1301 Order Code | T2 X3 | 1301 Order Code (taken from ICT pamphlet "1301 Data Processing System Specification and order code" reference P134/12.61/2MR/FP)

Group	Designation	Function	Address	Description
	0	0	Not used	DO NOTHING. Proceed to the next instruction.
	0	11	Not used	STOP
	0	21	0-12	SET DECIMAL POINT REGISTER. The decimal point register is set with the value contained in the address. It specifies the decimal point position to be used during multiplication to obtain the correct positioning of the product.
	0	22	2-12	SET STERLING POSITION REGISTER. The register is set with the value contained in the address. In all subsequent *sterling* operations this will be the 10/- position until the register is reset.
	0	30	0000-1999	SET ROW BINARY FROM IMMEDIATE ACCESS CORE. The row binary register will be set by the least significant digit *only* from the immediate access core store which is addressed (value may be 0 to 15)
	0	31	0000-1999	CREATE ROW BINARY 1. Row binary is created by comparing the value of each digit of the immediate access core store addressed in turn, with the value of the row binary register. On equality of values a "bit" is placed in the 1's stream only of register B in the appropriate digit position.
	0	32	0000-1999	CREATE ROW BINARY 2. As for row binary 1 in 2's stream.
	0	33	0000-1999	CREATE ROW BINARY 3. As for row binary 1 in 4's stream
	0	34	0000-1999	CREATE ROW BINARY 4. As for row binary 1 in 8's stream.
	0	35	0000-1999	LOGICAL AND. 0+0=0, 0+1=0, 1+0=0, 1=1=1. Applied to corresponding *bits* of register B and the addressed immediate access core store leaving result in register B.
	0	36	0000-1999	LOGICAL OR. 0+0=0, 1+0=1, 0+1=1, 1+1=1. Applied to corresponding *bits* of register B and the addressed immediate access core store leaving result in registers A and B and the immediate access core store.
	0	37	0000-1999	TRANSFER FROM IMMEDIATE ACCESS CORE STORE TO REGISTER B. The addressed immediate access core store is placed in register B.
	0	38		INPUT/OUTPUT CONTROL (EXCLUDING MAGNETIC TAPE). This instruction will activate an input or output unit; the unit and its action being selected by the address digits as follows:-
			2 or 7	Card reader
			13 to 16 & 20 to 26	Line printer functions including paper movement
			42 to 47	Card punch

	0		39	001x	WRITE. Write on to tape deck x beginning with the
	0		00	0001-1999 (x=1-8)	addressed immediate access core store and continuing until the end of block (a word of all 15's) is transferred and written, and stop. This is a double length instruction and must be contained in one word. Transfer is controlled by the data transfer unit.
Magnetic tape order					
	0		39	002x	READ. Read from tape deck x beginning with the
	0		00	0001-1999 (x=1-8)	addressed immediate access core store and continuing until the end of block is transferred and stop. This is a double length instruction. Transfer is controlled by the data transfer unit.
ditto					
		0	39	003x (x=1-8)	BACK SPACE. Reverse tape deck x and go to the start of
ditto					the last block and then stop (ready to run forward again).
		0	39	004x	CANCEL. Start tape deck x, cancel the next block and then stop. A cancelled block will automatically be ignored during
ditto					any subsequent read operation.
		0	39	005x (x=1-8)	REWIND. Rewind tape deck x to the beginning of tape
ditto					marker (ready for re-run).
		0	39	006x (x=1-8)	UNLOAD. Rewind tape deck x completely on to one reel
ditto					and stop the tape deck, switching it to local control.
		0	40	0000-1999	WRITE ZERO TO IMMEDIATE ACCESS CORE STORE. Zero (with correct check digits) is written into the addressed immediate core store and into register A.
		0	41	0000-1999	TRANSFER REGISTER A TO IMMEDIATE ACCESS CORE STORE. Register A is written into the addressed immediate core store. Register A remains unaltered.
		0	42	0000-1999	TRANSFER REGISTER B TO IMMEDIATE ACCESS CORE STORE. Register B is written into the addressed immediate core store, and into register A. Register B remains unaltered.
		0	43	0000-1999	TRANSFER REGISTER C TO IMMEDIATE ACCESS CORE STORE. Register C is written into the addressed immediate core store, and into register A. Register C remains unaltered.
		0	44	Not used	
					TRANSFER REGISTER C TO REGISTER B. Register C is transferred to register B. Register C remains unaltered.
		0	45	0000-1999	
					Block transfer in immediate access core.
		0	1-20	0000-1999	
					Store of the number of words cited (1-20) starting from the first addressed immediate access core store to the second.
		0	54	0-12	CIRCULATE LEFT. Register B is circulated to the left the number of places indicated in the address position (digits from the most significant end of the register appearing in the least significant end).
		0	55	0-12	LEFT SHIFT. Register B is shifted to the left the number of places indicated in the address position. Zeros are entered at the least significant end and the most significant digits will be lost. (This will also cause zero to be placed in register A).

		0	56	0-12	RIGHT SHIFT PROPAGATING SIGN. Register B is shifted to the right the number of places indicated in the address position propagating the sign of the most significant digit. The least significant digits are lost. 0's will be propagated if the modst significant digit is 0 to 4; 9's if it is 5 or greater.
		0	57	0-12	RIGHT SHIFT ENTERING ZEROS. Register B is shifted to the right the number of places indicated in the address position entering 0's at the most significant end. The least significant digits will be lost.
Decimal orders		0	60	0000-1999	CLEAR ADD. The addressed immediate access core store is added to 0 and placed in register B.
ditto		0	61	0000-1999	CLEAR SUBTRACT. The addressed immediate access core store is subtracted from 0 and placed in register B.
ditto		0	62	0000-1999	ADD. The addressed immediate access core store is added to register B.
ditto		0	63	0000-1999	SUBTRACT. The addressed immediate access core store is subtracted from register B.
ditto		0	64	0000-1999	ADD TO IMMEDIATE ACCESS CORE STORE. Register B is added to the addressed immediate access core store, register B remains unaltered. The result will also be placed in register A.
ditto		0	65	0000-1999	SUBTRACT FROM IMMEDIATE ACCESS CORE STORE. Register B is subtracted from the addressed immediate access core store, register B remains unaltered. The result will also be placed in register A.
ditto		0	66	0000-1999	ADD 1 TO IMMEDIATE ACCESS CORE STORE. The contents of the addressed immediate access core store are increased by 1. The result will also be placed in register A.
ditto		0	67	0000-1999	SUBTRACT 1 FROM IMMEDIATE ACCESS CORE STORE. The contents of the addressed immediate access core store are decreased by 1. The result will also be placed in register A.
ditto		0	68	0000-1999	COMPARE. Register B is subtracted from the addressed immediate access core store, the result being placed in register A and the original factors left unaltered.
ditto		0	69	0000-1999	MULTIPLY. The addressed immediate access core store is multiplied by register B, the single length product determined by the decimal point register being placed in both registers B and C.
Sterling		0	70-78	0000-1999	STERLING ADDITION AND SUBTRACTION INSTRUCTIONS. As for functions 0 60 to 0 68 but with arithmetic in sterling, the 10/- position being defined by the contents of the sterling position register (see function 0 22).
ditto		0	79	0000-1999	STERLING MULTIPLY. As for funtion 69 but with sterling in the addressed immediate access core store, the 10/- position being defined by that register.
Drum orders	0		80	0000-1999	DECADE TRANSFER TO DRUM. Up to 20 decades each
	0		1-20	0000-9599	of 10 words can be sucessively transferred to the drum, commencing with the immediate access core store address and the drum decade address specified.

	0	81	1	0000-1999	
	0		20	0000-9599	DECADE TRANSFER FROM DRUM. This instruction is similar to funtion 0 80 above, except that the transfer takes
ditto					place from tht drum to the immediate access core store.
	0		82	0000-1800	CHANNEL TRANSFER TO DRUM. This instruction is
	0		20	0000-9580	similar to function 0 80 above, but will cause a channel of 20 decades to be transferred to the drum with reduced
ditto					access time.
	0		83	0000-1800	
	0		20	0000-9580	CHANNEL TRANSFER FROM DRUM. This instruction is similar to function 0 82 except that it transfers data from the
ditto					drum to the immediate access core store.
	0	84-87	1	0000-1999	RESERVED STORE TRANSFERS. Theseinstructions are
	0		20	xxxx	identical to functions 0 80 to 0 83 respectively except that each refers to a reserved store on the magnetic drum, and
ditto					the appropriate reserved store addresses are used.
		4	0	0000-1999	UNCONDITIONAL JUMP. Indicator 00 which is permanently set is "tested" and an unconditional jump to
Indicator					the instruction in the specified immediate access core store
orders					address occurs.
		4	36161	0000-1999	TEST AND JUMP. Indicators which are specified by the function number are tested. If the tested indicator is set the next instruction is taken from the addressed immediate access core store position and if it is not set the next sequential instruction is obeyed. Indicators are set by numbers passing through the mill for equal to, greater than or less than zero; may be set by program (see below under designations 8 and 9) or manually at the start of an operation. Other indicators reflect the availability of input and output units and parity check results. According to the type of indicator, it may or may not be unset as a result of
ditto					the test.
		8	10-19	Not used	SET INDICATOR. The indicator specified by the function
ditto					number is set.
		9	10-19	Not used	UNSET INDICATOR. THE indicator specified by the
ditto					function number is unset.