disabled
YCD2Z007	10	7	HK	DMS SGM Health	230	300	disabled
YCD1Z008	10	8	HK	DMS OMM Overview	139	60	ENABLED
YCD2Z009	10	9	HK	DMS OMM Packet Stores	625	300	disabled
YCD2Z010	10	10	HK	DMS OBCP Details	2635	300	disabled
YCD1Z011	10	11	HK	DMS Overview Fast	492	30	ENABLED
YCD2Z012	10	12	HK	DMS Overview Slow	418	600	disabled
YCD2Z013	10	13	HK	DMS TC Sequencer Details	239	180	disabled
YCD2Z014	10	14	HK	DMS MTL Details	1099	180	disabled
YCD1Z016	10	16	HK	DMS SSMM Summary	135	60	disabled
YCD2Z077	10	77	HK	DMS OBC Status Fast	99	30	disabled
YCD1Z078	10	78	HK	DMS OBC Status Slow	589	600	ENABLED
YCD1Z079	10	79	HK	DMS Reconfiguration Reports	175	600	ENABLED
YCD1Z080	10	80	HK	DMS CPU Load	839	600	ENABLED
YCD1Z081	10	81	HK	DMS MIL-STD-1553b-BUS Details	775	900	ENABLED
YCD1Z082	10	82	HK	DMS SGM Group Status	411	600	ENABLED
YCD1Z083	10	83	HK	DMS SGM Health	230	300	ENABLED
YCD2Z084	10	84	HK	DMS OMM Overview	139	60	disabled
YCD1Z085	10	85	HK	DMS OMM Packet Stores	625	300	ENABLED
YCD1Z086	10	86	HK	DMS OBCP Details	2635	300	ENABLED
YCD2Z087	10	87	HK	DMS Overview Fast	492	30	disabled
YCD1Z088	10	88	HK	DMS Overview Slow	418	600	ENABLED
YCD1Z089	10	89	HK	DMS TC Sequencer Details	239	180	ENABLED
YCD1Z090	10	90	HK	DMS MTL Details	1099	180	ENABLED
YCD2Z092	10	92	HK	DMS SSMM Summary	131	60	disabled
YCD1Z153	10	153	HK	DMS Inter-Instrument Communication	247	8191	disabled
YCD1Z154	10	154	HK	DMS Safe Mode Slow	227	600	ENABLED
YCD1Z155	10	155	HK	DMS SW Errors Log 1	2611	8191	disabled
YCD1Z156	10	156	HK	DMS SW Errors Log 2	2611	8191	disabled
YCD2Z193	10	193	Diag	DMS 1553 Bus Manager Investigation	747	1	disabled
YCD2Z194	10	194	Diag	DMS Spare Parameters & S130	211	1	disabled
YCA1Z001	11	1	HK	AOCS Dynamics FAST	123	6	ENABLED
YCA2Z002	11	2	HK	AOCS Dynamics SLOW	587	300	disabled
YCA2Z003	11	3	HK	AOCS Configuration	236	300	disabled
YCA1Z005	11	5	HK	AOCS Dynamics SASM/WSM	127	7.5	ENABLED

YCA2Z006	11	6	HK	AOCS OCM/WOL Slow	555	300	disabled
YCA1Z008	11	8	HK	AOCS Estimators Dynamics	603	30	ENABLED
YCA1Z009	11	9	HK	AOCS AMU Dynamics	100	30	disabled
YCA1Z010	11	10	HK	AOCS Gyro Dynamics	285	30	ENABLED
YCA2Z011	11	11	HK	AOCS IMU RAW	699	300	disabled
YCA1Z012	11	12	HK	AOCS FSS	164	45	ENABLED
YCA1Z014	11	14	HK	AOCS Wheels	255	30	ENABLED
YCA1Z016	11	16	HK	AOCS STR	429	32	disabled
YCA2Z017	11	17	HK	AOCS FDIR Monitoring	554	300	disabled
YCA2Z018	11	18	HK	AOCS STR Unit	299	64	disabled
YCA1Z019	11	19	HK	AOCS SYS Summary	422	30	ENABLED
YCA1Z020	11	20	HK	AOCS SYS FDIR Summary	208	45	ENABLED
YCA1Z021	11	21	HK	AOCS STR Core	201	24	ENABLED
YCA2Z077	11	77	HK	AOCS Dynamics FAST	123	6	disabled
YCA1Z078	11	78	HK	AOCS Dynamics SLOW	587	300	ENABLED
YCA1Z079	11	79	HK	AOCS Configuration	236	300	ENABLED
YCA2Z081	11	81	HK	AOCS Dynamics SASM/WSM	127	7.5	disabled
YCA1Z082	11	82	HK	AOCS OCM/WOL Slow	555	300	ENABLED
YCA2Z084	11	84	HK	AOCS Estimators Dynamics	603	30	disabled
YCA2Z085	11	85	HK	AOCS AMU Dynamics	100	30	disabled
YCA2Z086	11	86	HK	AOCS Gyro Dynamics	285	30	disabled
YCA1Z087	11	87	HK	AOCS IMU RAW	699	300	ENABLED
YCA2Z088	11	88	HK	AOCS FSS	164	45	disabled
YCA2Z090	11	90	HK	AOCS Wheels	255	30	disabled
YCA1Z091	11	91	HK	AOCS LEOP	355	2.5	disabled
YCA2Z092	11	92	HK	AOCS STR	429	32	disabled
YCA1Z093	11	93	HK	AOCS FDIR Monitoring	562	300	ENABLED
YCA1Z094	11	94	HK	AOCS STR Unit	299	64	ENABLED
YCA2Z095	11	95	HK	AOCS SYS Summary	422	30	disabled
YCA2Z096	11	96	HK	AOCS SYS FDIR Summary	208	45	disabled
YCA2Z097	11	97	HK	AOCS STR Core	201	24	disabled
YCA1Z153	11	153	HK	AOCS Safe Fast	235	60	ENABLED
YCA1Z154	11	154	HK	AOCS Safe Slow	537	120	ENABLED
YCA1Z155	11	155	HK	AOCS AGP/SEE/SLVP Guidance Profiles (One-Shot)	2127	8191	disabled
YCA1Z156	11	156	HK	AOCS SSEA Profile (One-Shot)	3047	8191	disabled
YCA1Z157	11	157	HK	AOCS SSE Profile Segments 1 (One-Shot)	3443	8191	disabled
YCA1Z158	11	158	HK	AOCS SSE Profile Segments 2 (One-Shot)	3027	8191	disabled
YCA1Z159	11	159	HK	AOCS OCM 8Hz	104	0.125	disabled
YCA1Z191	11	191	HK	AOCS S/C STR FDIR Snapshot	264	8191	disabled
YCA1Z192	11	192	HK	AOCS Units FDIR Snapshot	415	8191	disabled
YCA2Z193	11	193	Diag	AOCS Diag STR A	191	1	disabled
YCA2Z194	11	194	Diag	AOCS Diag STR B	175	1	disabled
YCA2Z195	11	195	Diag	AOCS Diag RW 1,2	173	1	disabled
YCA2Z196	11	196	Diag	AOCS Diag FSS A	249	1	disabled
YCA2Z197	11	197	Diag	AOCS Diag FSS A,B	174	1	disabled

YCA2Z198	11	198	Diag AOCS Diag FSS B	86	1	disabled
YCA2Z199	11	199	Diag AOCS Diag RW 3,4	105	1	disabled
YCA2Z200	11	200	Diag AOCS Diag Gyro Sample	210	1	disabled
YCA2Z201	11	201	Diag AOCS Diag Gyro Axis 1,2 A	230	1	disabled
YCA2Z202	11	202	Diag AOCS Diag ACC Monitor	176	1	disabled
YCA2Z203	11	203	Diag AOCS Diag Gyro Axis 1,2 B	229	1	disabled
YCA2Z204	11	204	Diag AOCS Diag CPS Thruster Cmd	232	1	disabled
YCA2Z205	11	205	Diag AOCS Diag Gyro Axis 3,4 A	203	1	disabled
YCA2Z206	11	206	Diag AOCS Diag Gyro Axis 3,4 B	204	1	disabled
YCA2Z207	11	207	Diag AOCS Diag ACC Axis 2,3	181	1	disabled
YCA2Z208	11	208	Diag AOCS Diag ACC Axis 4	181	1	disabled
YCA2Z209	11	209	Diag AOCS Diag CPS FCV,PulseTime	185	1	disabled
YCA2Z210	11	210	Diag AOCS Diag CPS Parameters	135	1	disabled
YCA2Z211	11	211	Diag AOCS Diag Attitude Ctrl.1	680	1	disabled
YCA2Z212	11	212	Diag AOCS Diag Data Fusion.1	689	1	disabled
YCA2Z213	11	213	Diag AOCS Diag Data Fusion.2	112	1	disabled
YCA2Z214	11	214	Diag AOCS Diag Guidance RateCtrl,SunRef	1090	1	disabled
YCA2Z215	11	215	Diag AOCS Diag Guidance Offloading	294	1	disabled
YCA2Z216	11	216	Diag AOCS Diag Data Fusion.3	412	1	disabled
YCA2Z217	11	217	Diag AOCS Diag Ephemeris	1220	1	disabled
YCA2Z218	11	218	Diag AOCS Diag Guidance Wheel,Inertial	351	1	disabled
YCA2Z219	11	219	Diag AOCS Diag Attitude Ctrl.2	208	1	disabled
YCA2Z220	11	220	Diag AOCS Diag ACC Axis 1,2	210	1	disabled
YCA2Z221	11	221	Diag AOCS Diag CPS OnOff Time	887	1	disabled
YCA2Z222	11	222	Diag AOCS Diag Supervisor	146	1	disabled
YCA2Z223	11	223	Diag AOCS Spare Parameters & S130	207	1	disabled
YCA2Z228	11	228	Diag AOCS Other	139	1800	disabled
YCA2Z229	11	229	Diag AOCS OCM 8Hz Diag	105	2	disabled
YCL1Z001	12	1	HK PL Overview	111	300	disabled
YCL2Z002	12	2	HK PL FDIR	175	900	disabled
YCL2Z077	12	77	HK PL Overview	111	300	disabled
YCL1Z078	12	78	HK PL FDIR	175	900	disabled
YCL1Z192	12	192	HK PL FDIR Snapshot	111	8191	disabled
YCL2Z193	12	193	Diag PL Spare Parameters 1	95	1	disabled
YCL2Z194	12	194	Diag PL Spare Parameters 2	171	1	disabled
YCL2Z195	12	195	Diag PL S130 1	199	1	disabled
YCL2Z196	12	196	Diag PL S130 2	135	1	disabled
YCL2Z197	12	197	Diag PL S130 3	131	1	disabled
YCL2Z198	12	198	Diag PL S130 4	165	1	disabled
YCL2Z199	12	199	Diag PL S130 5	151	1	disabled
YCF1Z001	13	1	HK PLF Summary	412	30	ENABLED
YCF1Z002	13	2	HK PLF Summary Thermal	187	60	ENABLED
YCF2Z003	13	3	HK PLF RIU Thermal	1811	300	disabled
YCF2Z004	13	4	HK PLF RIU Other Acq	299	300	disabled
YCF2Z005	13	5	HK PLF RIU FSS Acq	99	300	disabled

YCF2Z006	13	6	HK	PLF Deployment Acq	319	1	disabled
YCF2Z007	13	7	HK	PLF RIU HK	401	300	disabled
YCF2Z008	13	8	HK	PLF PCDU LCLs Acq	755	300	disabled
YCF2Z009	13	9	HK	PLF PCDU EPS	315	300	disabled
YCF2Z010	13	10	HK	PLF PCDU HK	195	300	disabled
YCF2Z011	13	11	HK	PLF Comms Summary	220	300	disabled
YCF2Z012	13	12	HK	PLF APME HK	543	300	disabled
YCF2Z013	13	13	HK	PLF SADE HK	259	300	disabled
YCF2Z014	13	14	HK	PLF DEU HK	375	300	disabled
YCF2Z015	13	15	HK	PLF PCDU EDAC	191	4096	disabled
YCF2Z016	13	16	HK	PLF RIU TM Statuses	123	900	disabled
YCF2Z017	13	17	HK	PLF RIU TM Statuses	124	300	disabled
YCF2Z077	13	77	HK	PLF Summary	412	30	disabled
YCF2Z078	13	78	HK	PLF Summary Thermal	187	60	disabled
YCF1Z079	13	79	HK	PLF RIU Thermal	1811	300	ENABLED
YCF1Z080	13	80	HK	PLF RIU Other Acq	299	300	ENABLED
YCF1Z081	13	81	HK	PLF RIU FSS Acq	99	300	ENABLED
YCF1Z082	13	82	HK	PLF Deployment Acq	319	1	disabled
YCF1Z083	13	83	HK	PLF RIU HK	401	300	ENABLED
YCF1Z084	13	84	HK	PLF PCDU LCLs Acq	755	300	ENABLED
YCF1Z085	13	85	HK	PLF PCDU EPS	315	300	ENABLED
YCF1Z086	13	86	HK	PLF PCDU HK	195	300	ENABLED
YCF1Z087	13	87	HK	PLF Comms Summary	220	300	ENABLED
YCF1Z088	13	88	HK	PLF APME HK	543	300	ENABLED
YCF1Z089	13	89	HK	PLF SADE HK	259	300	ENABLED
YCF1Z090	13	90	HK	PLF DEU HK	375	300	ENABLED
YCF1Z091	13	91	HK	PLF PCDU EDAC	191	4096	ENABLED
YCF1Z092	13	92	HK	PLF RIU TM Statuses	123	900	ENABLED
YCF1Z093	13	93	HK	PLF DST HK	124	300	ENABLED
YCF1Z153	13	153	HK	PLF Essential AOCS	135	60	ENABLED
YCF1Z154	13	154	HK	PLF Essential CPS	125	60	ENABLED
YCF1Z155	13	155	HK	PLF Essential EPS COMMS	249	60	ENABLED
YCF1Z189	13	189	HK	PLF Comms APME FDIR	119	8191	disabled
YCF1Z190	13	190	HK	PLF Comms Generic FDIR	268	8191	disabled
YCF1Z191	13	191	HK	PLF EPS PCDU SADE FDIR	575	8191	disabled
YCF1Z192	13	192	HK	PLF RIU DEU FDIR	607	8191	disabled
YCF2Z195	13	195	Diag	PLF RIU A Diagnostic	331	1	disabled
YCF2Z196	13	196	Diag	PLF RIU B Diagnostic	331	1	disabled
YCF2Z197	13	197	Diag	PLF OCM/WOL Acq	19	1	disabled
YCF2Z198	13	198	Diag	PLF SADE Diagnostic	187	1	disabled
YCF2Z199	13	199	Diag	PLF PCDU Snapshot A	2063	1	disabled
YCF2Z200	13	200	Diag	PLF PCDU Snapshot B	2063	1	disabled
YCF2Z201	13	201	Diag	PLF RIU Last Cmd Function	78	1	disabled
YCF2Z202	13	202	Diag	PLF Spare Parameters	149	1	disabled
YCF2Z203	13	203	Diag	PLF S130	91	1	disabled

YCF2Z229	13	229	Diag	AOCS Profile Temp Buffer - Part 1	2987	8191	disabled
YCF2Z230	13	230	Diag	AOCS Profile Temp Buffer - Part 2	2987	8191	disabled
YCF2Z231	13	231	Diag	SADE Steer Temp Buffer - Part 1	2207	8191	disabled
YCF2Z232	13	232	Diag	SADE Steer Temp Buffer - Part 2	2207	8191	disabled
YCF2Z233	13	233	Diag	SADE Steer INUSE - Part 1	2207	8191	disabled
YCF2Z234	13	234	Diag	SADE Steer INUSE - Part 2	2207	8191	disabled
YCF2Z249	13	249	Diag	AIT Comms low data rate	91	60	disabled
YCF2Z255	13	255	Diag	PLF AIT TM Statuses	25	1	disabled
YCS1Z001	14	1	HK	SYS FMON	203	90	ENABLED
YCS1Z002	14	2	HK	SYS System Performance	285	90	ENABLED
YCS1Z003	14	3	HK	SYS Equipment SCV Status	120	30	ENABLED
YCS1Z004	14	4	HK	SYS TCS Loop SCV Status 1	115	120	ENABLED
YCS1Z005	14	5	HK	SYS TCS Loop SCV Status 2	115	120	ENABLED
YCS2Z006	14	6	HK	SYS Equipment SCV Health	120	900	disabled
YCS2Z007	14	7	HK	SYS TCS Loop SCV Health 1	115	900	disabled
YCS2Z008	14	8	HK	SYS TCS Loop SCV Health 2	115	900	disabled
YCS2Z009	14	9	HK	SYS Equipment SCV Config	120	7200	disabled
YCS2Z010	14	10	HK	SYS TCS Loop SCV Config 1	115	7200	disabled
YCS2Z011	14	11	HK	SYS TCS Loop SCV Config 2	115	7200	disabled
YCS2Z012	14	12	HK	SYS Heartbeat	567	600	disabled
YCS2Z013	14	13	HK	SYS MIL-STD-1553b-BUS Errors	259	7200	disabled
YCS2Z015	14	15	HK	SYS FDIR Monitoring	108	300	disabled
YCS2Z077	14	77	HK	SYS FMON	203	90	disabled
YCS2Z078	14	78	HK	SYS System Performance	285	90	disabled
YCS2Z079	14	79	HK	SYS Equipment SCV Status	120	30	disabled
YCS2Z080	14	80	HK	SYS TCS Loop SCV Status 1	115	120	disabled
YCS2Z081	14	81	HK	SYS TCS Loop SCV Status 2	115	120	disabled
YCS1Z082	14	82	HK	SYS Equipment SCV Health	120	900	ENABLED
YCS1Z083	14	83	HK	SYS TCS Loop SCV Health 1	115	900	ENABLED
YCS1Z084	14	84	HK	SYS TCS Loop SCV Health 2	115	900	ENABLED
YCS1Z085	14	85	HK	SYS Equipment SCV Config	120	7200	ENABLED
YCS1Z086	14	86	HK	SYS TCS Loop SCV Config 1	115	7200	ENABLED
YCS1Z087	14	87	HK	SYS TCS Loop SCV Config 2	115	7200	ENABLED
YCS1Z088	14	88	HK	SYS Heartbeat	567	600	ENABLED
YCS1Z089	14	89	HK	SYS MIL-STD-1553b-BUS Errors	259	7200	ENABLED
YCS1Z090	14	90	HK	SYS LEOP	254	1	disabled
YCS1Z091	14	91	HK	SYS FDIR Monitoring	108	300	ENABLED
YCS1Z153	14	153	HK	SYS Safe Mode Fast	141	60	ENABLED
YCS1Z154	14	154	HK	SYS Safe Mode Slow	321	180	ENABLED
YCS1Z155	14	155	HK	SYS Safe Mode Health	91	900	ENABLED
YCS1Z156	14	156	HK	SYS Safe Mode ULGA	228	300	disabled
YCS1Z192	14	192	HK	System FDIR, SW-OPS Alarm Snapshot	679	8191	disabled
YCS2Z193	14	193	Diag	S130 Extracted Parameters - 1/2	101	1	disabled
YCS2Z194	14	194	Diag	S130 Extracted Parameters - 2/2	166	1	disabled
YCS2Z195	14	195	Diag	SYS Spare Parameters & S130 - 1/2	211	1	disabled

YCS2Z196	14	196	Diag	SYS Spare Parameters & S130 - 2/2	2091	1	disabled
YCS2Z197	14	197	Diag	Extract and Mask Operation Parameters	211	1	disabled
YTC2Z001	16	1	HK	TCS Thermal Loop Data	427	600	disabled
YTC1Z003	16	3	HK	TCS Thermal Overview	45	60	ENABLED
YTC2Z004	16	4	HK	TCS Thermal Validity	115	7200	disabled
YTC1Z077	16	77	HK	TCS Thermal Loop Data	427	600	ENABLED
YTC2Z079	16	79	HK	TCS Thermal Overview	45	60	disabled
YTC1Z080	16	80	HK	TCS Thermal Validity	115	7200	ENABLED
YTC1Z153	16	153	HK	TCS Thermal Loop Tuning Params	843	7200	disabled
YTC1Z154	16	154	HK	TCS Essential	219	600	ENABLED
YTC1Z155	16	155	HK	TCS Config Lines 1 - 21	221	7200	disabled
YTC1Z156	16	156	HK	TCS Config Lines 22 - 42	221	7200	disabled
YTC1Z157	16	157	HK	TCS Config Lines 43 - 63	221	7200	disabled
YTC1Z158	16	158	HK	TCS Config Lines 64 - 84	221	7200	disabled
YTC1Z159	16	159	HK	TCS Config Lines 85 - 104	211	7200	disabled
YTC1Z192	16	192	HK	TCS FDIR Snapshot	435	8191	disabled
YTC2Z193	16	193	Diag	TCS Commanding Time	20	7200	disabled
YTC2Z194	16	194	Diag	TCS Spare Parameters	131	1	disabled

### TC Packets

To set up an HK TM packet in the CSW, send the TC(3,1) plus, if indicated, accompanying TCs(3,138). For Diagnostic packets there is one TC (3,2). Enable with TC (3,5) or TC (3,7).

### HK Packet PID SID Service TC Name TC Description

YCD2Z002	10	2	3,1	ZCD2Z077	Define HK: DMS OBC Status Slow (1/2)
			3,138	ZCD2Z075	Define HK: DMS OBC Status Slow (2/2)
YCD2Z003	10	3	3,1	ZCD2Z078	Define HK: DMS Reconfiguration Reports
YCD2Z004	10	4	3,1	ZCD2Z079	Define HK: DMS CPU Load
YCD2Z005	10	5	3,1	ZCD2Z07C	Define HK: DMS MIL-STD-1553b-BUS Details
YCD2Z006	10	6	3,1	ZCD2Z07D	Define HK: DMS SGM Group Status (1/2)
			3,138	ZCD2Z07T	Define HK: DMS SGM Group Status (2/2)
YCD2Z007	10	7	3,1	ZCD2Z07E	Define HK: DMS SGM Health (1/2)
			3,138	ZCD2Z0A0	Define HK: DMS SGM Health (2/2)
YCD2Z009	10	9	3,1	ZCD2Z07F	Define HK: DMS OMM Packet Stores
YCD2Z010	10	10	3,1	ZCD2Z07G	Define HK: DMS OBCP Details
YCD2Z012	10	12	3,1	ZCD2Z07H	Define HK: DMS Overview Slow
YCD2Z013	10	13	3,1	ZCD2Z07J	Define HK: DMS TC Sequencer Details
YCD2Z014	10	14	3,1	ZCD2Z07K	Define HK: DMS MTL Details
YCD2Z077	10	77	3,1	ZCD2Z071	Define HK: DMS OBC Status Fast
YCD2Z084	10	84	3,1	ZCD2Z072	Define HK: DMS OMM Overview
YCD2Z087	10	87	3,1	ZCD2Z07A	Define HK: DMS Overview Fast (1/2)
			3,138	ZCD2Z07B	Define HK: DMS Overview Fast (2/2)

YCD2Z092	10	92	3,1	ZCD2Z073	Define HK: DMS SSMM Summary
YCD2Z193	10	193	3,2	ZCD2Z074	Define Diag: DMS 1553 Bus Manager Invest
YCD2Z194	10	194	3,2	ZCD2Z01U	Define Diag: DMS Spare Parameters & S130
YCA2Z002	11	2	3,1	ZCA2Z05L	Define HK: AOCS Dynamics SLOW (1/2)
			3,138	ZCA2Z05M	Define HK: AOCS Dynamics SLOW (2/2)
YCA2Z003	11	3	3,1	ZCA2Z05N	Define HK: AOCS Configuration (1/2)
			3,138	ZCA2Z06T	Define HK: AOCS Configuration (2/2)
YCA2Z006	11	6	3,1	ZCA2Z05P	Define HK: AOCS OCM/WOL Slow (1/2)
			3,138	ZCA2Z05R	Define HK: AOCS OCM/WOL Slow (2/2)
YCA2Z011	11	11	3,1	ZCA2Z05S	Define HK: AOCS IMU RAW
YCA2Z017	11	17	3,1	ZCA2Z05T	Define HK: AOCS FDIR Monitoring (1/2)
			3,138	ZCA2Z05U	Define HK: AOCS FDIR Monitoring (2/2)
YCA2Z018	11	18	3,1	ZCA2Z08G	Define HK: AOCS STR Unit
YCA2Z077	11	77	3,1	ZCA2Z05B	Define HK: AOCS Dynamics FAST
YCA2Z081	11	81	3,1	ZCA2Z05C	Define HK: AOCS Dynamics SASM/WSM
YCA2Z084	11	84	3,1	ZCA2Z05D	Define HK: AOCS Estimators Dynamics
YCA2Z085	11	85	3,1	ZCA2Z05E	Define HK: AOCS AMU Dynamics
YCA2Z086	11	86	3,1	ZCA2Z05F	Define HK: AOCS Gyro Dynamics (1/2)
			3,138	ZCA2Z06U	Define HK: AOCS Gyro Dynamics (2/2)
YCA2Z088	11	88	3,1	ZCA2Z05G	Define HK: AOCS FSS
YCA2Z090	11	90	3,1	ZCA2Z05H	Define HK: AOCS Wheels (1/2)
			3,138	ZCA2Z05J	Define HK: AOCS Wheels (2/2)
YCA2Z092	11	92	3,1	ZCA2Z05K	Define HK: AOCS STR
YCA2Z095	11	95	3,1	ZCA2Z05V	Define HK: AOCS SYS Summary (1/2)
			3,138	ZCA2Z05W	Define HK: AOCS SYS Summary (2/2)
YCA2Z096	11	96	3,1	ZCA2Z05X	Define HK: AOCS SYS FDIR Summary
YCA2Z097	11	97	3,1	ZCA2Z08H	Define HK: AOCS STR Core
YCA2Z193	11	193	3,2	ZCA2Z06W	Define Diag: AOCS Diag STR A
YCA2Z194	11	194	3,2	ZCA2Z06X	Define Diag: AOCS Diag STR B
YCA2Z195	11	195	3,2	ZCA2Z06Y	Define Diag: AOCS Diag RW 1,2
YCA2Z196	11	196	3,2	ZCA2Z06Z	Define Diag: AOCS Diag FSS A
YCA2Z197	11	197	3,2	ZCA2Z070	Define Diag: AOCS Diag FSS A,B
YCA2Z198	11	198	3,2	ZCA2Z071	Define Diag: AOCS Diag FSS B
YCA2Z199	11	199	3,2	ZCA2Z072	Define Diag: AOCS Diag RW 3,4
YCA2Z200	11	200	3,2	ZCA2Z073	Define Diag: AOCS Diag Gyro Sample
YCA2Z201	11	201	3,2	ZCA2Z074	Define Diag: AOCS Diag Gyro Axis 1,2 A
YCA2Z202	11	202	3,2	ZCA2Z075	Define Diag: AOCS Diag ACC Monitor
YCA2Z203	11	203	3,2	ZCA2Z076	Define Diag: AOCS Diag Gyro Axis 1,2 B
YCA2Z204	11	204	3,2	ZCA2Z07M	Define Diag: AOCS Diag CPS Thruster Cmd
YCA2Z205	11	205	3,2	ZCA2Z07N	Define Diag: AOCS Diag Gyro Axis 3,4 A



YCA2Z206	11	206	3,2	ZCA2Z07P	Define Diag: AOCS Diag Gyro Axis 3,4 B
YCA2Z207	11	207	3,2	ZCA2Z07R	Define Diag: AOCS Diag ACC Axis 2,3
YCA2Z208	11	208	3,2	ZCA2Z07S	Define Diag: AOCS Diag ACC Axis 4
YCA2Z209	11	209	3,2	ZCA2Z07T	Define Diag: AOCS Diag CPS FCV,PulseTime
YCA2Z210	11	210	3,2	ZCA2Z07U	Define Diag: AOCS Diag CPS Parameters
YCA2Z211	11	211	3,2	ZCA2Z07V	Define Diag: AOCS Diag Attitude Ctrl.1
YCA2Z212	11	212	3,2	ZCA2Z07W	Define Diag: AOCS Diag Data Fusion.1
YCA2Z213	11	213	3,2	ZCA2Z07X	Define Diag: AOCS Diag Data Fusion.2
YCA2Z214	11	214	3,2	ZCA2Z07Y	Define Diag: AOCS Diag Guidance RateCtrl
YCA2Z215	11	215	3,2	ZCA2Z07Z	Define Diag: AOCS Diag Guidance Offloadi
YCA2Z216	11	216	3,2	ZCA2Z080	Define Diag: AOCS Diag Data Fusion.3
YCA2Z217	11	217	3,2	ZCA2Z081	Define Diag: AOCS Diag Ephemeris
YCA2Z218	11	218	3,2	ZCA2Z082	Define Diag: AOCS Diag Guidance Wheel,In
YCA2Z219	11	219	3,2	ZCA2Z083	Define Diag: AOCS Diag Attitude Ctrl.2
YCA2Z220	11	220	3,2	ZCA2Z084	Define Diag: AOCS Diag ACC Axis 1,2
YCA2Z221	11	221	3,2	ZCA2Z085	Define Diag: AOCS Diag CPS OnOff Time
YCA2Z222	11	222	3,2	ZCA2Z086	Define Diag: AOCS Diag Supervisor
YCA2Z223	11	223	3,2	ZCA2Z089	Define Diag: AOCS Spare Parameters & S13
YCA2Z228	11	228	3,2	ZCA2Z060	Define Diag: AOCS Other
YCA2Z229	11	229	3,2	ZCA2Z06V	Define Diag: AOCS OCM 8Hz Diag
YCL2Z002	12	2	3,1	ZCL2Z00Y	Define HK: PL FDIR (1/2)
			3,138	ZCL2Z00Z	Define HK: PL FDIR (2/2)
YCL2Z077	12	77	3,1	ZCL2Z00B	Define HK: PL Overview
YCL2Z193	12	193	3,2	ZCL2Z00R	Define Diag: PL Spare Parameters 1
YCL2Z194	12	194	3,2	ZCL2Z00S	Define Diag: PL Spare Parameters 2
YCL2Z195	12	195	3,2	ZCL2Z00T	Define Diag: PL S130 1
YCL2Z196	12	196	3,2	ZCL2Z00U	Define Diag: PL S130 2
YCL2Z197	12	197	3,2	ZCL2Z00V	Define Diag: PL S130 3
YCL2Z198	12	198	3,2	ZCL2Z00W	Define Diag: PL S130 4
YCL2Z199	12	199	3,2	ZCL2Z00X	Define Diag: PL S130 5
YCF2Z003	13	3	3,1	ZCF2Z026	Define HK: PLF RIU Thermal (1/2)
			3,138	ZCF2Z027	Define HK: PLF RIU Thermal (2/2)
YCF2Z004	13	4	3,1	ZCF2Z028	Define HK: PLF RIU Other Acq
YCF2Z005	13	5	3,1	ZCF2Z029	Define HK: PLF RIU FSS Acq
YCF2Z006	13	6	3,1	ZCF2Z02A	Define HK: PLF Deployment Acq
YCF2Z007	13	7	3,1	ZCF2Z02B	Define HK: PLF RIU HK
YCF2Z008	13	8	3,1	ZCF2Z02C	Define HK: PLF PCDU LCLs Acq
YCF2Z009	13	9	3,1	ZCF2Z02D	Define HK: PLF PCDU EPS
YCF2Z010	13	10	3,1	ZCF2Z02E	Define HK: PLF PCDU HK
YCF2Z011	13	11	3,1	ZCF2Z02F	Define HK: PLF Comms Summary (1/2)

			3,138	ZCF2Z02Y	Define HK: PLF Comms Summary (2/2)
YCF2Z012	13	12	3,1	ZCF2Z02H	Define HK: PLF APME HK
YCF2Z013	13	13	3,1	ZCF2Z02J	Define HK: PLF SADE HK (1/2)
			3,138	ZCF2Z02K	Define HK: PLF SADE HK (2/2)
YCF2Z014	13	14	3,1	ZCF2Z02L	Define HK: PLF DEU HK (1/2)
			3,138	ZCF2Z0A5	Define HK: PLF DEU HK (2/2)
YCF2Z015	13	15	3,1	ZCF2Z02M	Define HK: PLF PCDU EDAC
YCF2Z016	13	16	3,1	ZCF2Z035	Define HK: PLF RIU TM Statuses
YCF2Z017	13	17	3,1	ZCF2Z039	Define HK: PLF RIU TM Statuses
YCF2Z077	13	77	3,1	ZCF2Z022	Define HK: PLF Summary (1/3)
			3,138	ZCF2Z023	Define HK: PLF Summary (2/3)
			3,138	ZCF2Z03V	Define HK: PLF Summary (3/3)
YCF2Z078	13	78	3,1	ZCF2Z024	Define HK: PLF Summary Thermal (1/2)
			3,138	ZCF2Z025	Define HK: PLF Summary Thermal (2/2)
YCF2Z195	13	195	3,2	ZCF2Z020	Define Diag: PLF RIU A Diagnostic
YCF2Z196	13	196	3,2	ZCF2Z021	Define Diag: PLF RIU B Diagnostic
YCF2Z197	13	197	3,2	ZCF2Z038	Define Diag: PLF OCM/WOL Acq
YCF2Z198	13	198	3,2	ZCF2Z02Z	Define Diag: PLF SADE Diagnostic
YCF2Z199	13	199	3,2	ZCF2Z031	Define Diag: PLF PCDU Snapshot A
YCF2Z200	13	200	3,2	ZCF2Z032	Define Diag: PLF PCDU Snapshot B
YCF2Z201	13	201	3,2	ZCF2Z037	Define Diag: PLF RIU Last Cmd Function
YCF2Z202	13	202	3,2	ZCF2Z03T	Define Diag: PLF Spare Parameters
YCF2Z203	13	203	3,2	ZCF2Z03W	Define Diag: PLF S130
YCF2Z229	13	229	3,2	ZCF2Z0BV	Define Diag: AOCS Profile Temp Buffer -
YCF2Z230	13	230	3,2	ZCF2Z0BW	Define Diag: AOCS Profile Temp Buffer -
YCF2Z231	13	231	3,2	ZCF2Z0BT	Define Diag: SADE Steer Temp Buffer - Pa
YCF2Z232	13	232	3,2	ZCF2Z0BU	Define Diag: SADE Steer Temp Buffer - Pa
YCF2Z233	13	233	3,2	ZCF2Z033	Define Diag: SADE Steer INUSE - Part 1
YCF2Z234	13	234	3,2	ZCF2Z034	Define Diag: SADE Steer INUSE - Part 2
YCF2Z249	13	249	3,2	ZCF2Z03U	Define Diag: AIT Comms low data rate
YCF2Z255	13	255	3,2	ZCF2Z036	Define Diag: PLF AIT TM Statuses
YCS2Z006	14	6	3,1	ZCS2Z087	Define HK: SYS Equipment SCV Healt (1/3)
			3,138	ZCS2Z088	Define HK: SYS Equipment SCV Healt (2/3)
			3,138	ZCS2Z0C6	Define HK: SYS Equipment SCV Healt (3/3)
YCS2Z007	14	7	3,1	ZCS2Z08A	Define HK: SYS TCS Loop SCV Health (1/2)
			3,138	ZCS2Z08B	Define HK: SYS TCS Loop SCV Health (2/2)
YCS2Z008	14	8	3,1	ZCS2Z08C	Define HK: SYS TCS Loop SCV Health (1/2)
			3,138	ZCS2Z08D	Define HK: SYS TCS Loop SCV Health (2/2)
YCS2Z009	14	9	3,1	ZCS2Z08E	Define HK: SYS Equipment SCV Confi (1/3)
			3,138	ZCS2Z08F	Define HK: SYS Equipment SCV Confi (2/3)

			3,138	ZCS2Z0C7	Define HK: SYS Equipment SCV Confi (3/3)
YCS2Z010	14	10	3,1	ZCS2Z08G	Define HK: SYS TCS Loop SCV Config (1/2)
			3,138	ZCS2Z08H	Define HK: SYS TCS Loop SCV Config (2/2)
YCS2Z011	14	11	3,1	ZCS2Z08J	Define HK: SYS TCS Loop SCV Config (1/2)
			3,138	ZCS2Z08K	Define HK: SYS TCS Loop SCV Config (2/2)
YCS2Z012	14	12	3,1	ZCS2Z089	Define HK: SYS Heartbeat
YCS2Z013	14	13	3,1	ZCS2Z0A8	Define HK: SYS MIL-STD-1553b-BUS E (1/2)
			3,138	ZCS2Z0A9	Define HK: SYS MIL-STD-1553b-BUS E (2/2)
YCS2Z015	14	15	3,1	ZCS2Z0AA	Define HK: SYS FDIR Monitoring
YCS2Z077	14	77	3,1	ZCS2Z080	Define HK: SYS FMON
YCS2Z078	14	78	3,1	ZCS2Z07Y	Define HK: SYS System Performance (1/2)
			3,138	ZCS2Z00M	Define HK: SYS System Performance (2/2)
YCS2Z079	14	79	3,1	ZCS2Z081	Define HK: SYS Equipment SCV Statu (1/3)
			3,138	ZCS2Z082	Define HK: SYS Equipment SCV Statu (2/3)
			3,138	ZCS2Z0C5	Define HK: SYS Equipment SCV Statu (3/3)
YCS2Z080	14	80	3,1	ZCS2Z083	Define HK: SYS TCS Loop SCV Status (1/2)
			3,138	ZCS2Z084	Define HK: SYS TCS Loop SCV Status (2/2)
YCS2Z081	14	81	3,1	ZCS2Z085	Define HK: SYS TCS Loop SCV Status (1/2)
			3,138	ZCS2Z086	Define HK: SYS TCS Loop SCV Status (2/2)
YCS2Z193	14	193	3,2	ZCS2Z0AC	Define Diag: S130 Extracted Parameters -
YCS2Z194	14	194	3,2	ZCS2Z0AD	Define Diag: S130 Extracted Parameters -
YCS2Z195	14	195	3,2	ZCS2Z0CA	Define Diag: SYS Spare Parameters & S130
YCS2Z196	14	196	3,2	ZCS2Z0CB	Define Diag: SYS Spare Parameters & S130
YCS2Z197	14	197	3,2	ZCS2Z0C8	Define Diag: Extract and Mask Operation
YTC2Z001	16	1	3,1	ZTC2Z017	Define HK: TCS Thermal Loop Data (1/2)
			3,138	ZTC2Z018	Define HK: TCS Thermal Loop Data (2/2)
YTC2Z004	16	4	3,1	ZTC2Z01K	Define HK: TCS Thermal Validity
YTC2Z079	16	79	3,1	ZTC2Z01A	Define HK: TCS Thermal Overview
YTC2Z193	16	193	3,2	ZTC2Z019	Define Diag: TCS Commanding Time
YTC2Z194	16	194	3,2	ZTC2Z01M	Define Diag: TCS Spare Parameters

## Thermal Control loops

### **CSW V3.1.2**

TCs 131,1 to the CSW (TCS) for setting the live upper & lower temperature limits of the control loops.  
TCs 132,3 for configuring the default limits in SGM.

<b>Loop ID</b>	<b>TC 131,1</b>	<b>TC Description</b>	<b>TC 132,3</b>
001 IMU-120	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
002 GEU-120	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
003 IMU-200	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
004 -Z FSS	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
005 +X FSS	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
006 WDE 1-3	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
007 WDE-4	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
008 STR	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
009 WEM MY-MZ	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
010 WEM MY-PZ	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
011 WEM PY-MZ	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
012 WEM PY-PZ	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
013 RFDA	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
014 EPC1 X	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
015 EPC2 X	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
016 OBC	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
017 SADM-PY	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
018 SADM-MY	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
019 MMH_Inlet	ZTC4Z001	TCS Set limits: ANY G15K 4D489	ZCD4Z001
020 MON_Inlet	ZTC4Z001	TCS Set limits: ANY G15K 4D489	ZCD4Z001
021 MMH_Outlet	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
022 MON_Outlet	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
023 Thruster 3A	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
024 Thruster 3B	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
025 Thruster 4A	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
026 Thruster 4B	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
027 Thruster 1A	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
028 Thruster 1B	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
029 Thruster 2A	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
030 Thruster 2B	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
031 Thruster 7A	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006
032 Thruster 7B	ZTC4Z006	TCS Set limits: ANY YSI-44907	ZCD4Z006

033 Thruster 8A	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
034 Thruster 8B	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
035 Thruster 5A	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
036 Thruster 5B	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
037 Thruster 6A	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
038 Thruster 6B	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
039 Thruster_9A	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
040 Thruster_9B	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
041 Press_Tank	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
042 MON_Gauging	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
043 MMH_Gauging	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
044 METIS Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
045 PHI Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
046 SPICE Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
047 EUI Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
048 MY_RS_Zone	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
049 STIX Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
050 SWA Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
051 RPW Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
052 MAG Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
053 EPD Ebox	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
054 SWA PAS	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
056 PHI_HE	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
057 PHI_CE	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
058 STIX_CE	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
059 EUI_CE	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
060 EUI_ME	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
061 EUI_HE	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
062 METIS_HE	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
063 METIS_ME	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
064 METIS_CE	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
065 SPICE_CE	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
066 CPS_MZ_Panel	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
067 CPS_Zone_1	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
068 CPS_Zone_2	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
069 CPS_Zone_4	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
070 CPS_Zone_5	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
071 CPS_Zone_6	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
072 CPS_Zone_7	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
073 CPS_Zone_8	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001

074 CPS_Zone_9	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
075 CPS_Zone_10	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
076 CPS_FD V	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
077 Battery	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
078 Boom_Baffle	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
079 EUI_ME2	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
080 HGA_Az_Motor	ZTC4Z002 TCS Set limits: ANY PT-1000	ZCD4Z002
081 HGA_El_Motor	ZTC4Z002 TCS Set limits: ANY PT-1000	ZCD4Z002
082 MGA_El_Motor	ZTC4Z002 TCS Set limits: ANY PT-1000	ZCD4Z002
086 ANT_PZ_PA	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
087 ANT_PY_PA	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
088 ANT_MY_PA	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
089 RPW SCM	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
090 SoloHI EB+OU	ZTC4Z005 TCS Set limits: ANY UTC 0118MM	ZCD4Z005
091 HET-EPT 1	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
092 HET-EPT 2	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
093 EPD SIS	ZTC4Z006 TCS Set limits: ANY YSI-44907	ZCD4Z006
094 EPD STEP	ZTC4Z001 TCS Set limits: ANY G15K 4D489	ZCD4Z001
095 SWA EAS	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
096 SWA HIS	ZTC4Z002 TCS Set limits: ANY PT-1000	ZCD4Z002
097 MAG OBS	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003
098 MAG IBS	ZTC4Z003 TCS Set limits: ANP PT-1000	ZCD4Z003

### Model-dependent objects

Model-dependent objects in the SIS database are identified by one of the following classifications.

Classification	Definition
(blank)	Model-independent
ETB	EM-only data
PFM	FM-only data
OB	On-board generated & consumed TM/TC, e.g. between CSW and Payloads; never used on Ground.

### Source of model-dependent designation

Unit	Reference
MAG	Table 2.5 of MAG Hardware configuration: Command restrictions specific to EM and/or FM
SPICE	Separate IDBs for EM (V5.xx) and FM (V7+) units.
RPW	Separate IDBs for EM & FM (same version number, different suffix).
DST	Provided by Comms Architect via DCRs.
CSW	CSW <=> Payload interaction : Derived from PUS TM/TC IRD SOL.S.ASTR.TN.00079.

List of model-dependent objects

*Objects included in the categories below have the indicated model dependency.*

### 1) By component

This SRDB release is only valid with the units listed here when their model is EM or FM, as indicated in the Build Specification on page 1.

Unit	Model
SPICE	ETB or PFM – see page 1
RPW	ETB or PFM – see page 1

### 2) By service

All TM/TC packets on the services listed here are generated and consumed on-board and are not part of the interface with Ground.

Service	From	To	Description	Model
TC 9,129	CSW	Payload, SSMM, STR	Time Synchronisation	OB
TC 20,128	CSW	Payload	Inter-instrument communication	OB
TC 22,1	CSW	Payload	Request Payload to report context	OB
TM 22,2	Payload	CSW	Payload context data	OB
TC 22,3	CSW	Payload	Restore context	OB

### 3) By object

<b>Partition</b>	<b>Model</b>	<b>Obj.type</b>	<b>Name</b>	<b>Description</b>
MAG	PFM	ABTC	ZIM22701	Set OBS Range (FM)
MAG	PFM	ABTC	ZIM22702	Set IBS Range (FM)
MAG	PFM	ABTC	ZIM22705	Enable FEE Auto Range (FM)
MAG	PFM	ABTC	ZIM22706	Disable FEE Auto Range (FM)
MAG	PFM	ABTC	ZIM22707	Set FEE Delay Val parameter (FM)
MAG	PFM	ABTC	ZIM22734	Set Active HKADC to Redundant (FM)
MAG	PFM	ABTC	ZIM22737	Set FOB Clock to Internal (FM)
MAG	PFM	ABTC	ZIM22910	Enable FIB ramp (FM)
MAG	PFM	ABTC	ZIM22911	Enable FOB ramp (FM)
ZEQT03	PFM	ABTC	ZDSG0010	Dst-Tx A Set RF Power (DST-A PFM)
ZEQT03	PFM	ABTC	ZDSG1010	Dst-Tx B Set RF Power (DST-B FM1)
ZSCO02	ETB	ABTC	ZCS2Z07S	Dst Set Tx output power (EM)
ZSCO02	PFM	ABTC	ZCS2Z07T	Dst Set Tx output power (A:PFM)
ZSCO02	PFM	ABTC	ZCS2Z07U	Dst Set Tx output power (B:FM1)
ZSCO02	PFM	ABTC	ZCS2Z07V	Dst Set Tx output power (FM2)

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