

	Left hand			Right hand			
Fingers*	1/2	2/3	3/4	3/4	2/3	1/2	% decrease fastest to slowest
Letters	as	sd	df	jk	kl	l;	
Electric	6.34	7.84	9.08	11.00	8.24	6.64	jk - as = 42.36%
Mechanical	3.46	3.80	4.74	5.58	3.66	3.36	jk - l; = 39.78%

*Numbers for fingers: 1 = little fingers: 2 = ring fingers: 3 = middle fingers: 4 = index fingers.

Table 1

Ten second keying of two fingered adjacent lateral sequences, in kps.

Average kps rate for ten experienced keyboard operators, 5 on electric: 5 on mechanical keyboards

Fingers	1	2	3	4	
Letters	a;	sl	dk	fj	% decrease fastest to slowest
Electric	10.32	10.32	10.74	10.62	dk - a; = 3.91%
Mechanical	7.90	8.50	8.96	8.78	dk - a; = 11.83%

Table 2

Ten second keying of two fingered contra-lateral sequences, in kps.

Average kps rate for ten experienced keyboard operators.

			Operator 1		Operator 2	
			Keyboards			
Fingers	Sequence	Letters	Mechanical	Electric	Mechanical	Electric
rh 4/3	lateral	jk	5.2	9.8	6.2	9.0
3/3	contra-lateral	dk	10.1	9.6	7.2	8.5

Table 3

Ten second keying on fastest two-key lateral (jk) and fastest two-key contra-lateral (dk).

Average kps rate for two experienced operators, each operator on both mechanical and electric keyboards

reason cannot be accepted if we compare the speed for contra-lateral keying. Slow lateral keying on the ring and little fingers cannot be due entirely to the relative strength or weakness of the fingers.

If strength of fingers is measured in terms of contra-lateral keying speed then lateral keying speeds might be expected to be an average of contra-lateral of two adjacent fingers. That this is not so is obvious from the figures given in Tables 1 and 2. The inhibition on lateral keying speed must be due to some factor other than finger strength, and it becomes very obvious when watching operators keying these tests that the inhibition is caused by unequal finger lengths. The awkward stretch and lift positions which are maintained by the little and ring fingers (1/2) in lateral keying are very apparent and must account largely for the sharp fall in keying rate. This is particularly so on mechanical keyboards where the depth of depression is greater than on electric keyboards and where some force is required.

Although electric keyboards have been in wide general use for at least 20 years the most frequently quoted statistics for speed of finger operation on keyboards are based on tests done on standard mechanical keyboards. These statistics show that all contra-lateral keying is faster than all lateral keying. Whilst undoubtedly true for early models of mechanical typewriters, it is not true for keyboards now in general use. Tables 1 and 2 show this and Tables 3 and 4 give figures for two operators each keying on a manual and on an electric keyboard.

Operator 1 had used a standard typewriter almost continuously for 24 years and this was a first attempt to use an electric typewriter. Operator 2 had used typewriters for more than 40 years—35 years on mechanical and then five years on electric.

Table 3 compares kps rates on two-key lateral and contra-lateral sequences and Table 4 gives kps rates for four-key lateral and contra-lateral sequences.