ELLIOTT 903

Volume   2:   PROGRAMMING INFORMATION

Part   2:   PROGRAM DESCRIPTIONS

Section   4:   QT2OUT (C. 9)

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1. 1   INTRODUCTION

1. 1. 1   Purpose.

QT2OUT (C. 9) is used to output a program from store as a single block of relatively-addressed instructions suitable for input by T. 2.

1. 1. 2   Form of Distribution.

The program is distributed as a machine-code tape for input by the Symbolic Input Routine (SIR) or by T. 2.

1. 1. 3   Method of Use.

A parameter tape read in by SIR or by T. 2 is used to specify which locations are to be output and which are to be treated as constants.

QT2OUT may be run in any program level and in any store-module.   The program to be output may be held in any store-module.

1. 1. 4   Compatibility with SIR.

The output tape contains a directory and a block of coding separated by 3 inches of blank tape.   The block of coding may be assembled by SIR.

1. 2   FUNCTIONS

1. 2. 1   Parameter Tape.

The first address to be output is placed in 222; of QT2OUT.

The last address to be output is placed in 223; of QT2OUT.

The first and last addresses of constant locations are placed in pairs onwards from 224; of QT2OUT.

NOTE.   These blocks must be declared with their addresses in strictly ascending order.

It is recommended that the user locates QT2OUT by a patch if SIR is used. The parameter tape should contain the following items, each terminated by <newline>

An example of a parameter tape is given below

Characters Punched		Significance
(translation by T. 2)	(translation by SIR)	
&		
+M	↑+M	M is absolute address of 222; of QBINOUT
*		
+A1	+A1	first location to be output
+A2	+A2	last location to be output
+C1(1)	+C1(1)	first location of first constant block
+C1(2)	+C1(2)	last location of first constant block
+C2(1)	+C2(1)	address of a single constant location
+0	+0	denotes a single constant to be output
+0	+0	terminates constant list
<halt>	%	terminates parameter tape.

NOTES (1) If only one location is to be treated as constant, punch +0 as the "last address" of the block.

(2) Terminate the list by punching +0

(3) All shifts and input/output instructions must be declared as constants: so must all instructions with absolute addresses.

(4) Zero locations are treated as constants whether or not they are declared as such.

1.2.2. Output by QT2OUT

The program is output as a single block of relatively addressed instructions and integers. It is headed by a directory which is separated from the main body of the coding by 3 inches of blank tape. The block is terminated with <halt>

All constants are output as integers. If the address part of an instruction is less than the address of the first location output then it is output as an absolute address.

1.3   OPERATING INSTRUCTIONS

Input tapes in the following order:

(1)   Directory or patch for QT2OUT.

(2)   QT2OUT

(3)   Parameter tape

Trigger QT2OUT at   0;   of QT2OUT

1.4   STORE USED

QT2OUT uses $225 + 2n$ consecutive locations, where n is the number of constant blocks declared.

1.5   TIME TAKEN

QT2OUT operates at the speed of the punch.