

Reading would proceed, one character at a time, until the buffer became "almost full," at which time the reader service routine would place the reader user in one of the highest queues, remove the "reader-hung" status, and notify the Swapper that an evaluation should be made. If the reader buffer became completely full, the reader service routine would stop the reader until it was re-activated by an IOT.

As previously mentioned, the Teletypes pose several additional problems, related to the fact that they are both input and output devices and are used interactively. All Teletypes are interfaced with the computer through a terminal line scanner (or line concentrator). This scanner not only generates an interrupt when a character is transmitted but also indicates on which of the 64 Teletype lines the transmission took place. Thus, when activated by an interrupt, the first action of the Teletype service routine is to determine the line number of the line causing the interrupt.

A separate buffer is assigned to each line. When a buffer is almost full or almost empty, a table is consulted to determine which user program is associated with that buffer.

Programs in this system normally deal with 6-bit characters while the Teletypes use ASCII code (7 information bits, one parity bit). Rather than have each program perform the appropriate character translation, the Teletype service routine translates each character, as it is transmitted, by means of a table look-up. The 63 most common characters are coded as 6-bit characters; the 64th possible character is used as a "warning character." An additional 64 less commonly used characters are coded in