

	1	2	3	4	5	6	7	8						
INSTRUCTION LAYOUT	D-166-O-SBR REV LTR A	PUSH J  010 110 000	PUSH  010 110 001	POP  010 110 010	POP J  010 110 011	JSR  010 110 100	JSP  010 110 101	JSA  010 110 110	JRA  010 110 111	JFCL  010 101 101	JRST  010 101 100	XCT  010 101 110	UUO  000 000 000	INSTRUCTION LAYOUT
INSTRUCTION ACTION		C(AC)+1 → C(AC) O, PC → C(C(ACRT)) E → PC	C(AC)+1 → C(AC) C(E) → C(C(ACRT))	C(C(ACRT)) → C(E) C(AC)-1 → C(AC)	C(C(ACRT)) → PC C(AC)-1 → C(AC)	OV, CRY0, CRY1, PC CHG FLAGS, PC → C(E) E+1 → PC	PC → C(AC) E → PC	E, PC → C(AC) C(AC) → C(E) E+1 → PC	C(C(ACLT)) → C(AC) E → PC	IF IR9(1) AROV(1) V IR10(1) AAR CRY0 V IR11(1) AAR CRY1 V IR12(1) APC CHG: E → PC IF IR9(1) AROV ← (0) IF IR10(1) ARCRY0 ← (0) IF IR11(1) ARCRY1 ← (0) IF IR12(1) PC CHG ← (0)	IF IR9(1): RESET PI IR10(1): HLT IR11(1): RESET JFCL FLAGS	IR, E → C(40) EXECUTE 41	INSTRUCTION ACTION	
INITIAL ACTION		AR = C(AC) MB = O, E MA = E	AR = C(AC) MB = C(E) MA = E	AR = C(AC) MB = O, E MA = E MQ = C(C(ACRT))	AR = C(AC) MB = O, E MA = E MQ = C(C(ACRT))	AR = O, E MB = 0, E MA = E	AR = O, E MB = 0, E MA = E	AR = C(AC) MB = O, E MA = E	AR = C(AC SWAPPED) MB = O, E MA = E MQ = C(C(ACLT))	AR = O, E MB = 0, E MA = E	AR = O, E MB = 0, E MA = E	AR = O, E MB = C(E) MA = E	MB = O, E MA = E AR = O, E	INITIAL ACTION
INITIAL SWITCHES			F C(E)	F C(C(ACRT))	F C(C(ACRT))	F AC INH	F AC INH		F C(C(ACLT))	F AC INH	F AC INH	F C(E) F AC INH	FAC INH	INITIAL SWITCHES
ET 0				MB ← MQ(J)	MB ← MQ(J) MA ← (0)			MBLT(J) ↔ MBRT(J)	MB ← MQ(J)			PC +1 INH	PC +1 INH MA ← (0)	ET 0
ET 1											IR9(1): PIH(0) ← PI OK(1)		MA ← (40) MBLT ← (0)	ET 1
ET 3		AR+1	AR + 1	AR - 1	AR - 1 MA ← MB(1)								MBLT ← IR(1)	ET 3
ET 4												XCT T0 [MR CLR] 0.1 TO IT1A	[CALL MC WR] [UUOF1 ← (1)]	ET 4
ET 5		MB ← (0)				MB ← (0)	MB ← (0)						SUBR COMP [UUO T1]	ET 5
ET 6		MB ← PC(1)				MB ← PC(1) MB0 - 4 ← ARO V, CRY0, CRY1, PC CHG	MB ← PC(1)	MB ← PC(1)	MB ← PC(1)				[UUOF1 ← (0)] MA + 1 MC CLR	ET 6
ET 7		PC ← (0)			PC ← (0)	PC ← (0)	PC ← (0)	PC ← (0)	PC ← (0)	Z: PC ← (0)	PC ← (0)		0.1 [UUO T2]	ET 7
ET 8		PC ← MA(1)			PC ← MA(1)	PC ← MA(1)	PC ← MA(1)	PC ← MA(1)	PC ← MA(1)	PC ← MA(1)	Z: PC ← MA(1)	PC ← MA(1)	[IF1A ← (1)] MC RD RQ	ET 8
ET 9		MB(J) ↔ AR(J) MA ← (0)	MB(J) ↔ AR(J) MA ← (0)	MB(J) ↔ AR(J)	MB(J) ↔ AR(J)	PC + 1	MB(J) ↔ AR(J)	MB(J) ↔ AR(J) PC + 1	MB(J) ↔ AR(J)				IR11(1): AROV, AR CRY0, AR CRY1, PC CHG ← (0)	ET 9
ET 10		MB(J) ↔ AR(J) [MB ← AR(J) INH] MA ← MBRT(1)	MB(J) ↔ AR(J) [MB ← AR(J) INH] MA ← MBRT(1)	MB(J) ↔ AR(J) MB ← AR(J) INH	MB(J) ↔ AR(J) MB ← AR(J) INH	MB ← AR(J) INH	[MB ← AR(J) INH]	MB ← AR(J) INH	MB ← AR(J) INH	[MB ← AR(J) INH]	IR9(1): AROV ← (0) IR10(1): ARCRY0 ← (0) IR11(1): ARCRY1 ← (0) IR12(1): PC CHG ← (0)	IR11(1): AROV, AR CRY0, AR CRY1, PC CHG ← MB0 - 3(1) IR10(1): RUN ← (0)		ET 10
FINAL SWITCHES		SC(E)	SC(E)	SC(E)		SC(E) S AC INH		SC(E)		S AC INH	S AC INH			FINAL SWITCHES

Z = IR9(1) AROV(1) V IR10(1) AAR CRY0(1) V IR11(1) AAR CRY1(1) V IR12(1) APC CHG

CHANGE	A-1
DATE	1-29-64
ENG	R. Watson
PROJ. ENG	R. Watson
PROD.	R. Watson

DRAWN	R. WATSON	DATE	1-29-64
CHECKED	B. Calum	DATE	3-20-64
ENG	R. Watson	DATE	3/20/64
PROJ. ENG	R. Watson	DATE	3/20/64
PROD.	R. Watson	DATE	3/20/64

REVISIONS

digital EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS

TITLE: SUBROUTINE INSTRUCTIONS, PUSH & POP  
FOR ARITH PROC 166: PDP-6

ISSI  
AUG 4 1964

DRWG NO: D-166-O-SBR  
REV LTR: A

ASSY NO: FD  
SHEET: OF