

IDLED V2

Switch Register		
▲ SR7 ON	Multi-mode [overwrite memory]	
▲ SR7 OFF	Single-mode [preserve memory]	
▲ SR6 ON	Enable IDLED+	
▲ SR6 OFF	Disable IDLED+ (keep patterns)	
SR5-SR0	Pattern rotation speed	

<i>PDP-11/70 DATA Knob</i>	
DATA PATHS	- Show idle pattern
DISPLAY REGISTER	- Show counter

Vectors			
Address	PC	PSW	Description
000004	000014	000357	Time-out etc.
000010	000174	000341	Illegal instr.
000024	000002	000340	Power fail
000100	000132	000340	Line-time clock
000114	012737	000100	Memory parity

<i>Stacks</i>		
Address	SP	Range
000172	000704	000700 ¹ -000703
000176	000714	000702 ¹ -000713
MMSP ²	xx7774	xx7762 ² -xx7773

Registers
R0 = Pattern for WAIT
R1 = ^Pattern double-word
R2 = Clock tick count-down (low-byte)
R3 = Last switch settings
R4 = ^Switch Register (177570)
R5 = ^WAIT loop start (SINGAD-2)

<i>Stack while in CLKINT</i>	
-2 (SP)	Reserved for pattern call-out
0 (SP)	Interrupted PC
2 (SP)	Interrupted PSW
4 (SP)	Pattern double-word ...
6 (SP)	... also pointed to by R1

<i>Pattern Double-word</i>	
-2(R1)	Current display register pat.
(R1)	Next idle [DATA LEDs] pattern

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● <i>Standard Patch</i>		
Address	Name	Type
000032	SINGAD	(D)
000056	MMODE	(I)
000106	SETWT	(D)
000112	SETDR	(I)
000132	HIGHSR	(I)
000144	ROTATE	(I)
000146	"	(I)
000150	"	(I)
000152	UPDDR	(I)
000176	PLUSEN	(I, D)

▲ <i>Special Patch</i>		
Address	Name	Type
000054	MMSR	(I)
000062	FILMEM	(I)
000064	"	(I)
000066	"	(I)
000070	"	(I)
000074	MMBACK	(D)
000116	FIXODD	(P)
000126	NEWPSW	(P)
000142	PREPWT	(I)
000154	SHOWDR	(I)
000164	SPEEDM	(D)

■ <i>Debug Patch</i>		
Address	Name	Type
000014	HALT4	(I)
000052	WAITSM	(I, D)
000076	SKIP	(I)
000140	HLTCLK	(I)

```
(D) = Data (word)
(I) = Instruction
(P) = PSW
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Your Thoughts

Notes for Stacks

¹ An extra 4 bytes could be overwritten by a further int.

² xx is 01 for 4KW
up to 15 for 28KW

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; ----- VECTORS -----
000 NOP
002 BR 170
004 000014
006 000357
010 000174
012 000342
; ----- TRAP4 -----
014 SEZ SEV
016 MOVB @#6,2 (SP)
024 RTI
026 000340
; ----- SETUP -----
030 MOV #400,R5
034 MOV #177570,R4
040 MOV (R4),R3
042 MOV #130,R0
046 MOV (R0),(R5)
050 MOV (PC)+,-(R5)
052 WAIT
054 BISB (R4),R3
056 BGE 104
; ----- FILMEM -----
060 MOV R5,SP
062 MOV (R5),R2
064 MOV R2,(SP)+
066 BIC (SP),(SP)
070 BPL 64
072 MOV (R0)+,-20 (SP)
; ===== VEC100 =====
076 BITB #132,@#340
100 000132
102 000340
; ----- SETPAT -----
104 MOV #170017,-(SP)
110 MOV SP,R1
112 CLR -(SP)
; ===== ENACLK =====
114 MOV #100,@#177546
122 CLR R2
124 MOV #140246,-(R2)
130 JMP (R5)
; ----- CLKINT -----
132 CMPB (R4),R3
134 BNE 174
136 DECB R2
140 BPL 166
142 MOV (R1),R0
144 ASLB (R1)+
146 RORB (R1)
150 ADCB -(R1)
152 DEC -(R1)
154 MOV (R1)+,(R4)
156 MOV R3,R2
160 COMB R2
162 BICB #133300,R2
166 RTI
; ===== INITSP =====
170 MOV (PC),SP
172 000704
172 BR 4
174 MOV (PC),SP
176 000714
176 BR 30

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