

The IBM 705 System

The IBM 705 system comprised of three main sections: an input machine that placed data taken from punched cards onto magnetic tape; the 'computer' which consisted of ten magnetic tape readers and a central processing unit that carried out the calculations, controlled through the operator's console and finally, a printer unit that published a wide range of forms and documents.

The computer system was controlled by one of the most complex programmes ever devised, with almost 74,000 separate instructions located within 250 sub routines. It was estimated to have taken the equivalent of almost ninety years of programming time to devise.

The information on a soldier's pay account was stored on magnetic tape at a density of 200 characters per inch or 22.5mm, i.e. 7745356 Johnson-Smith would take twenty characters or use approximately 1/10" of an inch or 2.5mm. A complete soldier's account would vary according to the individuals circumstances i.e. married with dependants or drawing specialist pay but would usually occupy 2 - 7 inches or 150-180 mm of tape. Each magnetic tape reel could hold almost 60,000 characters.

Although the CPU could process data at 60,000 characters per second, the calculations were slowed by the operational speed of the mechanical card reader (250 cards per minute) and the printer. A single printer supported the whole system, producing examples of up to sixty different forms, with forty-five being used on a daily basis.