FROM: Robert R. Fenichel

SUBJ: Use of Attached Remote Consoles

1. Introduction

It will soon be possible for multiple typewriter consoles simultaneously to serve as I/$\emptyset$ devices for a single program. The motivation for this feature is approximately that of the attach command, as described in the CTSS Programmer's Guide.

2. Definitions, Conventions, and Correlative Information

The console at which a user logs in is his home console. Other consoles associated with a user have been attached by him, and they remain attached until he releases them.

A console attached to one user may not simultaneously be attached to any other user. An attached console may not simultaneously be the home console of any user.

An attached console which automatically transcribes into its output each character typed into the attacher's home console is an I$\emptyset$ slave. Similarly, an attached console which imitates the home console's output is an $\emptyset\emptyset$ slave. An attached console whose typed input appears as input at the home console is known as an II slave.

Each typewriter console is permanently associated with a 6-character console identification word. These console I.D.'s are central to the present facilities.

3. Console I.D.'s

A directory of console identification words will be published in the near future. In the meantime, a user may determine his home console's I.D. by resuming whoami, a semi-public command which is now available in the public files.

4. Attachability

Immediately after it has been dialed in, a console is in an unattachable state.

A quit signal issued from an <u>unattachable</u> console causes that console to become <u>attachable</u>.

A quit signal issued from an <u>attachable</u> console causes that console to become <u>unattachable</u>.

A quit signal issued from an <u>attached console which is not an II slave</u> releases that console and leaves it <u>unattachable</u>.

5. <u>Supervisor Entries</u>

A) ATTACH

```
TSX      ATTACH,4
         =Hconsolei.d.
   return
```

If the designated console is attachable or already attached to the user, it is left attached to the user and the AC is zero upon return. The AC will also be zero after a call using the consolei.d. '(H@ME)' which is otherwise ignored.

If the designated console is attached to another user, the home console of any user, or otherwise inaccessible, no attachment will be made and the AC will be non-zero upon return.

B) RELEAS

```
TSX      RELEAS,4
         =Hconsolei.d.
   return
```

If the designated console is attached to the user, it is released and the AC is zero upon return. The AC will also be zero after a call using the consolei.d. '(H@ME)', which is otherwise ignored.

In all other cases, no act on will be taken, and the AC will be non-zero upon return.

C) SNDLIN

```
TSX      RELEAS,4
         =Hconsolei.d.
         BUFF,WDCT
   full return
   normal return
```

If the designated console is attached to the user, an attempt is made to send the line described at 2,4 to the designated console. As with WRFLX, trailing blanks are eliminated and a carriage return character is appended. If the line is sent successfully, control returns to the user's program at 4,4; the AC is zero upon return.

If the console i.d. '(H∅ME)' is used, an attempt is made to send the designated line to the user's home console. If the line is sent successfully, control returns to the user's program at 4,4 and the AC is zero upon return.

If the output buffers at the designated console are full, the word at 3,4 is examined. If this word is zero, the user is placed into output wait status until the line can be successfully transmitted. If this word is non-zero, control returns immediately to the user's program at 3,4.

If the designated console is not attached to the user of '(H∅ME), no action is taken. Control returns to the user's program at 4,4 and the AC is non-zero upon return.

    D)   SNDLNA

       SNDLNA is to WRLFXA as SNDLIN is to WRFLX.

    E)   REDLIN

```
              TSX     REDLIN,4
                      =Hconsolei.d.
                      BUFF,,WDCT
          empty return
          normal return
```

If the designated console is attached to the user, an attempt is made to read WDCT words from that console's input buffer into the user's core buffer starting at location BUFF. If the line is read successfully, control returns to the user's program at 4,4 and the AC is zero upon return.

If the consolei.d. '(H∅ME)' is used, the line is sought at the user's home console's buffers.

If the input buffers of the designated console are empty, the word at 3,4 is examined. If this word is non-zero, control returns immediately to the user's program at 3,4. If this word is zero, the user is placed into input wait status until the requested line is available.

If the designated console is not attached to the user of '(H∅ME)', no action is taken. Control returns to the user's program at 4,4 and the AC is non-zero upon return.

    F)   SLAVE

```
              TSX     SLAVE,4
                      =Hconsolei.d.
                      =Hmode
          return
```

If the designated console is attached to the user, it is made a slave, as specified by the word designated at 2,4. The AC is zero upon return.

This word is interpreted 2 characters at a time. If II, IØ, or ØØ is recognized, the designated console is made to slave accordingly. Each call to SLAVE overrides all previous calls with respect to the designated console.

If the designated console is not attached to the user, no action is taken. The AC is non-zero upon return.

Use of the consolei.d. '(HØME)' will cause this call to be ignored. The AC will be zero upon return.

    G)   SET6

```
            TSX    SET6,4
                   =Hconsolei.d.
            return
```

If the designated console is attached to the user, it is placed into 6-bit mode. The AC will be zero upon return.

Use of the consolei.d. '(HØME)' will cause this call to operate on the home console. The AC will be zero upon return.

If the designated console is not attached to the user, no action is taken. The AC is non-zero upon return.

    H)   SET12

SET12 is to SETFUL as SET6 is to SETBCD.