JAN 4

Snyder

Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS	W	CP	CODE
11.	OPy CLEAR ADD	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	-----	2	(82)
	ordinary positive	Clear A	6517	2	94
		Add X to A	6535	4	45
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	-----	4	(82)
12.	OAy HOLD ADD	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	-----	2	(82)
	ordinary add	Add X to A	6535	4	45
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	-----	4	(82)
13.	ONy CLEAR SUBTRACT	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	-----	2	(82)
	ordinary negative	Clear A	6517	2	94
		Subtract X from A	6536	4	46
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	-----	4	(82)
14.	OSy HOLD SUBTRACT	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	-----	2	(82)
	ordinary subtract	Subtract X from A	6536	4	46
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	-----	4	(82)

Y.A. 8884C

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HARLAN SNYDER

Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS		CP	CODE
15.		See XA 8780			
16.	Yqy FILL Q *transmit Y → Q*	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	----	2	(82)
		Clear Q Register	6518	2	93
		Transmit X to Q	6515	4	31
		Clear PCR (EAR and CTS)	(EAR) 6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)
17.	SDy SUBSTITUTE DIGITS	Initiate Write	6595	2	(71)
		Transmit EAR to SAR	6608	2	(70)
		Wait Storage	----	2	(82)
		Transmit Q to SBR/PAK	6514	2	34
		Transmit A to SIR	6511	2	38
		Clear PCR (EAR and CTS)	(EAR) 6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Advance PAK	6609	4	(86)
		Initiate Read to PCR	6596	4	(72)
		Wait Storage	----	4	(82)
21.	APy ABSOLUTE CLEAR ADD *absolute positive*	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	----	2	(82)
		Clear A	6517	2	94
		*Absolute Add X to A	6533	4	47
		Clear PCR (EAR and CTS)	(EAR) 6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)
22.	AAy ABSOLUTE HOLD ADD *absolute add*	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	----	2	(82)
		*Absolute Add X to A	6533	4	47
		Clear PCR (EAR and CTS)	(EAR) 6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)

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Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS		W	CP	CODE
23.	ANy ABSOLUTE CLEAR SUBTRACT	Clear X Register		6519	2	92
		Initiate Read to X		6592	2	(70)
		Transmit EAR to SAR		6608	2	(76)
		Wait Storage		----	2	(82)
	absolute negative	Clear A		6517	2	94
		*Absolute Subtract X from A		6534	4	48
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Transmit PAK to SAR		6610	4	(79)
		Initiate Read to PCR		6596	4	(72)
		Advance PAK		6609	4	(86)
		Wait Storage		----	4	(82)
24.	ASy ABSOLUTE HOLD SUBTRACT	Clear X Register		6519	2	92
		Initiate Read to X		6592	2	(70)
		Transmit EAR to SAR		6608	2	(76)
		Wait Storage		----	2	(82)
	absolute subtract	*Absolute Subtract X from A		6534	4	48
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Transmit PAK to SAR		6610	4	(79)
		Initiate Read to PCR		6596	4	(72)
		Advance PAK		6609	4	(86)
		Wait Storage		----	4	(82)
25.	ALk SHIFT A LEFT	Transmit EAR to ASK		6612	1	(67)
		*Initiate Shift A		----	3	60
	accumulator left	Wait Arithmetic		----	3	(87)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6593	4	(72)
		Transmit PAK to SAR		6610	4	(79)
		Advance PAK		6609	4	(80)
		Wait Storage		----	4	(82)
26.	QLk SHIFT Q LEFT	Transmit EAR to ASK		6612	1	(67)
		*Initiate Shift Q		----	3	35
	Q left	Wait Arithmetic		----	3	(87)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6593	4	(72)
		Transmit PAK to SAR		6610	4	(79)
		Advance PAK		6609	4	(86)
		Wait Storage		----	4	(82)
27.	SEy SUBSTITUTE EXECUTION ADDRESS	Initiate Write		6595	2	(71)
		Transmit EAR to SAR		6612	2	(70)
		Wait Storage		----	2	(82)
		Block Left 10 SIR		6591	2	(78)
		Transmit A to SIR		6511	2	38
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Transmit PAK to SAR		6610	4	(79)
		Advance PAK		6609	4	(86)
		Initiate Read to PCR		6593	4	(72)
		Wait Storage		----	4	(82)

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Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS	W	CP	CODE
31.	SPy SPLIT CLEAR ADD	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	----	2	(82)
	split positive	Clear A	6517	2	94
		*Split Add X to A	6531	4	41
		*Add X to A	6535	4	(45)
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)
32.	SAy SPLIT HOLD ADD	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	----	2	(82)
	split add	*Split Add X to A	6531	4	41
		*Add X to A	6535	4	(45)
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)
33.	SNy SPLIT CLEAR SUBTRACT	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	----	2	(82)
	split negative	Clear A	6517	2	94
		*Split Subtract X from A	6531	4	42
		Clear PCR (EAR and CTS) · (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)
34.	SSy SPLIT HOLD SUBTRACT	Clear X Register	6519	2	92
		Initiate Read to X	6592	2	(70)
		Transmit EAR to SAR	6608	2	(76)
		Wait Storage	----	2	(82)
	split subtract	*Split Subtract X from A	6531	4	42
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)

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Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS	V	CP	CODE
35.	AYy STORE A	Initiate Write	6595	2	(71)
		Transmit EAR to SAR	6508	2	(70)
		Wait Storage	----	2	(82)
		Transmit A to SIR	6511	2	(78)
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Advance PAK	6609	4	(86)
		Initiate Read to PCR	6596	4	(72)
		Wait Storage	----	4	(82)
36.	QYy STORE Q	Initiate Write	6595	2	(71)
		Transmit EAR to SAR	6508	2	(70)
		Wait Storage	----	2	(82)
		Transmit Q to SIR	6512	2	32
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Initiate Read to PCR	6596	4	(72)
		Transmit PAK to SAR	6610	4	(79)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)
41.	QP- CLEAR ADD FROM Q	Clear A Register	6517	2	94
		*Add Q to A	6513	4	40
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Advance PAK	6609	4	(86)
		Initiate Read to PCR	6596	4	(72)
		Wait Storage	----	4	(82)
42.	QA- HOLD ADD FROM Q	*Add Q to A	6513	4	40
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Advance PAK	6609	4	(86)
		Initiate Read to PCR	6596	4	(72)
		Wait Storage	----	4	(82)
43.	AQ- TRANSMIT A to Q	Clear Q Register	6518	2	93
		Transmit A to Q	6516	4	39
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Transmit PAK to SAR	6610	4	(79)
		Initiate Read to PCR	6596	4	(72)
		Advance PAK	6609	4	(86)
		Wait Storage	----	4	(82)
44.	QJy Q-CONDITIONAL JUMP	If q_{23} equals 1: Clear PAK (IIQJ)	6606	2	98
		Transmit EAR to PAK	6607	3	(85)
		*Shift Q left 1 (IIIQJ)	----	3	
		Transmit PAK to SAR	6610	4	(79)
		Advance PAK	6609	4	(86)
		Clear PCR (EAR and CTS) (EAR)	6611	4	97
		Initiate Read to PCR	6596	4	(72)
		Wait Storage	----	4	(82)

(handwritten notes, left margin)

35. transmit A → Y

36. Xmit q → Y

41. Q positive

42. Q add

43. Xmit A → Q

44. — Jump   + no Jump   Both cases shift Q left 1

HARLAN SNYDER

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Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS		W	CP	CODE
44. (continued)		If q_{23} equals 0:				
		*Shift Q left 1		----	3	
		Transmit PAK to SAR		6610	4	(79)
		Advance PAK		6609	4	(86)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6596	4	(72)
		Wait Storage		----	4	(82)
45.	UJy JUMP	Clear PAK		6606	1	98
		Transmit EAR to PAK		6607	3	(85)
		Transmit PAK to SAR		6610	4	(79)
		Advance PAK		6609	4	(86)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6596	4	(72)
		Wait Storage		----	4	(82)
46.	CJy SIGN CONDITIONAL JUMP	If a_{47} equals 1: *JUMP*				
		Clear PAK	(IIJ)	6606	2	98
		Transmit EAR to PAK	(IIIJ)	6607	3	(85)
	— JUMP	Transmit PAK to SAR		6610	4	(79)
		Advance PAK		6609	4	(86)
	+ NO JUMP	Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6596	4	(72)
		Wait Storage		----	4	(82)
		If a_{47} equals 0: *NO JUMP*				
		Transmit PAK to SAR		6610	4	(79)
		Advance PAK		6609	4	(86)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6596	4	(72)
		Wait Storage		----	4	(82)
47.	ZJy ZERO CONDITIONAL JUMP	*Subtract 1 from A (Initiate Delay Ct.)		6541	1	49
		Wait Arithmetic		----	1	(87)
	$A \neq 0$ JUMP	If A does not equal 0: *JUMP*				
		Clear PAK	(IIJ)	6606	2	98
	$A = 0$ NO JUMP	Transmit EAR to PAK	(IIIJ)	6607	3	(85)
		Transmit PAK to SAR		6610	4	(79)
		Advance PAK		6609	4	(86)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6596	4	(72)
		Wait Storage		----	4	(82)
		If End Borrow Occurs, A equals 0: *NO JUMP*				
		Transmit PAK to SAR		6610	4	(85)
		Advance PAK		6609	4	(86)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6596	4	(72)
		Wait Storage		----	4	(82)

HARLAN SNYDER

Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS		W	CP	CODE
51	LPy CLEAR LOGICAL MULTIPLY	Clear X Register		6519	2	92
		Initiate Read to X		6592	2	(70)
		Transmit EAR to SAR		6608	2	(76)
		Wait Storage		----	2	(82)
		Clear A		6517	2	94
	logical positive	*Split Add X to A		6531	4	41
		*Add X to A		6535	4	(45)
		*Add Q to A		6513	4	40
		Transmit PAK to SAR		6610	4	(79)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Initiate Read to PCR		6596	4	(72)
		Advance PAK		6609	4	(86)
		Wait Storage		----	4	(82)
52.	LAy HOLD LOGICAL MULTIPLY	Clear X Register		6519	2	92
		Initiate Read to X		6592	2	(70)
		Transmit EAR to SAR		6608	2	(76)
		Wait Storage		----	2	(82)
	logical add	*Split Add X to A		6531	4	41
		*Add X to A		6535	4	(45)
		*Add Q to A		6513	4	40
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Transmit PAK to SAR		6610	4	(79)
		Initiate Read to PCR		6596	4	(72)
		Advance PAK		6609	4	(86)
		Wait Storage		----	4	(82)
53.	POy PRINT ONLY	Initiate Read to PPR#		6593	2#	(68)
		Wait Storage		----	2	(82)
		Transmit EAR to SAR		6608	2	(76)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Advance PAK		6609	4	(86)
		Transmit PAK to SAR		6610	4	(85)
		Initiate Read to PCR		6596	4	(72)
		Wait Storage		----	4	(82)
54.	PPy PRINT AND PUNCH	Initiate Read to PPR#		6593	2#	(68)
		Wait Storage		----	2	(82)
		Transmit EAR to SAR		6608	2	(76)
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97
		Advance PAK		6609	4	(86)
		Transmit PAK to SAR		6610	4	(85)
		Initiate Read to PCR		6596	4	(72)
		Wait Storage		----	4	(82)
		Connect Punch		----	D.C.	(10)

XA 8884-C

HARLAN SNYDER

#
If machine is printing & POy or PPy occurs, this
sub-command will be sent out when print acknowledge
is received.

Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS		W	CP	CODE	
55.	IS- INTERMEDIATE STOP	Indicate Intermediate Stop			1	(84)	
		Resume (by push button) as follows:					
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97	
		Advance PAK		6609	4	(86)	
		Transmit PAK to SAR		6610	4	(85)	
		Initiate Read to PCR		6596	4	(72)	
		Wait Storage		----	4	(82)	
56.	CS- CONDITIONAL STOP	Indicate Conditional Stop			1	91	
		Resume (by push button) as follows:					
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97	
		Advance PAK		6609	4	(86)	
		Transmit PAK to SAR		6610	4	(85)	
		Indicate Read to PCR		6596	4	(72)	
		Wait Storage		----	4	(82)	
57.	FS- FINAL STOP	Indicate Final Stop			1	(83)	
61.	MPy CLEAR MULTIPLY	Clear X Register		6519	2	92	
		Initiate Read to X		6592	2	(70)	
		Transmit EAR to SAR		6608	2	(76)	
		Wait Storage		----	2	(82)	
		Clear A		6517	2	94	
	mult positive	*Initiate Multiply (PT. II)		6549	4	(63)	
		Wait Arithmetic		----	4	(87)	
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97	
		Transmit PAK to SAR		6610	4	(79)	
		Advance PAK		6609	4	(86)	
		Initiate Read to PCR		6596	4	(72)	
		Wait Storage		----	4	(82)	
62.	MAy HOLD MULTIPLY	Set ASK to 24			1	(62)	
		Clear X Register		6519	2	92	
		Initiate Read to X		6592	2	(70)	
		Transmit EAR to SAR		6608	2	(76)	
		Wait Storage		----	2	(82)	
	mult add	*Initiate Shift A		----	3	60	
		Wait Arithmetic		----	3	(87)	
		*Initiate Multiply (PT. II)		6549	4	(63)	
		Wait Arithmetic		----	4	(87)	
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97	
		Initiate Read to PCR		6596	4	(72)	
		Transmit PAK to SAR		6610	4	(79)	
		Advance PAK		6609	4	(86)	
		Wait Storage		----	4	(82)	
63.	DPy DIVIDE	Set ASK to 24			1	(62)	
		Clear X Register		6519	2	92	
		Initiate Read to X		6592	2	(70)	
		Transmit EAR to SAR		6608	2	(76)	
		Wait Storage		----	2	(82)	
	divide posit	Clear Q Register		6518	2	93	
		*Initiate Divide		6550	4	(64)	
		Wait Arithmetic		----	4	(87)	
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97	
		Transmit PAK to SAR		6610	4	(79)	
		Advance PAK		6609	4	(86)	
		Initiate Read to PCR		6596	4	(72)	
		Wait Storage		----	4	(82)	

XA 88846

HARLAN SNYDER

Octal No.	COMMANDS	CONSISTING OF SUB-COMMANDS		W	CP	CODE	
71.	NPy CLEAR ADD + 1	Clear X Register		6519	2	92	
		Initiate Read to X		6592	2	(70)	
		Transmit EAR to SAR		6608	2	(76)	
		Wait Storage		-----	2	(82)	
		Clear A		6517	2	94	
		*Set a_0 to 1		6524	3	54	
		*Add X to A		6535	4	45	
		Clear PCR (EAR and CTS)	(EAR)	6611	4	97	
		Transmit PAK to SAR		6610	4	(79)	
		Initiate Read to PCR		6596	4	(72)	
		Advance PAK		6609	4	(86)	
		Wait Storage		-----	4	(82)	

* Indicates sub-commands originated in Main Control, re-processed, and issued from ASC as "ASC Sub-commands". Other sub-commands are issued from Main Control.

HARLAN SNYDER

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