

03-12 SYSTEM ENQUIRY

Sreejith

Step	Instruction	Address	Comment	Octal	Step
00			→ (Main ID Buffer (DSCIF) 3404-		00
01			→ State Name Table 2363		01
02			→ File Name Table 0100-		02
03	Offset Addresses			000000	03
04			H SP		04
05			Po 0/1402		05
06			SPLIT "REPEAT:"	300400	06
07			L 2057-		07
10	JSBR	IL 1670	FETCH * SE		10
11	P=100002				11
12	P2=0/0211		Rein-up Module (11)		12
13	CHASTIP		(No Rein-up module.)		13
14	LDA	Z 0201	Ref 1		14
15	STA	Z 0077			15
16	LDA	IL 0077	System Date *ISE-		16
17	JSBR	IL 1751	Month Date		17
20	P=20722-				20
21	LDA	Z 0106	Version No.		21
22	STA	Z 0066			22
23	LDA	Z 1715	Case No.		23
24	JUMP	Z 1042	Ref to RSA(10)		24
25	STA	Z 0177			25
26	JSBR	IL 1765	Case length (tr) → DSCIF		26
27	P=0,0,1,4				27
30	P2=0/0177				30
31	P3=20672-				31
32	LDA	Z 0004	"H SP"		32
33	STA	Z 0011			33
34	JSBR	IL 1652	P4T Date etc.		34
35	P=20632-				35
36	JSBR	Z 0300	Display Total Data		36
37	JSBR	Z 0600	Display Range can have		37
40	JSBR	Z 0700	Display Period Data.		40
41	LDA	Z 0077	Indicator		41
42	A=0				42
43	JSBR	Z 0100	Display File Data		43
44	LDA	Z 0577	Auto-report Card/Order		44
45	CMPA	Z 0233	"ML ESC"		45
46	JUMP	Z 0347	No file report		46
47	JSBR	IL 1742	Load overflow		47
50	STA	Z 0577	Auto-report Card.		50
51	CMPA	Z 0233	"ML ESC"		51
52	JUMP	Z 0347	Error file report		52
53	JSBR	IL 1625	SUSPEND		53
54	JUMP	Z 0016	Continue		54
55					55
56					56
57			CR R		57
60			E P		60
61			E A		61
62			T ?		62
63			ML CAN		63
64			L O		64
65			S -		65
66			Version No.		66
67			SP		67
70			Case (tr)		70
71					71
72			SP		72
73					73
74			System Date		74
75					75
76					76
77			Module II flag. MUL	000000	77

OS-12 System Engineering

Step	Instruction	Address	Comment	Octal	Step	
00	*ENTRY		DISPLAY FILE DATA	←BA→	00	
01	LDA	Z 0215	"NUL CR"		01	
02	STA	0272	} Initialise		02	
03	LDA	Z 0240		"NUL SP"		03
04	STA	0273				04
05	JSBR	IL 1652		PUT Header		05
06	P1=3050-				06	
07	JSBR	IL 1652	PUT Header		07	
10	P1=3051-				10	
11	LDA	0002	→ File Name Table		11	
12	STA	0177			12	
13	LDA	Z 0302	CF64		13	
14	STA	0176	Counter		14	
15	CHB	0177			15	
16	STA	0124	File ID		16	
17	LDA	I 0177	→ Name	*NEXT file	17	
20	AND				20	
21	JUMP	0126	Bypass		21	
22	STA	0125			22	
23	JSBR	0200	Display File Alloc.		23	
24	P1=		File ID		24	
25	P2=		→ ASCII		25	
26	INSZ	0124	File ID		26	
27	INSZ	0177	Table Pointer		27	
30	DESZ	0176	Counter		30	
31	JUMP	0117	auto next file		31	
32	JUMP	I 0100	return		32	
33	ADB	Z 0202	CF1	(from 0264)	33	
34	LDA	IL B	= No. of Sectors in File		34	
35	STA	0275			35	
36	ADB	Z 0202	CF2 → FSB		36	
37	JUMP	0270			37	
40	STA	0210		(from 0202)	40	
41	JSBR	IL 1612	0. for → ASCII (File ID)		41	
42	P1= 2172E-				42	
43	JSBR	IL 1741	Open & read File ID		43	
44	P1= 2174E-				44	
45	P2= 3401-				45	
46	P3= 3402-				46	
47	JUMP	0203			47	
50	INCB			(from 0515)	50	
51	LDA	IL B	= Address		51	
52	CHB				52	
53	CMPA	0361	3/0775		53	
54	LDB	0370	→ "UNREADY"		54	
55	CMPA	0362	4/0345		55	
56	LDB	0371	→ "SUSPENDED"		56	
57	CMPA	0360	3/1133		57	
60	LDB	0372	→ "Halted"		60	
61	BNB				61	
62	JUMP	1175			62	
63	STB	0165			63	
64	JSBR	IL 1741	Open & read Description		64	
65	P1=				65	
66	P1= 3436-				66	
67	P3= 12402-				67	
70	JUMP	1164			70	
71					71	
72					72	
73			after File ID		73	
74					74	
75			NUL		75	
76			Counter		76	
77			File Name Table Points		77	

OS-12 SE

Step	Instruction	Address	Comment	Octal	Step
00	*ENTRY		DISPLAY FILE ALLOCATION	← PA →	00
01	LDA	I 0200	= File Identifier		01
02	JUMP	0140	Patch.		02
03	INSZ	0200			03
04	LDA	I 0200	→ Name		04
05	STA	0231			05
06	INSZ	0200			06
07	JSR	I2 1700	Edgment / Name FCZ		07
10	P=		Word		10
11	CMPA	0276	201421		11
12	SKIP				12
13	CMPA	0277	201422		13
14	SKIP				14
15	JUMP	0263	Patch		15
16	ADB	Z 0204			16
17	LDA	I2 B	= Max. record no.		17
20	DECB				20
21	SFA	I2 B	= Min. record no.		21
22	INCA				22
23	STA	0275	= No. of records allocated		23
24	JUMP	0267	Patch.		24
25	STB	0242	→ Count of free records		25
26	SFA	I2 B			26
27	STA	0274	= No. of free records.		27
30	JSR	I2 1741	Move & Pad ASCII name		30
31	P=				31
32	P= 3402½-				32
33	B= 14 clines				33
34	JSR	I2 1765	Allocated → ASCII		34
35	P= 0, 0, 1, 7				35
36	B= 2275-				36
37	B= 3411½-				37
40	JSR	I2 1765	In Use → ASCII		40
41	P= 0, 0, 1, 7				41
42	P=				42
43	B= 3415-				43
44	JSR	I2 1765	Free → ASCII		44
45	P= 0, 0, 1, 7				45
46	P= 2274-				46
47	B= 3420½-				47
50	LDA	0272	} Swap "NUL CR" or "NUL SP"		50
51	LDB	0273			51
52	STB	0272			52
53	STA	0273			53
54	JSR	I2 1725	STA		54
55	P= 3400-				55
56	JSR	I2 1725	STA		56
57	P= 3424-				57
60	JSR	I2 1652	P4T clat 1/3		60
61	P= 3400½-				61
62	JUMP	I 0200	Return.		62
63	CMPA	0266	201424 (Patch from 0215)		63
64	JUMP	0133			64
65	JUMP	I 0200	Return - Not pre-allocated file type		65
66				201424	66
67	ADB	Z 0205	→ FCZ Word 8 (Patch from 0224)		67
70	LDB	I2 B	→ Status block (from 0137)		70
71	JUMP	0225			71
72					72
73					73
74			No. of Free records		74
75			No. of records allocated		75
76				201421	76
77				201422	77

05-12-11

SE

Page:- 1 Col:- 03- 23-

Step	Instruction	Address	Comment	Octal	Step
00	*ENTRY		DISPLAY TASK DATA	← DA →	00
01	JSBR	Z 1652	PUT tabs		01
02	P _i = 3000-				02
03	CHA				03
04	STA	0377	Task No.		04
05	LDA	0377	Tab. No. *Next Repeat Test		05
06	CMPA	Z 0055	No. of I/O stations		06
07	JUMP	0330	To printer loop.		07
10	→ JSBR	0400	Set up common fields		10
11	ADB	Z 0243			11
12	STB	0453	→ Print Name & No.		12
13	JSBR	0450			13
14	JUMP	0305			14
15	LDB	IZ A	3737- (Post & Number) (from 0415)		15
16	BNEG				16
17	JUMP	0323			17
20	→ COMPB				20
21	COMP SB				21
22	INCB				22
23	STB	0327	Post & Number (use if repeats)		23
24	SFA	Z 0211	3716-		24
25	STA	0770	→ Program Name		25
26	JUMP	0416			26
27			File Table No. / Post & No.		27
30	LDA	0377	Tab. No. *Next Repeat Test		30
31	CMPA	Z 0051	Max Test No.		31
32	JUMP	I 0300	Repeat.		32
33	→ JSBR	0400	Set up common fields		33
34	ADB	Z 0223			34
35	STB	0453	→ Print @ for re-peating		35
36	INCB				36
37	STB	0770	→ Program Name located in partition		37
40	SFB	Z 0211			40
41	LDA	IZ B	= Print Id (ASCII)		41
42	STA	I 0000			42
43	LDA	I 1173	3423-		43
44	JSBR	0765	Use of Job Sched. Program		44
45	JSBR	0450			45
46	JUMP	0330			46
47	JSBR	IZ 1640	SPRIT "REPEAT!" (from 0050)		47
50	P _i = 2006+				50
51	SKIP		No. (Auto repeat)		51
52	JUMP	0016	Yes.		52
53	→ LDA	Z 0231	"NIL EOI"		53
54	STA	0063			54
55	STA	0577	Set auto-repeat indicator		55
56	JUMP	0016			56
57					57
60			(Highest)	3/1133	60
61			(Unready)	3/0775	61
62			(Suspended)	4/0245	62
63			→ "CPU"	8/00-	63
64			→ "loop"	3/02-	64
65			→ "DISCO"	3/10½-	65
66			→ "GET"	3/04½-	66
67			→ "PUT"	3/06½-	67
70			→ "UNREADY"	3/130½-	70
71			→ "SUSPENDED"	3/135½-	71
72			→ "HANGED"	3/143½-	72
73			Job Count	-	73
74			→ State Name	-	74
75			→ File Table No.	-	75
76			→ I/O Control Data, Use Task.	-	76
77			Tab. No.	-	77

05-12/ SE

Page:- 1 Col:- 04-24-

Step	Instruction	Address	Comment	Octal	Step
00	* ENTRY		SET UP COMMON FRIENDS, Task data	← 1515 →	00
01	INSZ	0277	Task No.		01
02	LDA	0377	= Task No.		02
03	JSBR	12 1612	Octal → ASCII		03
04	P=3401-				04
05	JSBR	12 1731	Space Fill		05
06	P=3404-				06
07	P=234000				07
10	LDA	0377	Task No.		10
11	ADA	Z 0047	Task Control Table Origin		11
12	LDA	12 A	→ I/O Control Area, this task.		12
13	STA	0376			13
14	ADA	Z 0207	CR		14
15	JUMP	0315	→ Print Q No. for Post No.		15
16	ADA	Z 0257	3775- (Fib Table Mark)		16
17	STA	0275			17
20	SFA	Z 0267	3706-		20
21	LDA	12 A			21
22	CASA		Process Base		22
23	JSBR	12 1605	Address → ASCII		23
24	P=34133-				24
25	LDA	1163	34052-		25
26	P= JSBR	0765	Name Control Name		26
27	P= NOOP				27
30	NOOP				30
31	JSBR	12 1765	Print Q No. → ASCII		31
32	P=0,0,1,4				32
33	P=2327-				33
34	P=34104-				34
35	LDA	Z 0215	"ML CR"		35
36	STA	1400			36
37	JSBR	12 1710	Clear Case		37
40	P=3433-				40
41	P=150000				41
42	JSBR	0500	Trace State	No.	42
43	JUMP	0460	Patch		43
44	JSBR	12 1775	State byte (Fib Table No.)		44
45	P=3427-				45
46	LDB	0376	→ I/O Control Area.		46
47	JUMP	I 0400	Restart.		47
50	* ENTRY		Output	← 1515 →	50
51	JSBR	12 1765	U-Q → ASCII		51
52	P=0,0,1,4				52
53	P=				53
54	P=3420-				54
55	JSBR	12 1652	Get Task Data		55
56	P=34002-				56
57	JUMP	Z 0450	Patch.		57
60	LDA	I 0375	3775- } Fib Table Origin (from 0442)		60
61	APOS				61
62	INCA		} Obtain Fib Table No.		62
63	→ ARA				63
64	ANDA	Z 0203			64
65	BTA	0327	Same Fib Table No.		65
66	ADA	Z 0014	→ System Table origin		66
67	LDA	12 A	= System No.		67
70	STA	Z 0177			70
71	JSBR	12 1765	System No → ASCII		71
72	P=0,0,1,4				72
73	P=010177				73
74	P=3430-				74
75	LDA	0327	Fib Table No.		75
76	JORA	Z 0265	Control → ASCII		76
77	JUMP	0444			77

05-12 SE

Page:- 1 Col:- 05-25-

Step	Instruction	Address	Comment	Octal	Step
00	* ENTRY		TRACE STATE	← BA →	00
01	LDA	0001			01
02	STA	0374	→ → "CPU"		02
03	LDA	0377	Task No.		03
04	CMPA	0040	Current Task		04
05	JUMP	1164	Found!		05
06	INSZ	0374	→ → "PAUSE"		06
07	LDB	0050	→ First Beyond Element *Start Beyond Stack		07
10	BNP		* Next Element		10
11	JUMP	0520	Not in Suspended Stack		11
12	STB	0177			12
13	INCB		→ Task No.		13
14	CMPA	00	Task No.		14
15	JUMP	0150	Found in Suspended Stack		15
16	LDB	0177	→ Next		16
17	JUMP	0510	defunct element.		17
20	INSZ	0374	→ → "DISCQ"		20
21	JUMP	0542			21
22	LDA	0376	Doing Codes		22
23	ANDA	1753	(Access to print device)		23
24	ANP				24
25	JUMP	0500	Return (not an I/O station) (Task is lost!)		25
26	INSZ	0374	→ → "GET"		26
27	LDB	0376	→ TCA		27
30	ADB	0202			30
31	LDA	B	= return address (GET)		31
32	A=0				32
33	JUMP	1175	found!		33
34	INSZ	0374	→ → "PUT"		34
35	INCB				35
36	LDA	B	= return address (PUT)		36
37	A=0				37
40	JUMP	1175	found!		40
41	JUMP	0500	Return (Task is lost!)		41
42	LDB	0205	CF5 (from 0521)		42
43	STB	0373	Counter		43
44	LDB	0052	Disc Control Table pointer		44
45	ADB	0267			45
46	STB	0177	Control Table pointer		46
47	LDB	0177	= Control Table pointer * Next Disc Q		47
50	JUMP	0573	Match		50
51	BNP				51
52	JUMP	0561	End of this phase.		52
53	STB	0176	→ head Q element		53
54	INCB				54
55	CMPA	B	Task No.		55
56	JUMP	0565	found!		56
57	LDB	0176	→ Next element in group.		57
60	JUMP	0551			60
61	INSZ	0177	Table pointer		61
62	DESZ	0373	Counter		62
63	JUMP	0547	defunct element		63
64	JUMP	0522	Continue trace (not in disc disc phase)		64
65	INCB				65
66	LDA	B	= Options, P.B.T.O.		66
67	ADB	0214			67
70	LSA/ANVB				70
71	DECB		(28 level)		71
72	JUMP	1174			72
73	CHPB	0376	CF-1 (Match from 0550)		73
74	JUMP	0561	Express the device		74
75	CHSB				75
76	JUMP	0551			76
77			Actor Report Judgment "NUL ESC"		77

08-12

Page:-	Col:-	06-26-			
Step	Instruction	Address	Comment	Octal	Step
00	*ENTRY		DISPLAY DISC LIST	← BA →	00
01	TSPR	I2 1652	PUT "97305 ON LINE"		01
02	P=2660 $\frac{1}{2}$ -				02
03	LDA	Z 0204	CFA		03
04	STA	0677	Counter		04
05	LDA	Z 0270			05
06	STA	0676	12 digit code		06
07	LDB	0676	Device Code	* Hart Drive	07
10	ADB	Z 0053	Disc Unit Orgin		10
11	LDA	I2 B			11
12	AND				12
13	JUMP	0640	Bypass the controller		13
14	→ ANDA	Z 1752	Buffer byte (clear offset to 1200)		14
15	ADA	Z 0053	Disc Unit Orgin		15
16	STA	0675	Position		16
17	LDA	I2 B			17
20	EWAPA				20
21	ANDA	Z 1752	Buffer byte (Hart Drive)		21
22	STA	0674	Disc Counter		22
23	LDA	I 0675	= Disc No. if loaded		23
24	APOS				24
25	JUMP	0652	off line -		25
26	→ JSBR	I2 1612	Octal → ASCII		26
27	P=2670 $\frac{1}{2}$ -				27
30	LDA	Z 0374	"SP SP"		30
31	STA	0671			31
32	TSPR	I2 1652	PUT Disc No.		32
33	P=2671-				33
34	INSZ	0675	* Counter		34
35	INSZ	0675	J		35
36	DESZ	0674	Disc Counter		36
37	JUMP	0622	Outs wait disc		37
40	→ INSZ	0676	Device Code		40
41	DESZ	0677	Counter		41
42	JUMP	0607	Outs wait device		42
43	→ LDA	I2 0073	→ Export FCB		43
44	LDB	Z 0030	Special Handling Counter		44
45	B=0				45
46	JUMP	0730	Calculate the utilization		46
47	→ JSBR	I2 1652	PUT		47
50	P=3150-				50
51	JUMP	I 0600	Refin.		51
52	JSBR	I2 1652	PUT "++"		52
53	P=2655-				53
54	JUMP	0634			54
55			SP SP		55
56			* *		56
57			* MUL		57
60			CR		60
61			LF D		61
62			I S		62
63			C S		63
64			SP O		64
65			N SP		65
66			L I		66
67			N E		67
70			MUL		70
71			"SP SP"		71
72					72
73			MUL		73
74			Disc Counter	-	74
75			Position	-	75
76			Device Code	-	76
77			Counter	-	77

OS-12

Page:- | Col:- 07- 27-

Step	Instruction	Address	Comment	Octal	Step
00	← ENTRY		DISPLAY PRINT Q DATA	← BA →	00
01	JSBR	I2 1652	PUT "NON-EMPTY PRINT QUEUES"		01
02	P ₁ = 3113 ₂ -				02
03	JUMP	1075			03
04	STA	1477	Counter		04
05	LDA	Z 0022	→ Print Q Table Origin		05
06	STA	1476	Printer		06
07	CLA				07
10	STA	1475	Q No.		10
11	INSZ	1475	Q No. ← NEXT Q		11
12	INSZ	1476	} printer		12
13	INSZ	1476			13
14	LDA	I 1476			14
15	AND				15
16	JUMP	0725	Bypass - @ security.		16
17	JSBR	I2 1765	Q No. → ASCII		17
20	P ₁ = 0,0,1,5				20
21	P ₂ = 3475-				21
22	P ₃ = 3472 ₂ -				22
23	JSBR	I2 1652	PUT Q No.		23
24	P ₁ = 3472 ₂ -				24
25	DESZ	1477	Counter		25
26	JUMP	0711	Defn used		26
27	JUMP	1040	Printer		27
30	ADA	Z 0204			30
31	LDA	I2 A	= Hex Spool Record No.		31
32	STA	1477			32
33	JSBR	I2 1747	COMPUTE % utilization of spool job		33
34	P ₁ = 1, 0/0476		In use		34
35	P ₂ = 1, 0/0313		CF100		35
36	P ₃ = 1, 3477-		Here		36
37	P ₁ = 3475-				37
40	JSBR	I2 1765	% → ASCII		40
41	P ₁ = 0,0,2,5				41
42	P ₂ = 3475-				42
43	P ₃ = 2756-				43
44	JSBR	I2 1652	PUT Spool Count		44
45	P ₁ = 2747-				45
46	JUMP	I 0600	return.		46
47					47
50					50
51					51
52					52
53					53
54					54
55					55
56					56
57					57
60					60
61					61
62					62
63					63
64					64
65	← ENTRY		Move CP and Spool Name	← BA →	65
66	STA	0775	store		66
67	JSBR	I2 1707	Decouple		67
70	P ₁ = /		(not by 0325 and 0337)		70
71	P ₂ = 3475-				71
72	P ₃ = 2747-				72
73	JSBR	I2 1741	Move CP and Spool Name		73
74	P ₁ = 3475-				74
75	P ₂ = /				75
76	P ₃ = 2747-				76
77	JUMP	I 0765	return.		77

05-12-1

Page:- 1 Col:- 10-30-

Step	Instruction	Address	Comment	Octal	Step
00					00
01					01
02					02
03					03
04					04
05					05
06					06
07					07
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
20					20
21					21
22					22
23					23
24					24
25					25
26					26
27					27
30					30
31					31
32					32
33					33
34					34
35					35
36					36
37					37
40	JSR	12 1652	147 "SIN"	(from 0727)	40
41	H=010226				41
42	JUMP	I 0700	Return		42
43	SWAP			(from 0024)	43
44	RSA				44
45	RSA				45
46	ANDA	Z 0277			46
47	JUMP	0025			47
50					50
51					51
52					52
53					53
54					54
55					55
56					56
57					57
60					60
61					61
62					62
63					63
64					64
65					65
66					66
67					67
70					70
71					71
72					72
73					73
74					74
75	LDA	Z 0057	Mem Q No.	(from 0703)	75
76	HDA	Z 0061	Mem Q Extension Count		76
77	JUMP	0704			77

OS-12

Page:- 1 Col:- 11-31-

Step	Instruction	Address	Comment	Octal	Step
00			C P		00
01			U ML		01
02			L O		02
03			O P		03
04			ML G		04
05			E T		05
06			ML P		06
07			U T		07
10			ML D		10
11			I S		11
12			C Q		12
13			ML CR		13
14			N 0		14
15			N -		15
16			E M		16
17			P T		17
20			Y SP		20
21			P R		21
22			I N		22
23			T SP		23
24			Q U		24
25			E U		25
26			E S		26
27			SP SP		27
30			ML SO		30
31			U N		31
32			R E		32
33			A D		33
34			Y SI		34
35			ML SP		35
36			S Y		36
37			S P		37
40			E N		40
41			D E		41
42			D SI		42
43			ML SO		43
44			H A		44
45			L T		45
46			E D		46
47			SE ML		47
50			SP SP		50
51			SP P		51
52			R I		52
53			N T		53
54			SP S		54
55			P O		55
56			O L		56
57			SP E		57
60			H P		60
61			T Y		61
62			SYN ML		62
63			(cont by 0425) 34052-		63
64	ADA	I 0374	→ POSITIVE	*PHASE found	64
65	STA	1167			65
66	JSCR	IL 1741	07000 (Reel)		66
67					67
70					70
71					71
72	JUMP	I 0500	notem.		72
73			(cont by 0343) 3423-		73
74	ADA	IL 1605	(from 0572)		74
75	JSCR	IL 1605	1100000 → POSITIVE	*1100000 found	75
76					76
77	JUMP	1164			77

DS-12 4 (9/2001) (C) K. K. K.

Page:- 01 Col:- 14 34-

Step	Instruction	Address	Comment	Octal	Step
00					00
01			NUM CR		01
02			ID		02
03			Tadilla		03
04			SP SP		04
05			SP	Name	05
06			Program		06
07			SP		07
10			SP		10
11			Part of No.		11
12			SP		12
13			SP	Allanin	13
14					14
15			here	74 11	15
16				In USC	16
17					17
20			U-Q		20
21				Free	21
22			SP SP	Free	22
23			loaded		23
24				NUM	24
25			SP SP		25
26			SP SP		26
27			In - SP		27
30			System		30
31					31
32			SP SP		32
33					33
34			State		34
35					35
36					36
37			at		37
40				description	40
41					41
42					42
43					43
44					44
45					45
46					46
47					47
50					50
51			//////		51
52					52
53					53
54					54
55					55
56					56
57					57
60					60
61					61
62					62
63					63
64					64
65					65
66					66
67					67
70			Auto-repeat Prop counter		70
71					71
72					72
73				Q Units	73
74					74
75			Q Manual	Row 9 %	75
76			List of Table points	Value %	76
77			Counter		77