

### DISK CHECK AND ERROR SUBROUTINE

The Disk Check and Error Subroutine provides an automatic test for error conditions following disk operations. It has the merits of being able to accommodate both Move and Load operations and both sector and full-track operations interchangeably.

#### FUNCTION

The Subroutine can be entered at two points. A Branch to check Seek (B CKSEEK) instruction must be given immediately after each Seek Disk instruction. The Subroutine stores the Seek Disk instruction for future use and tests the Access Inoperable indicator. If this indicator is on, up to eight reseeks are performed.

A Branch to Check Read Write (B CKRDWT) instruction must be given immediately after each Write Disk and each Read Disk instruction. The Subroutine tests the Any Disk-Unit Error Condition indicator. If the indicator is off, a Write Disk is performed and the indicator is again tested. If the indicator is on at either test, a reseek and reread or rewrite is performed up to eight times.

#### CORE SPACE REQUIREMENTS

The Subroutine occupies 195 digits of core storage. However, since it replaces indicator tests and Write Disk Check instructions in the main program, the main program is shortened by one digit for each Seek Disk instruction and by 14 digits for each Read Disk or Write Disk instruction that is used.

#### TIMING

If no errors are found, the main program is re-entered 1.3225 ms after a Branch to Check Seek and 52.1390 ms after a Branch to Check Read Write. In the latter case, 50.2155 ms are used by the Write Disk Check that is performed.

#### MODIFICATIONS

The Subroutine is programmed to halt if a disk error condition is not corrected after eight reseeks, rereads, or rewrites. The programmer can have the computer execute other instructions without halting by inserting the address of the next instruction in the A-operand of the instruction on Line 170 of the Subroutine. Alternatively, he can change the Halt to a Halt and Branch by inserting the proper address in the A-operand of the instruction on Line 260 of the Subroutine.

DISK CHECK AND ERROR SUBROUTINE

1	010	4	0000	CKRDWT	SBR	RETADD	*		*
1	020	7	0004		MCW	RETADD		TOMAIN*	003
1	030	7	0011		A	COMPL5		RETADD	
1	050	7	0018		MCW	RETADD		RDWTAD*	003
1	060	7	0025	RDWTAD	MCW	0000		RDWTDK*	007
1	070	7	0032		MCW	RDWTDK		WTDKCK	
1	080				SW	RDWTDK	*	004	
	090	7	0039		MCW	RDWTDK	*	006	WTDKCK*006
	100	4	0046		CW	RDWTDK	*	004	
	105	7	0050		MCW	WTDKCK	*	007	WTDKC2*007
1	110	5	0057	TESTYX	B	TESTX9			Y
1	120	8	0062	WTDKCK	NOP	%F3		0000	W
1	130	5	0070		B	TESTX9			Y
1	140	7	0075	ZEROCT	MCW	ONEXXX		COUNTX	
1	150	1	0082		MCW				
1	160	4	0083	TOMAIN	B	0000			
1	170	8	0087	TESTX9	B	HALTXX		COUNTX	9
1	180	7	0095	A1TOCT	A	ONEXXX		COUNTX	
1	190	8	0102	SEEKDK	NOP	0000		0000	O
2	210	5	0110	TESTNX	B	A1TOCT			N
2	220	8	0115		B	ZEROCT		TESTXX	S
2	230	8	0123	WTDKC2	NOP	0000		0000	O
2	240	8	0131	RDWTDK	NOP	0000		0000	O
2	250	4	0139		B	TESTYX			
2	260	1	0143	HALTXX	H				
2	270			CKSEEK	SBR	RETADD			
2	280	7	0144		MCW	RETADD		TOMAIN*	003
2	285	7	0151		MCW	SXXXXX		TESTXX	
2	290	1	0158		A				
2	300	7	0159		MCW	RETADD		SEEKAD*	003
2	310	7	0166	SEEKAD	MCW	0000		SEEKDK*	007
2	330	4	0173		B	TESTNX			
2	340	4	0177	COMPL5	DCW	*		195	
2	345	4	0181	SXXXXX	DCW	*		S	
2	350	4	0185	RETADD	DCW	*			
2	360	4	0189	TESTXX	DCW	*			
2	370	4	0193	COUNTX	DCW	*			
2	380	4	0197	ONEXXX	DCW	*		1	