

EPIC Housekeeping Data File

The EPIC housekeeping data file is in ASCII, comma-separated-variable (CSV) format. Each file contains one day of housekeeping data and has a file name of the form

epic_hskp_yyyyddd.txt

where

yyyy is the four-digit year

ddd is the three-digit day-of-year

File contents:

- Line 1: a header line giving the file name and creation date
- Line 2: a line of the 344 column titles and the units of measure in parentheses where applicable, all separated by commas.
- Line 3-n: Approximately 900 entry lines of housekeeping data (@ 96-second resolution)
 - Each entry line contains a time field (yyyy-dddThh:mm:ss.ss) followed by 343 channels separated by commas.

List of common abbreviations and acronyms used in column titles:

Leading "E"	This channel is associated with the EPIC instrument
Leading "D"	This Channel is associated with the EPIC instrument Data Processing Unit (DPU)
Leading "I"	This Channel is associated with the EPIC ICS subsystem
Leading "S"	This Channel is associated with the EPIC STICS subsystem
AE	analog electronics
Al, Alrm	alarm
Aper	aperture (for ICS)
Cal	calibration
Ch	channel
Chk	check
Cmd	command
Cur	current
Disch	Discharge
DPPS	deflection plate power supply (for STICS)
E, Enrgy	energy
EDB	engineering data block
Ena	enable
Err	error
ESp	energy stop
ESt	energy start
H/W	hardware
HV	high voltage
HVPS	high voltage power supply

kV	kilovolts
Lim	limit
LVPS	low voltage power supply
mA	milliamps
MCP	micro channel plate
Mem	memory
mV	millivolts
NSp	north stop
NSt	north start
Ovr	over
PHA	pulse height analysis
Positn	position
PS	power supply
Pwr	power
SSp	south stop
SSt	south start
Subcom	subcommutation
Supl	supply
Temp	temperature
Thresh	threshold
TOF	time of flight
V	volts
Val	value

Table 1 – List of housekeeping channels

Column	Title	Type
1	Time	time
2	S Cmd HV NSt Lim(kV)	number
3	S Cmd HV ESt Lim(kV)	number
4	S Cmd HV SSt Lim(kV)	number
5	S Cmd HV NSp Lim(kV)	number
6	S Cmd HV ESp Lim(kV)	number
7	S Cmd HV SSp Lim(kV)	number
8	S Cmd HV TOF Lim(kV)	number
9	S Cmd HV NSt Lev(kV)	number
10	S Cmd HV ESt Lev(kV)	number
11	S Cmd HV SSt Lev(kV)	number
12	S Cmd HV NSp Lev(kV)	number
13	S Cmd HV ESp Lev(kV)	number
14	S Cmd HV SSp Lev(kV)	number
15	S Cmd HV TOF Lev(kV)	number
16	S HV NSt V Value(V)	number
17	S HV ESt V Value(V)	number
18	S HV SSt V Value(V)	number
19	S HV NSp V Value(V)	number
20	S HV ESp V Value(V)	number
21	S HV SSp V Value(V)	number
22	S HV TOF V Value(V)	number
23	S MCP/TOF Inpt I(mA)	number
24	S Ground (mV)	number

25	S DPPS I (mA)	number
26	S AE #1 Temp (C)	number
27	S Sensor #2 Temp(C)	number
28	S Sensor #3 Temp(C)	number
29	S Sensor #4 Temp(C)	number
30	S LVPS +6 V (V)	number
31	S LVPS -6 V (V)	number
32	S LVPS +5.2 V (V)	number
33	S LVPS -5.2 V (V)	number
34	S LVPS +12 V (V)	number
35	S LVPS SSDBias V(V)	number
36	S LVPS Input I (ma)	number
37	S LVPS -12 V (V)	number
38	S N Enrgy Thresh(kV)	number
39	S E Enrgy Thresh(kV)	number
40	S S Enrgy Thresh(kV)	number
41	S Cmd TOF CalLev(kV)	number
42	S Cmd Eng CalLev(kV)	number
43	S +DPPS V Lev (kV)	number
44	S -DPPS V Lev (kV)	number
45	S +DPPS Disch ct()	number
46	S -DPPS Disch ct()	number
47	I Cmd HV NSp Lim(kV)	number
48	I Cmd HV NSt Lim(kV)	number
49	I Cmd HV SSp Lim(kV)	number

50	I Cmd HV SSt Lim(kV)	number
51	I Cmd HV TOF Lim(kV)	number
52	I Cmd HV NSp Lev(kV)	number
53	I Cmd HV Nst Lev(kV)	number
54	I Cmd HV SSp Lev(kV)	number
55	I Cmd HV SSt Lev(kV)	number
56	I Cmd HV TOF Lev(kV)	number
57	I Energy Cal Lev(kV)	number
58	I HV NSp V Value(V)	number
59	I HV Nst V Value(V)	number
60	I HV SSp V Value(V)	number
61	I HV SSt V Value(V)	number
62	I HV TOF V Value(V)	number
63	I MCP/TOF Inpt I(mA)	number
64	I Cmd TOF CalLev()	number
65	I Ground V (mV)	number
66	I Motor I (mA)	number
67	I AE #1 Temp (C)	number
68	I Sensor #2 Temp(C)	number
69	I Sensor #3 Temp(C)	number
70	I Sensor #4 Temp(C)	number
71	I LVPS +6 V (V)	number
72	I LVPS -6 V (V)	number
73	I LVPS +5.2 V (V)	number
74	I LVPS -5.2 V (V)	number
75	I LVPS +12 V (V)	number
76	I LVPS SSDBias V(V)	number
77	I LVPS Input I (mA)	number
78	I LVPS -12 V (V)	number
79	I N Enrgy Thresh(kV)	number
80	I EDet1 Enrgy Th(kV)	number
81	I S Enrgy Thresh(kV)	number
82	I EDet2 Enrgy Th(kV)	number
83	D DPU Temp	number
84	S STICS Temp	number
85	I ICS Temp	number
86	E +5v Current	number
87	E +29v Current	number
88	S Cmd Val EvMode	number
89	S Step Seq #	number
90	D H/W Reg MREG2	number
91	D H/W Reg C_COM	number
92	I Mass PHA Range	number
93	I Enrgy PHA Rang	number
94	I Cmd Val EvMode	number
95	I S Aper Positn	number
96	I N Aper Positn	number
97	D Cnt Val Ex Cmd	number
98	D 2Lst Val BCCmd	number
99	D 1Lst Val BCCmd	number
100	D Lst Val BC Cmd	number
101	D # InValid Cmds	number
102	D Lst InV BC Cmd	number
103	D ErCode Inv Cmd	number
104	D Reset Cause	number
105	D D_PLDBAD	number
106	D Reset-Counter	number
107	Time to CurStrob	number
108	D Prog Load Adrs	number
109	S Mem Err Class	number
110	I Mem Err Class	number
111	S Ir MemErr Clas	number
112	I Ir MemErr Clas	number

113	E Sun Sensor	number
114	E Parametr Index	number
115	E SciencRec Cntr	number
116	E SunPuls Offset	number
117	D D_SENCMD Answr	number
118	S Mem DblEr Clas	number
119	I Mem DblEr Clas	number
120	P-RAM Singl Errs	number
121	P-ROM Singl Errs	number
122	# AutoReconf Lft	number
123	20D EDB Sync ID	number
124	111D EDB Sync ID	number
125	E EDB Cntr	number
126	E Spin Cntr	number
127	E MeasurSpinCntr	number
128	E DPUSubcomIndex	number
129	E Sensor Mode	number
130	E Time Tag	number
131	S DPPS Step #	number
132	E Subcom Index	number
133	E Subcom HSKP	number
134	E BYTE4 & 07H	number
135	BC Ans LstBlkCmd	number
136	Cur Prog Address	number
137	S +DPPS Tar Stat	state
138	S HV TOF TarStat	state
139	S HV SSp TarStat	state
140	S HV ESp TarStat	state
141	S HV NSp TarStat	state
142	S HV SSt TarStat	state
143	S HV ESt TarStat	state
144	S HV NSt TarStat	state
145	S -DPPS Tar Stat	state
146	S LVPS OvrCur Fl	state
147	S AE IF Echo Chk	state
148	S Test Logic	state
149	S S SSD PrAmpPwr	state
150	S E SSD PrAmpPwr	state
151	S N SSD PrAmpPwr	state
152	S South Time	state
153	S Equatorl Stop	state
154	S Equat Start B	state
155	S Equat Start A	state
156	S North Time	state
157	S Time Cal	state
158	S Slow Rate Cal	state
159	S Multiple Stop	state
160	S Multiple Start	state
161	S Det Mn BiasPwr	state
162	S Rat2 ComprCode	state
163	S Rat1 ComprCode	state
164	S South Bias	state
165	S Equatoril Bias	state
166	S North Bias	state
167	S Aperature Stat	state
168	I I/F Err Chk Md	state
169	I Cal Readout Md	state
170	I LVPS Ovr Cur	state
171	I Enrgy CalPwr E	state
172	I Tst Log Enable	state
173	I S SSD PrAmpPwr	state
174	I EIDet PrAmpPwr	state
175	I N SSD PrAmpPwr	state

176	I Mas PHA RngFrz	state
177	I EngyPHA RngFrz	state
178	I S Stop Disable	state
179	I S Strt Disable	state
180	I N Strt Disable	state
181	I N Stop Disable	state
182	I PHA FIFO Mode	state
183	I Positn SensPwr	state
184	I Time Cal Pwr	state
185	I Slow Rate Anal	state
186	I Multiple Stop	state
187	I Multiple Start	state
188	I Detect Bias Hi	state
189	I AutoAper Contr	state
190	I Sec Sum Schm F	state
191	I Hd Sum Schm F	state
192	I Sec Sum Schm D	state
193	I Hd Sum Schm D	state
194	I Sec Sum Schm C	state
195	I Hd Sum Schm C	state
196	I Sth Motor Pwr	state
197	I Nth Motor Pwr	state
198	I Rat2 ComprCode	state
199	I Rat1 ComprCode	state
200	I HV TOF TarStat	state
201	I HV SSp TarStat	state
202	I HV NSp TarStat	state
203	I HV SSs TarStat	state
204	I HV NST TarStat	state
205	I Reduc Motor Mv	state
206	Watch Dog	state
207	D NVRAM Cont Err	state
208	SnapshT CFG Load	state
209	Current CFG Load	state
210	SnapshT CFG ICS	state
211	Current CFG ICG	state
212	S Snapshot CFG	state
213	S Current CFG	state
214	Test Table Stat	state
215	S LwLev LU_Test	state
216	I LwLev LU_Test	state
217	PMem LwLev LU_Ts	state
218	PCir LwLev LU_Ts	state
219	Alarm Monitor St	state
220	Sector Clock Src	state
221	Internl Sect Clk	state
222	S AE Temp Alm En	state
223	S AE Temp Alm Al	state
224	S Temp 2 Alm En	state
225	S Temp 2 Alm Al	state
226	S Temp 3 Alm En	state
227	S Temp 3 Alm Al	state
228	S Temp 4 Alm En	state
229	S Temp 4 Alm Al	state
230	I AE Temp Alm En	state
231	I AE Temp Alm Al	state
232	I Temp 2 Alm En	state
233	I Temp 2 Alm Al	state
234	I Temp 3 Alm En	state
235	I Temp 3 Alm Al	state
236	I Temp 4 Alm En	state
237	I Temp 4 Alm Al	state
238	S +6V Cur Alm E	state

239	S +6v Cur Alm A	state
240	S NST V Alm Ena	state
241	S NST V Alm Alr	state
242	S NSp V Alm Ena	state
243	S NSp V Alm Alm	state
244	S EST V Alm Ena	state
245	S EST V Alm Alm	state
246	S ESs V Alm Ena	state
247	S ESs V Alm Alm	state
248	S SSs V Alm Ena	state
249	S SSs V Alm Alm	state
250	S SSp V Alm Ena	state
251	S SSp V Alm Alm	state
252	S TOF V Alm Ena	state
253	S TOF V Alm Alm	state
254	I +6V I Alm Alm	state
255	I +6V I Alm Alm	state
256	I NST V Alm Ena	state
257	I NST V Alm Alm	state
258	I NSp V Alm Ena	state
259	I NSp V Alm Alm	state
260	I SSs V Alm Ena	state
261	I SSs V Alm Alm	state
262	I SSp V Alm Ena	state
263	I SSp V Alm Alm	state
264	I TOF V Alm Ena	state
265	I TOF V Alm Alm	state
266	S LVPS I Alm En	state
267	S LVPS I Alm Al	state
268	S MCPPS I Alm E	state
269	S MCPPS I Alm A	state
270	S DPPS I Alm En	state
271	S DPPS I Alm Al	state
272	I LVPS I Alm En	state
273	I LVPS I Alm Al	state
274	I MCPPS I Alm E	state
275	I MCPPS I Alm A	state
276	I Motor I Alm E	state
277	I Motor I Alm A	state
278	Alarm Ch 28 Enab	state
279	Alarm Ch 28 Alm	state
280	Alarm Ch 29 Enab	state
281	Alarm Ch 29 Alm	state
282	Alarm Ch 30 Enab	state
283	Alarm Ch 30 Alm	state
284	Alarm Ch 31 Enab	state
285	Alarm Ch 31 Alm	state
286	ICS LVPS	state
287	STICS LVPS	state
288	EPIC Instr Pwr	state
289	D Invalid Cmd	state
290	D Cmd Error	state
291	D Cmd Val	state
292	HV Enable	state
293	I MCPPS Steping	state
294	S MCPPS Steping	state
295	HSKP Sync	state
296	I Aperatur Motor	state
297	S Memory Image	state
298	S Actuator Pwr	state
299	I Cmd Status	state
300	S Cmd Status	state
301	S -DPPS Enable	state

302	S TOF PS Disable	state
303	S SSp MCP Enable	state
304	S ESsp MCP Enable	state
305	S NSp MCP Enable	state
306	S SSt MCP Enable	state
307	S ESst MCP Enable	state
308	S NSt MCP Enable	state
309	I TOF Enable	state
310	I SSt Enable	state
311	I SSp Enable	state
312	I NSt Enable	state
313	I NSP Enable	state
314	I Class H/W Stat	state
315	S Class H/W Stat	state
316	S +DPPS Enable	state
317	I Table Calculat	state
318	S Table Calculat	state
319	S AE Ovr Current	state
320	I AE Ovr Current	state
321	EPIC DPU Power	state
322	EPIC Bake Heatrs	state
323	S Supl Heaters	state

324	I Supl Heaters	state
325	I MCP Power	state
326	S MCP Power	state
327	S DPPS Power	state
328	Instrument Power	state
329	S HVPS SSp (6)	state
330	S HVPS ESsp (5)	state
331	S HVPS NSp (4)	state
332	S HVPS SSt (3)	state
333	S HVPS ESst (2)	state
334	S HVPS NSt (1)	state
335	I Analog Power	state
336	S Analog Power	state
337	S HVPS TOF (7)	state
338	S +DPPS	state
339	S -DPPS	state
340	I HVPS TOF (5)	state
341	I HVPS SSp (4)	state
342	I HVPS NSp (3)	state
343	I HVPS SSt (2)	state
344	I HVPS NSt (1)	state