

thing else. Notice, however, that before the system can do anything for the user it must determine if he has closed the line (taken his finger off the BREAK key) so that other transmission is possible. Note that the user may break during computer-to-Teletype operation, as well as at other times.

The Teletype service routine checks all received characters (including echo characters) for the presence of a break, which is received as eight zero bits. As soon as a break is detected, some other character ("λ") is sent to the Teletype. If the next echo character received is "λ," then the line has been closed; otherwise, the process is repeated. When the line has been closed, the user program is notified that a break has been received.

The character chosen for "λ" is of particular importance. It should be a nonprinting character, if possible, in order to eliminate possible user confusion. More important, recall that the deactivation bits exist for the purpose of synchronizing the Teletype with the computer. Since the deactivation bits are not transmitted during a break, it is possible (in fact, probable) that the Teletype will lose synchronization, so "λ" should contain as many one bits as possible to reestablish synchronization. The character chosen, therefore, is "RUBOUT," which is nonprinting and consists of 8 one bits.

It is common for a Teletype to be unplugged from the transmission line, thus generating a "permanent" break. This situation causes the reception of 10 meaningless characters each second, each of which must be processed as a separate interrupt. To avoid wasting time on lines which are unplugged, the Teletype service routines count the number of consecutive break characters received