Buying a KDF9 in 1964

by **Bill Findlay**

In 1964 Glasgow University acquired a 16K word (96 K byte) English Electric KDF9 equipped with 4 model 1081 magnetic tape decks, a 100 characters/second paper tape punch, a 1000 characters/second paper tape reader and a 600 lines/minute printer. The configuration was controlled by its operators by means of a Friden Flexowriter online typewriter console.

A document has recently come to hand that sheds light on the costs of such a purchase. Bearing in mind that a 2020 smartphone is at least 20,000 times faster than KDF9, these numbers are quite eye-opening. They go far to explaining why the computers of the day were attended by a priesthood who discouraged mere users from any contact with the 'giant brains'.

There seems to have been some negotiation over the prices of many components, so these numbers are indicative of computer economics in the early 1960s, not definitive of the final contracted costs.

Component	1964 price	approx. 2020 price
KDF9 CPU	£100,000	£2,000,000
RAM: 6μs core store, per 4KW (24 KB)	£18,000	£360,000
Paper tape reader	£3,000	£60,000
Paper tape punch	£2,000	£40,000
Friden Flexowriter	£2000	£40,000
Model 1081 magnetic tape deck	£10,000	£200,000
Line printer (600 lines/minute)	£31,400	£628,000

At these prices the pictured configuration cost £250,400, or about £5 million in 2020 money.

The following are prices for devices that were installed only later, in the EGDON configuration. The card punch price seems both very specific and remarkably high.

Component	1964 price	approx. 2020 price
Timesharing option (3 additional registers sets & associated logic)	£25,000	£500,000
Card reader (600 cards/minute)	£10,000	£200,000
Card punch (150 cards/minute)	£27,360	£547,200
IBM-compatible 7-track tape deck and controller (Ampex TM4)	£30,000	£600,000

Unfortunately, I do not have any figures for the Data Products fixed disc drive that EGDON and Eldon 2 centred on.

To complete the picture, here are prices for devices that were never installed at Glasgow University.

Component	1964 price £	approx. 2020 price
Model 1085 (double speed) magnetic tape deck and controller	£35,000	£700,000
Sperry type 2C drum store, 36KW	£20,000	£400,000

The computing power of one smartphone, which exceeds the total power of all computers in existence in 1964, would have cost about £100 billion at these rates. That makes my iPhone seem like a real bargain!