M-8

SYSTEM SUBROUTINES FOR TSS 2.0

CLASSIFIED LIST

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SYSTEM SUBROUTINES FOR TSS 2.0 -- CLASSIFIED LIST

Note: BRS's marked with 'e' may be used only by programs with executive status.
BRS's marked with 'r' may be used only with certain restrictions; for which see the TSS Reference Manual

(Q) SCHEDULING, FORKS AND PROGRAM INTERACTION

Q1. Programmable Interrupts

BRS 78	Arm/disarm software interrupts	4-1
79	Cause specified software interrupt	4-1
49	Determine which software interrupts are armed	4-2

Q2. Control of the rubout key

BRS 90	Select calling fork for termination by next rubout	3-6
46e	Ignore rubout key	3-6
47e	Restore response to rubout key	3-6
26e	Skip if rubout waiting (significant only after BRS 46)	3-6

Q3. Activation of a fork

BRS 9	Commence execution of a new fork	3-1
75	Reactivate the closest ancestor fork dismissed by a BRS 74; suspend activity in all the ancestor's subsidiary forks	3-7
76	Restart activity in all forks suspended by a previous BRS 75 or 89	3-8
57	Guarantee 16 ms. continuous computing in this fork	2-3

Q4. Interrogation of a fork

BRS 30	Determine status of a specified subsidiary fork	3-3
107	Determine status of all subsidiary forks	3-3

Q5. Temporary suspension of forks

BRS 45	Dismiss calling fork to quantum overflow queue	2-3
72e	Dismiss calling fork to specified queue	2-5
81	Dismiss calling fork for specified time	6-1
74	Dismiss calling fork until BRS 75 or termination in any subsidiary fork	3-7

75	See § Q3.	3-7
89	Suspend activity in all forks subsidiary to a given one	3-8
31	Dismiss calling fork until a specified subsidiary fork terminates	3-3
106	Dismiss calling fork until any one subsidiary fork terminates	3-3
109	Dismiss calling fork until a software interrupt occurs or it is terminated	6-1

Q6. Termination of a fork

BRS 10	Terminate the calling fork, return control to the next higher fork	3-6
22e	Terminate all forks subsidiary to the Exec	3-7
32	Terminate a specified subsidiary fork	3-3
108	Terminate all subsidiary forks	3-3
73	Terminate a specified number of forks	3-6
77	Terminate all forks suspended by a previous BRS 75 or 89	3-8

(F) INPUT/OUTPUT

F1. Direct control of peripherals

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2	Close file (i.e. terminate I/O activity and release associated device)	9-2
8	Close all open files	9-2
58	Define open random file as secondary memory	10-2
59	Release specified memory from random drum file	10-3
66	Release all memory from random drum file - except index block	9-5
67e	Release specified index block from drum file	9-5
82	Switch sequential file to input or output	9-2
87e	Read drum file index block into core	9-5
104e	Drum-to-core 2K block transfer	5-5
105e	Core-to-drum 2K block transfer	5-5
113	Count number of words in drum file	9-5
114e	Clear W-buffer	9-9
118e	Reserve tape unit	9-8
119e	Release tape unit	9-8

F2. Handling files via file names

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16	Open named file for output	12-3
17	Open scratch file for input	12-8
18	Open scratch file for output	12-8
19	Delete scratch file	12-8
48	Set file status word (word 2 of description blcok)	12-7
60	Interrogate file status	12-7
61	Define special-group name	12-7
62	Delete special-group name	12-7
63	Define read-in group name	12-7
64	Delete read-in group name	12-7
102	Create a subsystem file	16-3
103	Read a subsystem file	16-3

F3. I/O operations

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WIO	File/A-register word transfer	9-3
CIO	File/A-register character transfer	9-2
DWO	Output 1 word from A register to random file	10-1
DWI	Input 1 word from random file to A register	10-1
DBO	Output data block from memory to random file	10-2
DBI	Input data block from random file to memory	10-2
SAS	Output 1 word from A register to secondary memory	10-3
LAS	Input 1 word from secondary memory to A register	10-3
CTRL	Position file (several options).	9-4,9-7

T TELETYPES

T1. Linking and attaching

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28	Release attached teletype	7-4
23	Link/unlink to specified teletypes	7-7
24	Unlink from all teletypes	7-8
25	Set teletype to accept/refuse links	7-5

T2. Input/Output

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29	Clear TTY output buffer	7-6
13	Skip if TTY input buffer empty	7-6
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40	Determine current echo table	7-2
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86	Set normal mode for output	7-8
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TCO	Output character to controlling TTY	7-3
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STIr	Set character in input buffer of specified TTY	7-8

M MEMORY

M1. Private Memory

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120e	Acquire new pseudo-block	5-3
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44r	Set current pseudo relabelling	5-2
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56e	Make pseudo block executive type	5-4
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100	Obtain pseudo-relabelling for accessing named, shared information	16-1
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83	Call HELP subsystem	
84	Call HELP maintenance	

(S) STRING PROCESSING

S1. String I/O

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	34	Output message to file	18-1
	35	Output string to file	18-1

S2. Hash Table Search

BRS	5	Search hash table for matching string - no prerecognition	18-1
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S3. String manipulation

STP	Store string pointer	18-1,19-1
LDP	Load string pointer	18-1,19-1
SKSE	Skip if strings equal	18-1
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S4. Character manipulation

GCI	Get character from head of string and increment pointer	18-1
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GCD	Get character from tail of string and decrement pointer	18-1
WCD	Write character to head of string and decrement pointer	18-1
WCH	Write character to free memory area (with garbage collection)	18-1

N NUMBERS

N1. Number I/O

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38	Input integer to A register, interpreting according to specified radix	17-1
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53	Output floating point decimal no.	19-1
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ISC	Convert floating point number to character string	19-1

N2. Number arithmetic

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(X) MISCELLANEOUS

BRS 20	Read date	6-1
42	Read time	6-1
91	Read date and time to string	17-1
88	Read execution time	6-1
41	Return from I/O subroutine	11-2
111e	Return from user-mode BRS	6-2
112e	Turn off teletype station	7-4
71	Skip if program has executive status	6-1
EXSe	Execute instruction in system mode	6-2

(E) EXECUTIVE COMMAND BRS's

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93	Save core on file	14-1
94	Place file in core	14-1
95	Dump machine on file	14-1
96	Recover machine from file	14-1
97	Where is user	14-1
98	Consult with user	14-1

Concise Index to BRSs

	0	1	2	3	4	5	6	7	8	9
0		F1	F1		M1	S2	S2		F1	Q3
10	Q6	T2	T2	T2	T2	F2	F2	F2	F2	F2
20	X	N2	Q6	T1	T1	T1	Q2	T1	T1	T2
30	Q4	Q5	Q6	S1	S1	S1	N1	S2	N1	
40	T2	X	X	M1	M1	Q5	Q2	Q2	F2	Q1
50	N2	N2	N1	N1	M1	M1	M1	Q3	F1	F1
60	F2	F2	F2	F2	F2		F1	F1	M2	M2
70		X	Q5	Q6	Q5	Q3	Q3	Q6	Q1	Q1
80	M1	Q5	F1	M2	M2	T2	T2	F1	X	Q5
90	Q2	X	E	E	E	E	E	E	E	M2
100	M2	M2	F2	F2	F1	F1	Q5	Q4	Q6	Q4
110	F1	X	X	F1	F1		M1	M1	F1	F1
120	M1	M1	M1							

The sum of the numbers in the leftmost column and topmost row gives the number of the BRS.

In the body of the matrix is given the section of this document in which the BRS is described.