

EDSAC 2 MICROSTEPS (NOT guaranteed correct!)

Add 1 step for sort modification in orders ~~0-63~~
 " " " " " modification in orders 64-95.

	Function	No. of steps	Function	No. of steps
$k = \text{no. of 1's in multiplier}$	2	12	34	$\begin{cases} 13 \text{ if } N(A) \geq 1-2^{-40} \\ 96 + k + 3M_0 \text{ otherwise} \end{cases}$
	3	14		$181 + 3q_0$
	4	17	35	$98 + k + 5M_0$
	5	18	36	$98 + k + 5M_0$
	6	$\left. \begin{matrix} 10 + 2m \text{ (} m < 1024 \text{)} \\ 8 + 2m \text{ (} m \geq 1024 \text{)} \end{matrix} \right\}$	37	$\begin{cases} 20 \text{ when no rounding necessary} \\ 22 \text{ when rounding necessary} \\ 24 \text{ if } N(A) \geq 1-2^{-40} \end{cases}$
$m = \text{effective address}$	7		38	$\begin{cases} 10 \\ 12 \\ 14 \end{cases} \text{ as above}$
	8	15	39	13
	9	11	40	13
	10	11	41	12
	11	~ 35	42	12
	12	~ 35	43	16
$q_0 = \text{sign of quotient}$	14	~ 116	44	$\begin{cases} 140 + 3q_0 \text{ for } M_0 = 0 \\ 145 + 3q_0 \text{ for } M_0 = 1, R \neq 0 \\ 153 + 3q_0 \text{ for } M_0 = 1, R = 0 \end{cases}$
$R = \text{remainder}$	15	$154 + 3q_0$	45	10
	16	141	46	9
	17	141	47	12
	18	~ 40	48	14
	19	10	49	6
	20	~ 35	50	7
	21	~ 35	51	$7 \text{ if } < 0; 9 \text{ if } \geq 0$
	22	16	52	$6 \text{ if } < 0; 9 \text{ if } \geq 0$
	23	~ 116	53	$\left. \begin{matrix} 6 \text{ if jump} \\ 7 \text{ if no jump} \end{matrix} \right\}$
	24	11	54	
	25	11	55	$\left. \begin{matrix} 7 \text{ if no jump} \\ 16 \end{matrix} \right\}$
	26	presumably 11	56	
	29	13	57	
	30	12	58	
	31	12		
	32			
	33			

87 is after 86 (see 8)

<u>Function</u>	<u>No. of steps</u>
59	21
60	15
62	20
66	16 + 2m
68	16
69	26 + 4s*
70	7
71	9
72	10
73	10
74	14 ; 16 y jump
75	17 ; 19 "
76	10 ; 12 y skip
77	10 ; 12 "
78	14
79	14
80	12
81	13
82	15
83	15
86 } 87 }	16 ; 18 y jump
88	14
89	13
90	{ 12 + (-s) 268 y zero
96	23 + 2m + 1
98	11
99	11
100	11
101	
102	6
105	10
106	7

<u>Function</u>	<u>No. of steps</u>
107	11 + 4s*
108	11
109	11
110	11
112	6
120f1	14
120f16	? 20
121f1	* 11 + 4s* (?!)

* Input/output busy loop, arbitrary.