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 SUBJ: Inter-program Communication

1. Introduction

User programs will soon be able to communicate with each other during operation of the CTSS. Supervisor calls will allow a program

- (1) to send short messages to the typewriter input buffers of other programs;
- (2) selectively to allow other programs to send short messages to its own typewriter input buffer; and
- (3) to read messages from its own typewriter input buffer, in a manner more flexible than that currently possible through use of RDFLXA.

2. Supervisor Calls to be Provided:

(A) WRMESS

calling sequence: TSX WRMESS,4
 =~~H~~PROBN
 =~~H~~PROGN
 BUFF,WDCT

RETURN

This call will cause the following line to be placed in the typewriter input buffer of the program designated at 1,4 and 2,4:

CHARACTER#1	2 THROUGH 6	7 THROUGH 12	13 THROUGH (6*WDCT + 12)	(6*WDCT +13) THROUGH 84
CHARACTERS (OCTAL 77)	PROBN of user, right just- fied	PROGN of user left just- fied	WORDS AT BUFF, BUFF ÷ 1,, BUFF*WDCT-1	BLANKS

If the AC is non-zero upon return, it contains an error code which indicates that the call was unsuccessful. The following error codes have been assigned:

- 1- the problem number and programmer number at 1,4 and 2,4 are not those of any current user of the CTSS.
- 2- the typewriter input buffers are full.
- 3- the program addressed by the call has not given the user permission to send lines into its typewriter input buffer.

(B) ~~ALLOW~~

calling sequence: TSX ~~ALLOW~~,4
 ~~=HPR~~BN
 ~~=HPR~~GN
 RETURN

This call allows the programs designated at 1,4 and 2,4 to use WRMESS for the purpose of sending lines into the user's typewriter input buffer. If either of the designated words in zero, a form of general permission is granted. Each call to ~~ALLOW~~ overrides all previous calls.

EXAMPLES:

1. ~~ALLOW~~.(M1416,3047) allows only programmer M1416 - 3047 to send lines.
2. ~~ALLOW~~.(m1416,0) allows all M1416 programmers to send lines.
3. ~~ALLOW~~.(0,3047) allows only programmer #3047 to send lines.
4. ~~ALLOW~~.(0,0) allows any programmer to send lines.

(C) ~~RDMESS~~

calling sequence: TSX ~~RDMESS~~,4
 ~~BUFF~~,,WDCT
 EMPTY
 NORMAL RETURN

This call reads WDCT words of the next line in the user's typewriter input buffer into the user's array starting at location ~~BUFF~~.

If the user's typewriter input buffer is empty at the time this call is given, the word at 2,4 is examined:

- (1) If this word is 0, the user is placed into input wait status.
- (2) If this word is non-zero, control returns to the user's program at 2,4.

(D) FØRBID

calling sequence: TSX FØRBID,4
 RETURN

This call prevents any programs from sending lines to the user's typewriter input buffer.