

IBM 024 Keypunch:

Back when batch processing was the standard method of data processing, you needed a keypunch to prepare the punched-cards that represented your programs and data. When I first started playing with the UNIVAC 90/60 mainframe in the late 1970's, I was considered a "tourist" at the computer center and wasn't considered important enough to rate time on one of the teletypes or CRT terminals. Thus, I had to learn how to work the keypunch.

The most modern keypunch available at the time was the IBM 129 combination keypunch & verifier. This machine had a small (80 word) core memory that allowed you to backspace and correct typing errors before actually punching the cards. Since you can't "un-punch" a hole, the 129 was very popular. I never did manage to rate access to one. :-)

The next most desirable machine was the IBM 029. This sleek machine had solid-state electronics and precision machining that kept it fairly jam-free and rock-solid reliable. The 029 didn't have a memory and you couldn't correct a keying error, but it was fairly ergonomic in construction and *looked* like the ultimate hi-tech device. I used the 029 fairly often, particularly towards the end of the punch-card era, but it was still fairly popular with the "official" computer-science types and frequently unavailable for use.



This was the machine I usually found myself using: the IBM Model 024 Keypunch. Electronically, it used a whole bunch of vacuum tubes and relays and was frequently breaking down. Tubes were getting harder to get and the local IBM engineers didn't stock them, so downtimes tended to become prolonged. A similar model, the IBM 026, was able to print the punched text atop the card using the original (1949) dot-matrix printer. The 024 had no such luxuries. If you wanted to read the card, you quickly learned to read Hollerith Code without benefit of a reference manual. The card code was subtly different between versions of the 024 and 026 -- some had the scientific character set that included parenthesis. The commercial set had a completely different complement of special characters.

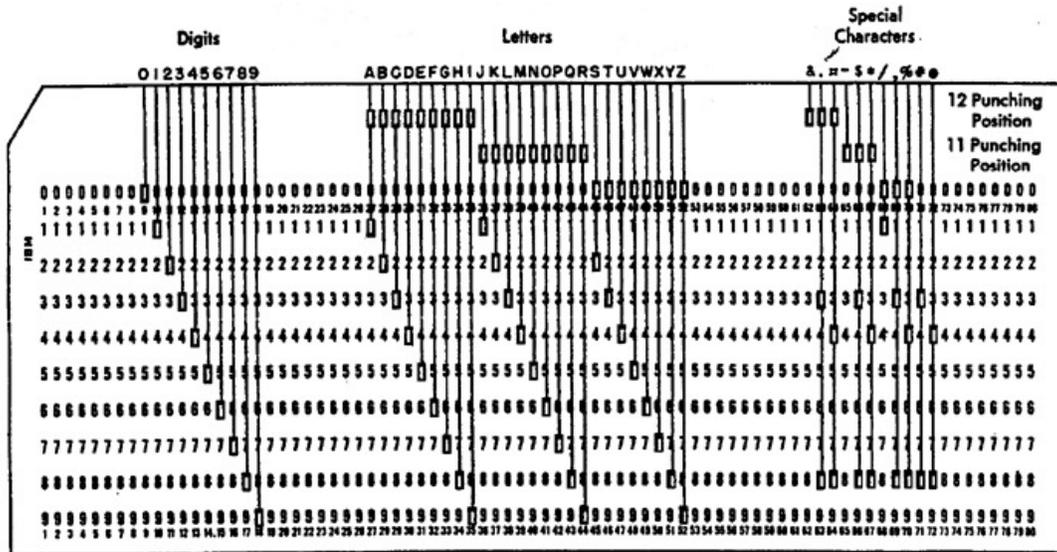


Figure 2. Punching Positions in Card

As with the character set, a number of keyboard layouts were available for the 024 and 026 keypunches. These models were designed in the 1940's and originally intended for use in the tab-card shops that predated electronic digital computers. Logic levels were high -- about 150 volts DC -- to accommodate the vacuum-tube logic, so you were very careful not to spill any liquids into the keyboard. Since these machines were already 30 years old when I started working with them, most of them were nearly worn-out and had been subjected to "creative" maintenance to keep them operable. As a result of the IBM CE's cannibalizing machines to obtain parts, there were frequent discrepancies between the keyboard layouts and the final encoding on the punch card. Here's a diagram of one of the 026 keyboard models to give you an idea of the layout.

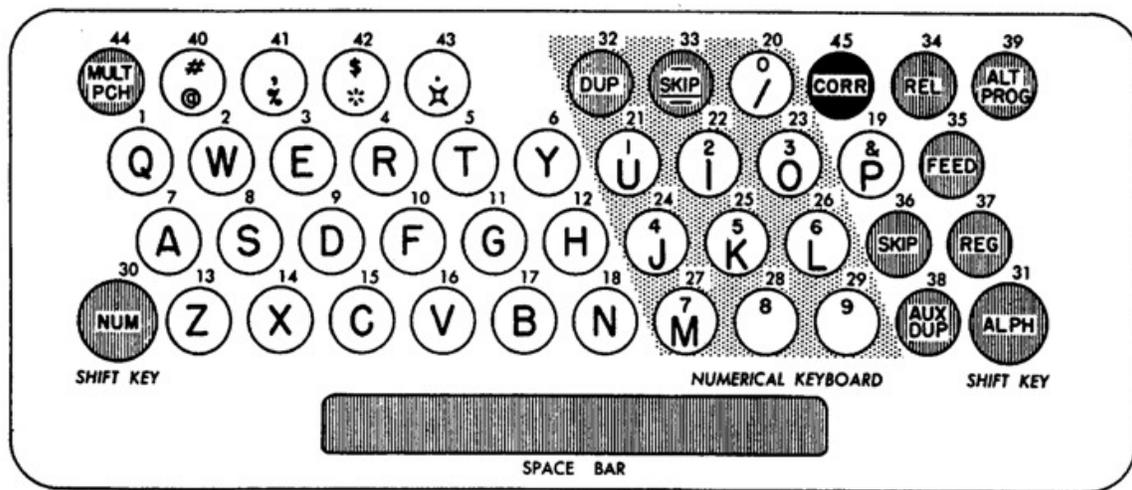


Figure 28. Combination Keyboard Chart