

LENGTH OF PRG 00232

LENGTH OF PRG	PRG	IDENT	TIMER	DESCRIPTION
00024		TIMQMAX EQU 20		MAXIMUM NUMBER OF THINGS THAT WILL EVER BE QUEUED AT ONCE
00000	P	ENTRY CLOKIN		
00115	P	ENTRY DATEB.1		
00156	P	ENTRY HOUR		
00052	P	ENTRY HOURUP		
00136	P	ENTRY TIMSET		
00030	P	ENTRY TIMEKILL		
00157	P	ENTRY TOMORROW		
10+001	*	EXT DAYSCHD		
11		EXT FCLIST		
12		EXT FLAGS		
13		EXT HOURBIT		
13+001		EXT LATEFLAG		
14		EXT PAGETIME		
15		EXT NPAGESM1		
16		EXT RETURN		
16+001		EXT SCHDTAB		
16+002		EXT RATETAB		
16+003		EXT SHIFTRAT		
17		EXT SYSERR		
00022		* CLOCK EQU 22B		REGISTER FILE LCCATIONS
00032		* CLOCKLIM EQU 32B		CONTAINS THE NUMBER OF MILLI
00037		* DATE EQU 37B		CONTAINS THE NEXT INTERRUPT TIME
		* * * * *		CONTAINS HOUR, DAY, MONTH, YEAR
		* * * * *		BITS 00-04 CONTAIN THE HOUR
		* * * * *		BITS 05-09 DAY OF THE MONTH
		* * * * *		BITS 10-13 NUMBER OF THE MONTH
		* * * * *		BITS 14-20 CONTAIN (YEAR-1900)
		* * * * *		BITS 21-23 ARE RESERVED
07773		DINT EQU 7773B		
07774		EINT EQU 7774B		
00000		* IMPURE EQU 0		INDICATES IMPURE CODE
00001		X1 EQU 1		
00002		X2 EQU 2		
00003		X3 EQU 3		

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*   THIS SECTION PROCESSES CLOCK INTERRUPTS.
*   WHEN A CLOCK INTERRUPT OCCURS, CONTROL PASSES TO CLOKIN.
*   IF THERE IS AN ELAPSED REQUEST IT IS REMOVED AND CALLED
*   WITH A UJP. THE RETURN ADDRESS IS IN X3 BUT THE RETURN
*   MAY BE MADE TO INTSORT (WHICH IS SLOWER.)
*   IF THERE ARE NO ELAPSED REQUESTS, THE INTERRUPT IS
*   CLEARED AND THE NEW CLOCK LIMIT PLACED IN CLOCKLIM (RF 32B).
*
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00000 77740000
00001 14300000 P
00002 53020022
00003 77730000
00004 21000162 P

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*
*   CLOKIN   VFD   A12/EINT   HELP STAMP OUT RED LIGHTS.
*           ENI   CLOKIN,X3   TRY TO COME BACK HERE.
*           TMA   CLOCK
*   NEXTINT  LDQ   A12/DINT   GET SOME PEACE AND QUIET.
*           *     TIMQUEUE+IMPURE LOAD THE NEXT INTERRUPT TIME.
*           *     NOTE THAT THERE WILL BE AT
*           *     LEAST ONE QUEUED INTERRUPT (FOR
*           *     TIMHOUR) AT THIS POINT.
    
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00005 15600001
00006 03600012 P
00007 77500400
00010 53410032
00011 01077777 X

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*           INA   1
*           AQJ,GE CLOTH
*           INCL  0400B   CLEAR INTERRUPT CONDITION
*           TGM   CLOCKLIM
*           UJP   RETURN
    
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00012 54200004 P
00013 15277775
00014 47200004 P
00015 01600003

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*   CLOTH   LDI   NEXTINT,X2   POP THE INTERRUPT FROM THE STACK.
*           INI   -2,X2
*           STI   NEXTINT,X2
*           UJP,I 2+1,X2   FOLLOW THE INTERRUPT ADDRESS.
    
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TIMEKILL

THIS ROUTINE IS FOR THE PURPOSE OF REMOVING QUEUED REQUESTS FOR INTERRUPTS FROM THE CLOCK QUEUE. TO CALL IT, LOAD THE A REGISTER WITH THE NUMBER WHICH WAS IN THE Q REGISTER WHEN TIMSET WAS CALLED. THE UPPER SIX BITS ONLY ARE USED TO SEARCH FOR THE CORRESPONDING REQUEST. REQUESTS WHICH HAVE ZERO IN THE UPPER SIX BITS SHOULD NEVER BE KILLED. TO CALL THE ROUTINE, EXECUTE AN RTJ TIMEKILL KILL THE REQUEST WITH THE INTERRUPTS DISABLED.

THE NUMBER OF MILLISECONDS BEFORE THE REQUEST WOULD HAVE BEEN PROCESSED IS RETURNED IN THE A REGISTER. ALL INDEX REGISTERS ARE RETURNED UNCHANGED.

NO CHECK IS MADE TO CHANGE CLOCKLIM (RF 328) IF THE REQUEST KILLED WAS THE CURRENT ONE. AT WORST, THE INTERRUPT WILL HAPPEN AND BE IGNORED BY CLOKIN. MORE LIKELY, A NEW INTERRUPT WILL BE REQUESTED BEFORE THE NEXT CLCCK INTERRUPT.

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93 *
94 TIMKLOOP LDAQ TIMQUEUE,X1
95 STAQ TIMQUEUE-2,X1
96 TIMKSPOT ISI IMPURE,X1 SKIP IF ALL REQUESTS MOVED
97 IJI TIMKLOOP,X1 GO MOVE ANOTHER REQUEST
98 TMA CLOCK
99 XOA,S -0 -CLOCK
100 ADA TIMTEMP AMOUNT OF TIME LEFT IN A
101 ASG,S 0 SKIP IF POSITIVE TIME LEFT
102 ENA 0 NEGATIVE TIME LEFT MEANS 0
103 TIMKSAVE ENI IMPURE,X1 RESTORE X1
104
105 TIMEKILL UJP IMPURE ENTER HERE
106
107 STI TIMKSAVE,X1 SAVE X1
108 LDI NEXTINT,X1
109 INI -2,X1 REMOVE ONE REQUEST
110 STI NEXTINT,X1
111 INI 4-TIMQUEUE,X1 COMPUTE -NUMBER OF REQUESTS * 2
112 STI TIMKSPOT,X1
113 LUQ TIMKMASK
114 LPA TIMKMASK LEAVE THE REQUEST NUMBER
115 MEQ TIMQUEUE+1,2 SEARCH FOR THE REQUEST
116 RTJ SYSERR REQUEST NOT FOUND
117 LDA TIMQUEUE,X1 REMEMBER THE INTERRUPT TIME.
118 STA TIMTEMP SAVE IN TEMP
119 UJP TIMKSPOT
120
121 TIMKMASK OCT 77000000

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CLOCK		00022	20	52	00002P	98	00022P	163	00074P	165	00076P	212	00141P
CLOCKLIM		00032	22	61	00010P	169	00102P	217	00146P	223	00154P		
CLOKIN	E	00000P	50	4	00000P	51	00001P	177	00114P				
CLOTH		00012P	64	59	00006P								
DATE		00037	23	171+1	00104P	171+3	00106P						
DATEB.1	E	00115P	177+1	4+1	00000P	177+4	00120P						
DATEBACK		00106P	171+3	179	00124P								
DAYSCHD	X		10+1	177+6	00122P								
DINT		07773	30	53	00003P								
EINT		07774	31	50	00000P								
FC01		00067P	157	161	00073P								
FC02		00073P	161	152	00063P								
FCLISi	X		11	148	00057P								
FLAGS	X		12	138	00050P								
HOUR	E	00156P	226	5	00000P	149	00060P	164	00075P	167	00100P		
HOURBIT	X		13	137	00047P								
HOURUP	E	00052P	141	6	00000P								
IMPURE		00000	33	54	00004P	96	00020P	103	00027P	105	00030P	177+1	00115P
				209	00136P	228	00157P	229	00160P	229	00161P	230	00162P
				220	00151P							230	00163P
LATEFLAG	X		13+1	171+7	00112P								
NEXTINT		00004P	54	64	00012P	66	00014P	108	00032P	110	00034P	150	00061P
				220	00151P							150	00061P
				220	00151P							150	00061P
NPAGESM1	X		15	142	00052P								
PAGETIME	X		14	143	00053P	145	00055P						
RATETAB	X		16+2	171+5	00110P								
RETURN	X		16	62	00011P								
SCHDTA3	X		16+1	177+5	00121P								
SHIFTRAT	X		16+3	171+4	00107P								
SYSERR	X		17	116	00042P								
TIMEKILL	E	00030P	105	8	00000P								
TIMHOUR		00047P	136	168	00101P	230	00163P						
TIMHQ		00062P	151	155	00066P								
TIMKLOOP		00016P	94	97	00021P								
TIMKMASK		00046P	121	113	00037P	114	00040P						
TIMKSAVE		00027P	103	107	00031P								
TIMKSPOT		00020P	96	112	00036P	119	00045P						
TIMLOOP		00125P	200	205	00132P								
TIMMOVE		00126P	201	222	00153P								
TIMQMAX		00024	2	231	00164P								
TIMQSL0T		00133P	206	224	00155P								
TIMQUEUE		00162P	230	231	00164P	54	00004P	94	00016P	95	00017P	111	00035P
				117	00043P	151	00062P	204	00131P	221	00152P		
				210	00137P								
TIMRET		00135P	208	7	00000P	170	00103P						
TIMSET	E	00136P	209	100	00024P	118	00044P	203	00130P	206	00133P	211	00140P
TIMTEMP		00160P	229	9	00000P	177+7	00123P						
TOMORROW	E	00157P	228	94	00016P	95	00017P	96	00020P	97	00021P	103	00027P
X1		00001	34	108	00032P	109	00033P	110	00034P	111	00035P	112	00036P
				142	00052P	143	00053P	145	00055P	146	00056P	150	00061P
				153	00064P	154	00065P	171+5	00110P	200	00125P	201	00126P
				204	00131P	207	00134P	218	00147P	219	00150P	220	00151P
				204	00131P	207	00134P	218	00147P	219	00150P	220	00151P
				64	00012P	65	00013P	66	00014P	67	00015P	148	00057P
X2		00002	35	159	00071P	160	00072P	161	00073P				
				51	00001P	177+1	00115P	177+2	00116P	177+4	00120P	177+5	00121P
X3		00003	36	51	00001P	177+1	00115P	177+2	00116P	177+4	00120P	177+5	00121P