

RECOMP II USERS' PROGRAM NO. 1096

PROGRAM TITLE: SAIL (Subroutine Alphanumeric Intput Luebbert)

PROGRAM CLASSIFICATION: Subroutine

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PURPOSE: To receive alphanumeric information from the typewriter, pack this information 8 characters per word, and store the packed words sequentially starting with the location L(S) specified in the calling sequence. This packed information can be read by use of the TYA instruction (+72 776x) or when appreciable amounts are to be read by use of the LAOS subroutine.

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PROGRAM TITLE: SAIL (Subroutine Alphanumeric Intput Luebbert)

1. PURPOSE:

1.1 To receive alphanumeric information from the typewriter, pack this information 8 characters per word, and store the packed words sequentially starting with the location L(S) specified in the calling sequence. This packed information can be read by use of the TYA instruction (+72 776x) or when appreciable amounts are to be read by use of the LAOS subroutine.

2. RESTRICTIONS:

2.1 The alphanumeric data prepared by this subroutine cannot be read back by subroutine AN-051 which is included in PPP-2 since it packs 8 alphanumeric characters per word instead of 6 characters per word. However, the calling sequence is identical.

2.2 After each 8 characters are entered the computer goes through a short loop test for completion of data entry (a complete word of blanks), stores the packed word and modifies the addresses for storage of the next word. This requires  $8 + 2 T_{w(h.s. loop)} + 2 T_{r(h.s. loop)}$  word times, corresponding to a peak instantaneous typing speed of approximately 140 words per minute. If this speed is exceeded for two adjacent characters there is a probability of 1/8 that an overflow error will occur.

2.3 Completion of data entry is signified by depressing the "blank" key on the typewriter until the location of the first packed word, L(S), and the last packed word, L(F), appear on the console display. This requires a minimum of 8 blanks and a maximum of 15.

3. METHOD: (See flow chart, paragraph 5)

4. USAGE:

4.1 Calling Sequence:

$\alpha$		TRA SAIL	
--		PZE L(S)	-- L(S)=Location of first packed word
$\alpha+1$		NORMAL RETURN	

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- 4.2 Before control is transferred to the normal return address the contents of the accumulator before entry into the subroutine are returned to the accumulator and the extent of the memory used by the packed alphanumeric data is displayed as follows:

+00SSSSSOOFFFFF

where SSSSS is the five digit address of the first memory location used and FFFFF is the five digit address of the last memory location used. At the end of the subroutine this number is available in h. s. loop memory location 7774 from whence it can be transferred into the LAOS calling sequence.

- 4.3 Error Returns: None.
- 4.4 Extent of Storage: 16<sub>8</sub> words.
- 4.5 Unused Locations: None.
- 4.6 Relocation Information: This routine is not supplied in standard relocatable form because manual relocation is so simple. Merely mask off the location setting on the standard tape ("L00000Enter", the very first block of characters), set the location counter to the location which you would like the subroutine entered and fill. Then increase the address of the first 3 instructions only by the starting location of the subroutine (the number you put into the location counter). This relocates the subroutine.
- 4.7 This subroutine restores the accumulator to its original value at the start of the subroutine. It utilizes both the L and V loops and does not restore them.
- 4.8 Output format:

---

1st	2nd	3rd	4th	5th	6th	7th	8th
Char	Char	Char	Char	Char	Char	Char	Char

---

S b1 b39

Each character consists of one five-bit byte in Baudot (teletypewriter) code.

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4.9 TYPING INSTRUCTIONS:

Do not type at a rate faster than about 70 wpm so that the peak instantaneous rate for two adjacent characters does not exceed 140 wpm. It is desirable to make the very first character typed either a figures shift or a letters shift so that when the data is typed out there is no possibility of the typewriter typing garbage because it was in the wrong initial shift position.

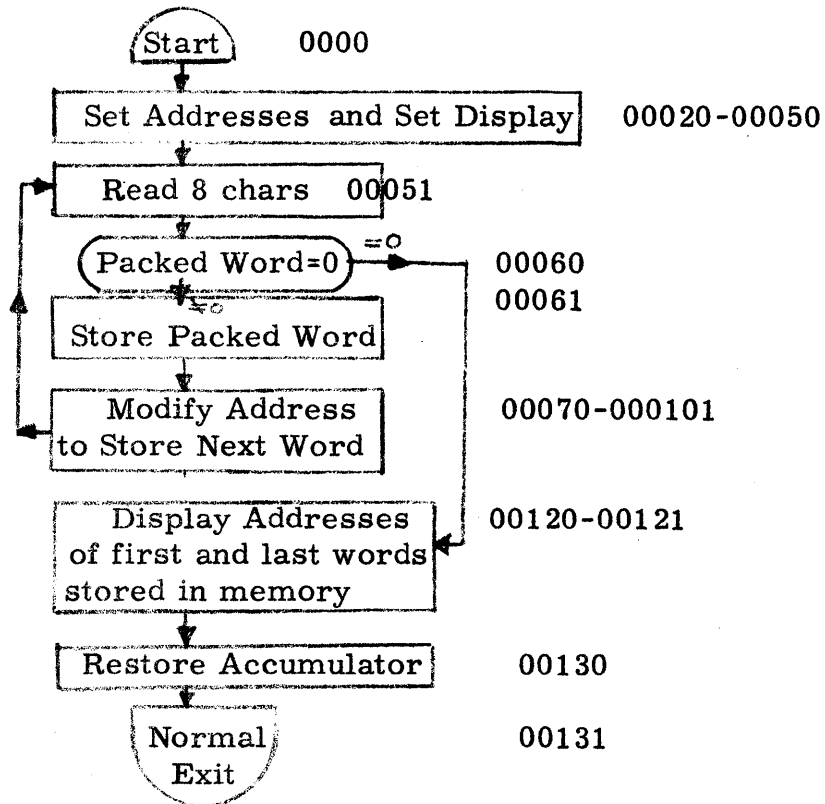
5. CODING INFORMATION:

5.1 Constants: 1b38 at L0016

5.2 Unused Locations: None.

Erasable Locations(previous contents will be destroyed by subroutine):  
L0015

5.3 Flow Chart:



6. CHECKOUT:

6.1 Checkout was accomplished by using this routine to enter a wide variety of data to various locations in memory and readback by both LAOS routine and TYA (+72 77600) instructions.

