

P.C.D. - MALTRON ergonomic keyboard



P.C.D. MALTRON LTD

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PCD-MALTRON ERGONOMIC KEYBOARD

DESIGN FEATURES

The essence of the design is that it is entirely ergonomic. Key heights have been made to fit the unequal lengths of fingers, so that unnatural stretches are no longer needed. Keys for the long middle fingers are set deeper into the keyboard than the keys for the shorter fingers. The thumbs, which have been under used all this time, are given up to eight keys each, all within easy reach. There are many advantages to this design. Not only does it compensate for inequality in the strengths of the fingers, but because of accurate tactile feedback, due to the shape, it is almost impossible for the fingers to stray to the wrong keys.

Lillian Malt (Internationally known for her work in keyboard training and design) believes that this keyboard, created in collaboration with Stephen Hobday of PCD, will reduce learning time, and improve accuracy. It is expected that the "comfortable" shape and improved letter layout will give a 20-40% increase in speed and

allow this to be maintained for longer periods through reduced fatigue. (* An Operator's comment).

NO CONFUSION

We now know from experience, that operators learning the new keyboard, do not have to "unlearn" any previous skill, but rather add to it a new "language", to which, they automatically "switch" when fingering the new shape. All are able to use whichever keyboard is needed at the time, without problems, and some have shown an improvement in their "Qwerty" operation when learning Maltron.

Early fears of confusion have proved groundless, but for those who prefer to retain the old layout, we can easily provide the "Qwerty" lettering on the Maltron shape. Plug compatible keyboards permit operators to make their own choice.

LETTER LAYOUT

The serious fingering limitations of "Qwerty", which was carefully designed to slow the operator down to prevent key jamming, are avoided by the Maltron Mk.II letter layout, in which 90% of the letters of the 100 most used words in English are on the home row directly under the fingers. For "Qwerty" it is only 44%. Similar ratios are maintained for six other European languages. The new layout showing the finger loadings is given below. The careful spacing of the vowels to avoid spelling confusion, and the use of the left thumb for the letter 'E' should be noted.

FLEXIBILITY

The marriage of a new shape to advanced electronics means that keys can be added to, or left out of the standard moulding to suit individual needs of layout. For any further changes, the key tops and code memory can be altered to meet the new requirements. Shift and Control keys allow each character key to be assigned up to four separate output codes, giving great flexibility in choice of character or symbol.

	+	£	#	\$	()	&	@	%	=	
	1	2	3	4	5	6	7	8	9	0	
	Q	P	Y	C	B	V	M	U	Z	L	
Shift Lock	A	N	I	S	F	D	T	H	O	R	;
Shift	,	?	J	G	*	!	W	K	-	X	Shift
	8%	7%	7%	13%	E	Sp	15%	7%	7%	8%	
	LH Total 46%			11%	17%	RH Total 54%					

IMPROVEMENT RATIOS*

Ratios obtained from an analysis of over one million words of English.

Single finger successive use Qwerty 9 Maltron 1
 Single finger hurdles Qwerty 256 Maltron 1
 (upper-lower row movement & v.v.)

*Keyboard design in the electronic era. Paper presented by Lillian G. Malt at the Printing Industry Research Association Symposium, London, 14-9-77.

FUNCTION INDICATION

A Green light indicates the normal operating condition, with a Yellow light to indicate Shift. The green is extinguished and a red light appears when in the Code or Control Mode. A second Red light can be fitted to indicate receiving equipment "Busy" and keyboard disabled, when this is required.

The secretarial keyboard illustrated on the front page has 64 keys, but this can be increased to 85 if a full set

STANDARD OUTPUTS

PARALLEL — 6-8 Line, ASCII, Computer, and Machine Codes.

TTL compatible Active Hi or Lo.

Strobe delay 150 micro seconds, output true period 10 milliseconds, other periods to order.

Fixed or cable connection as required.

SERIAL — 20ma Loop supplying current. 300 Baud. (Optional Extra)

POWER — 220-250 or 110-125 V. AC. 50-60Hz. 15 Watts. (Self powered).
 +5 V., 200ma and -12 V., 20ma from external supply.