

000227 IDENT GENLINT
PROGRAM LENGTH

BLOCKS

000000	000010	ABSOLUTE#	ABSOLUTE
000000	000204	PROGRAM#	LOCAL
000204	000023	SPEC	LOCAL

ENTRY POINTS

000001 I.MSM	000043 I.BOX	000063 I.MAST	000075 HANG1
000107 INTSCR	000157 UNHUNG1	000204 DINTQ	

EXTERNAL SYMBOLS

I.MUXP	I.SDVCP	S.MASTR	S.QUANT	S.CHANG	S.ARITH	S.CHIP	S.FSWAP
S.USERA	E.ECS	HANG	I.DSPP1	I.DSPP	I.DISKP	L.NBLKS	S.TIME
E.ECS1	L.NFBLK	L.SLOP	L.SPACE	S.SYSTM	S.SWPTM	S.IDLTM	S.USRTM
DISASTR							

LIST X.L.R

INTSYS XIEXT

0000060	P.SCR1	EQU	308		INTSYS	.1
0000454	I.PAUSE	EQU	300	LOOP TIME (APROX 2 MICROSEC PER LOOP)	INTSYS	.1
*				FOR PAUSE FOR PPU INTERRUPTS	INTSYS	.1
0000005	I.NUNCH	EQU	5	NUMBER OF CHAINING WORDS TO UNCHAIN	INTSYS	.1
*				BEFORE PAUSE FOR PPU INTERRUPTS	INTSYS	.1
0000005	I.NUSUB	EQU	5	NUMBER OF SUBPROCESS PROBES IN ECS	INTSYS	.1
*				DURING INTER-PROCESS INTERRUPTS	INTSYS	.1
*				BEFORE PAUSE FOR PPU INTERRUPTS	INTSYS	.1
*					INTSYS	.1

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EAT	I.MUXP
EXT	I.SDVCP
EXT	S.MASTR,S.QUANT,S.CHARG
EXT	S.ARITH,S.CHIP,S.FSWAP
EXT	S.USERA
EXT	E.ECS

GENLINI

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000000

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I.WAKE

BSSZ

GENERAL DATA FOR INTERRUPTIS

1

INTERRUPT SIGNALLING CELL

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*
*

KARLS DISPLAY STUFF

ENTRY

I.MSM

000001 00000000000000000000 X
000002 00000000000000000000 X
000003 00000000000000000000 X
000004 00000000000000000000 X
000005 00000000000000000000 X
000006 00000000000000000000 X
000007 00000000000000000000 X
000010 000000000000000000004
000011 00000000000000000000 X
000012 00000000000000000000 X
000013 00000000000000000000 X
000014 00000000000000000000 X
000015 00000000000000000000 X
000016 00000000000000000000 X

I.MSM

VFD
VFD
VFD
VFD
VFD
VFD
VFD
DATA
VFD
VFD
VFD
VFD
VFD
VFD

60/=XDISASTR
60/=XS.MASTR
60/=XS.USRTM
60/=XS.IDLTM
60/=XS.SWPTM
60/=XS.SYSTM
60/=XL.SPACE
4
60/=XS.CHARG
60/=XL.SLOP
60/=XL.NFBLK
60/=XE.ECS1
60/=XS.TIME
60/=XL.NBLKS

ECS FREE SPACE
MAP COMPILATIONS CELL

FCS TIED UP AS SLOP
NUMBER OF FREE BLOCKS

NUMBER OF BLOCKS IN USE

FCS READ AND WRITE MACROS

*
*
*
RECSMACRO
RE-
RJ
ENDMCNT
CNT
E.ECS*
WECSMACRO
WE-
RJ
ENDMCNT
CNT
E.ECS

#

LIST OF P COUNTER VALUES FOR EACH INTERRUPT PACKAGE

000017		I.PLIST	BSSZ	1	
000020	00000000000000000000 X	VFD		60/I.MUXP	
000021	00000000000000000000 X	VFD		60/I.SOVCP	S DEVICE ENTRY POINT
000022	00000000000000000000 X	VFD		60/=XI.DISKP	DISK ENTRY POINT
000023	00000000000000000000 X	VFD		60/=XI.DSPP	DISPLAY
000024	00000000000000000000 X	VFD		60/=XI.DSPP1	DISPLAY, DOESN'T CHECK ILOCK
000025		BSSZ		14	

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INTERRUPT XJ BOX

ENIRY

I.BOX

000043
000044
000051

I.BOX

BSSZ
BSSZ
BSSZ

1
5
10

PCOUNTER FILLED IN BY MPP
RA S AND FL S FILLED IN BY INITL

DATA FOR MASTER PPU

ENTRY

I.MAST

(NUMBERS IN COL 36)

000063	00000000000000000000 X	I.MAST	VFD	60/S.MASTR	0	MASTER CLOCK ADDRESS
000064	00000000000000000000 X		VFD	60/S.QUANT	1	QUANTUM CLOCK ADDRESS
000065	00000000000000000000 X		VFD	60/S.CHARG	2	CHARGE CLOCK ADDRESS
000066		*				
000066	00000000000000000000 X		VFD	60/S.ARITH	3	XJ BOX FOR USER ARITH ERROR
000067	00000000000000000000 X		VFD	60/S.CHIP	4	XJ BOX FOR USER RA + 1 NON 0
000070	00000000000000000000 X		VFD	60/S.FSWAP	5	XJ BOX FOR QUANTUM RUN OUT
000071	000000000000000000043 +		VFD	60/I.BOX	6	XJ BOX FOR INTERRUPTS
000072		*				
000072	00000000000000000000 X		VFD	60/S.USERA	7	CELL WHICH GIVES USER RA
000073	00000000000000000000 +		VFD	60/I.WAKE	8	ADDRESS OF CELL WHICH WILL
000074		*				SIGNAL INTERRUPT REQUESTS
000074	000000000000000000017 +		VFD	60/I.PLIST	5	LIST OF P COUNTERS FOR INTS

HANG A PSEUDO PROCESS ON AN EVENT CHANNEL

ENTER WITH

B7 RETURN
X1 MOT INDES OF PSEUDO PROCESS
X2 MOT AND UNIQUE NAME OF EVENT CHANNEL
X3 ABS ECS ADDRESS OF PSEUDO PROCESS

MAY CALL UNHUNG1, DESTROYS ALL REGISTERS

			ENTRY ENTRY EXT	HANG1 INTSCR HANG	
000075	76670				
	5100000104 +	HANG1	SA6	B7	
000076	6120000001		SA6	HANG1.A	SAVE RETURN
	10633		SB2	1	
000077	5160000105 +		BA6	X3	
	6170000101 +		SA6	HANG1.B	SAVE ABS ADDRESS OF PROCESS
000100	6110000107 +		SB7	HANG1.1	
	0200000000 X		SB1	INTSCR	
000101	5110000104 +	HANG1.1	JP	HANG	
	63710		SA1	HANG1.A	
000102	0322000103 +		SB7	X1	
	0270000000		PC	X2, HANG1.2	TEST FOR EVENT WAITING ON CHAN
000103	5110000105 +	HANG1.2	JP	B7	NO
	0200000157 +		SA1	HANG1.B	YES, CALL UNHUNG1
			JP	UNHUNG1	
000104		HANG1.A	BSSZ	1	
000105		HANG1.B	BSSZ	1	
000106			BSSZ	1	
000107		INTSCR	BSSZ	P.SCRL	

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UNHUNG1 CODE CALLED WHENEVER A PSEUDO PROCESS
RECEIVES AN EVENT.
RETURN ADDRESS IN B7
SCRATCH AREA IN B1 (AT LEAST 8 WORDS)
ABS ECS ADDR OF PROCESS IN X1
EVENT IN X6, X7

PROCESS HAS ALREADY BEEN UNCHAINED FROM EVENT CHANS

ENTRY

UNHUNG1

000157	10011	5101000000	UNHUNG1	BA0	X1	
				SA0	B1+PROCESS	
000161	5161000004			RECS	PSIZE	GET PROCESS DATA
		5171000005		SA6	B1+EVENTWD1	STORE EVENT
000162	5121000003			SA7	B1+EVENTWD2	
		43660		SA2	B1+CONTWD	
				MX6	60-12	
000163	5130000000 +	15626	UNHUNG4	BX6	-X6*X2	FLAG AN INTERRUPT PROCESS
				SA3	I.WAKE	MAKE SURE CELL IS CLEAR
000164	5160000000 +	0313000163 +		NZ	X3, UNHUNG4	
				SA6	I.WAKE	THEN SIGNAL THE INTERRUPT ROUTINE
		21222		AA2	18	GET QUEUE ADDRESS
		10022		BX0	X2	
000165	5101000006			SA0	B1+QFIRST	
000167	5131000007			RECS	2	GET QUEUE DATA
		10611		SA3	B1+QLAST	PICK UP CURRENT LAST
000170	5161000007			BA6	X1	
		0303000202 +		SA6	B1+QLAST	MAKE LAST POINT TO NEW PROCESS
000171	7100000001			ZR	X3, UNHUNG3	QUE WAS EMPTY
		36003		SA0	1	
000172	5101000007			IX0	X0+X3	
				SA0	B1+QLAST	
000174	76600		UNHUNG2	WECS	1	MAKE OLD LAST PROCESS POINT TO THIS ONE
		5191000001		SA6	B0	
		10011		SA6	B1+CHAINWD	MAKE THIS PROCESS POINT TO 0
000175	5101000000			BA0	X1	
				SA0	B1+PROCESS	
000177	10022			WECS	PSIZE	WRITE BACK PROCESS DATA
		5101000006		BA0	X2	
				SA0	B1+QFIRST	
				WECS	2	WRITE BACK QUEUE DATA
000201	0270000000			JP	B7	RETURN
000202	10611		UNHUNG3	BX6	X1	QUEUE WAS EMPTY
		5161000006		SA6	B1+QFIRST	SET FIRST TO THIS PROCESS ALSO
000203	0200000174 +			JP	UNHUNG2	

*
*
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FORM OF SCRATCH AREA FOR UNHUNG1

000000		USE	SPEC
000000		ORG	0
000001	PROCESS	BSS	1
000002	CHAINWD	BSS	1
000003	ZWD	BSS	1
000004	CONTWD	BSS	1
000005	EVENTWD1	BSS	1
000006	EVENTWD2	BSS	1
000006		BSS	0
000006	PSIZE	EQU	*-PROCESS
000006	QFIRST	BSS	1
000007	QLAST	BSS	1
	*		
	USE		*

RETURNS WITH ARS ADDRS OF P PROC IN X2, OR ZERO

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#
DINT0
      BSSZ      1
      BX0       X1
      SA0       QFIRSTX
      RECS      2
      SA2       QFIRSTX
      ZR        X2-DINT0
      BA0       X2
      SA0       PPROC
      RECS      PPROC SZ
      SA3       CHNWD
      BX6       X3
      SA6       QFIRSTX
      N4        X6-DINT01
      SA6       GLASTX
DINT01
      BA0       X1
      SA0       QFIRSTX
      WECS      2
      BA6       X6-X6
      SA6       CHNWD
      BA0       X2
      SA0       PPROC
      WECS      PPROC SZ
      JB        DINT0

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QFIRSTX	BSSZ	1
OLASTX	BSSZ	1

PPROC
CHNWD

PPROCSZ EQU *-PPROC

SYMBOLIC REFERENCE TABLE (PAGE-LOCATION)

CHAINWD	0000001		10-00174
CHNWD	0000226	PROGRAM*	12-00212, 12-00217
CONTWD	0000003		10-00162
DINTQ	0000204	PROGRAM*	12-00207, 12-00222
DINTQ1	0000215	PROGRAM*	12-00213
DISASTR	0000000	EXTERNAL*	4-00001
EVENTWD1	0000004		10-00161
EVENTWD2	0000005		10-00161
E.ECS	0000000	EXTERNAL*	10-00160, 10-00186, 10-00173, 10-00176, 10-00200, 12-00206, 12-00211, 12-00216, 12-00221
E.ECS1	0000000	EXTERNAL*	4-00014
HANG	0000000	EXTERNAL*	9-00100
HANG1.A	0000104	PROGRAM*	9-00075, 9-00101
HANG1.B	0000105	PROGRAM*	9-00077, 9-00103
HANG1.1	0000101	PROGRAM*	9-00077
HANG1.2	0000103	PROGRAM*	9-00102
INISCR	0000107	PROGRAM*	9-00100
I.BOX	0000043	PROGRAM*	8-00071
I.DISKP	0000000	EXTERNAL*	6-00022
I.USPP	0000000	EXTERNAL*	6-00023
I.USPP1	0000000	EXTERNAL*	6-00024
I.MUXP	0000000	EXTERNAL*	6-00020
I.PLIST	0000017	PROGRAM*	8-00074
I.SDVCP	0000000	EXTERNAL*	6-00021
I.WAKE	0000000	PROGRAM*	8-00073, 10-00163, 10-00164
L.NBLKS	0000000	EXTERNAL*	4-00016
L.NBLK	0000000	EXTERNAL*	4-00013
L.SLOP	0000000	EXTERNAL*	4-00012
L.SPACE	0000000	EXTERNAL*	4-00007
PPROC	0000225	PROGRAM*	12-00210, 12-00220, 12-00227
PPROCSZ	0000002		12-00211, 12-00221
PROCESS	0000000		10-00157, 10-00175, 11-00006
PSIZE	0000006		10-00160, 10-00176
P.SCHL	0000050		9-00187
QFIRST	0000006		10-00165, 10-00177, 10-00202
QFIRSTX	0000223	PROGRAM*	12-00205, 12-00207, 12-00213, 12-00215
QLAST	0000007		10-00167, 10-00170, 10-00172
QLASTX	0000224	PROGRAM*	12-00214
S.BATH	0000000	EXTERNAL*	8-00066
S.CHARG	0000000	EXTERNAL*	4-00011, 8-00065
S.CHIP	0000000	EXTERNAL*	8-00067
S.TSWAP	0000000	EXTERNAL*	8-00070
S.IDLTM	0000000	EXTERNAL*	4-00004
S.MASTR	0000000	EXTERNAL*	4-00002, 8-00063
S.QUANT	0000000	EXTERNAL*	8-00064
S.SWPTM	0000000	EXTERNAL*	4-00005
S.SYSTM	0000000	EXTERNAL*	4-00006
S.TIME	0000000	EXTERNAL*	4-00015
S.USERA	0000000	EXTERNAL*	8-00072
S.USRTM	0000000	EXTERNAL*	4-00003
UNHUNG1	0000157	PROGRAM*	9-00103
UNHUNG2	0000174	PROGRAM*	10-00203
UNHUNG3	0000202	PROGRAM*	10-00170
UNHUNG4	0000163	PROGRAM*	10-00163