RECOMP II TECHNICAL BULLETIN NO. 8

TITLE: Standard Format; RECOMP Relocatable "Master" Subroutine Tapes

PURPOSE: To clarify the use and operational procedure of RECOMP relocatable subroutine tapes distributed by Autonetics to the Users.

EFFECTIVE DATE: April 15, 1960

CONTENTS: All master relocatable subroutine tapes are now being distributed to the users in a relocatable format so as to extend the flexibility and usefulness of RECOMP and to aid the programmer in optimal assembly of his programs. Each relocatable master tape occupies three specific areas of memory.

1. The subroutine itself always begins at location L(0000.0). The extent will vary with the length of each subroutine. If the extent is unknown to the operator, it may be found by command readout of the "KEY" relocator word located at L(3777.0). The right half word gives the location of the last word occupied in memory by the subroutine.

2. The second area directly follows the "KEY" word and contains a relocation matrix consisting of ones and zeros located at binary 19 and 39. The matrix, originating at L(4000.0) is of the same extent as the subroutine. Binary position 19 refers to the left half word of the corresponding location in the subroutine. A 1 in this position indicates that the left hand address of the subroutine is to be modified. E.g. loop addresses, positive constants, type and/or punch character commands are not to be modified. The matrix word will always be positive and the right half negative with the exception of negative constants and negative non-zero words that are not constants, e.g. trapping mode.

3. The third area is occupied by the relocator routine, designated AN-004 in the RECOMP Library Index. This routine occupies locations (7724.0 to 7757.1)

After entering the relocatable tape the location counter will halt at (7724). The desired new location is entered in command format of the form; (+00 0000.0-00XXX0.0). The new location must be congruent to zero modulo 8.

Pressing start will multiply the first matrix word with the new location previously entered in L(7724). The product is then added to the word in the corresponding location in the subroutine and then punched onto paper tape. This operation is repeated with each successive word until the key word indicates a halt. The subsequent tape will be the relocated subroutine.

It is emphasized that the master relocatable tapes, distributed by Autonetics, should not be used for everyday use but only to reproduce the master and to relocate the routines.

REFERENCES: AN-004, Subroutine Relocation Utility Routine

INFORMATION TO: All Concerned

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