Percom CI-812 Mod

This modification helps solve a problem that was raised in an earlier article.

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The article by Rod Hallen in *Kilobaud*, August 1978 ("Kansas City Standard," p. 48), pointed out a problem you can encounter when using both the RS-232 interface and the cassette interface on Percom's CI-812 board: namely that it is inconvenient to require the terminal and the cassette to operate at the same data rate. Fortunately, separating the cassette and terminal interfaces is relatively simple. First, the RS-232 output is inhibited during a cassette write. Second, the UART transmitter clock frequency is set for the RS-232 rate during cassette read as well as terminal operations.

The RS-232 port is disabled by adding two NPN transistors (see Fig. 1). The bit (bit 1 of port 0) that turns on the write relay, K2, holds Q_5 off during cassette write. Thus, Q_3 is kept turned off and there is no RS-232 output. The second fix is that the transmit clock input for the UART is not routed through Z10(C) (see Fig. 2). Instead, another 74LS157 IC is added. The new 2 to 1 multiplexer is controlled by bit 1 of port 0. The terminal baud rate is fed to the UART transmit clock except during cassette write. With these fixes the UART receive clock input and data input are controlled by bit 0 of port 0, while the UART transmit clock input is controlled by bit 1 of port 0.

The effect of these changes is that the RS-232 port baud rate is independent of the cassette port. The cassette rate is selected by pins 8 and 10 on the TSA connector. The software requirements are that port 0 is set to 00 for terminal I/O, 01 for cassette read and 02 for cassette write. If port 0 is set to 03, then the cassette read/write occurs at the cassette baud rate.

In summary, cassette operations are carried out at the data rate selected by connector TSA, and terminal operations occur at the strapped terminal rate. Another advantage is that binary data tapes may be written without strange characters appearing on the terminal. ■

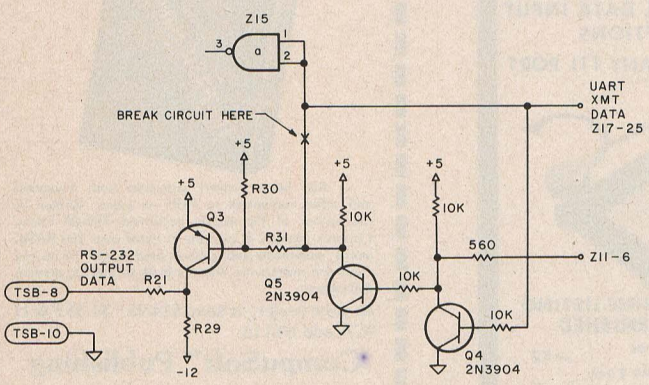

Fig. 1.

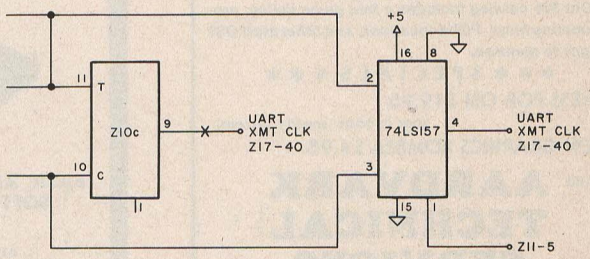

Fig. 2.

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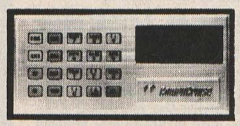
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