K&E Deci-Lon Slide Rule Model 68 1100 c. 1962

K&E Deci-Lon 68 1100 slide rule is a notable instrument in the history of engineering and computation. It was the last new slide rule design by K&E and represented the pinnacle of slide rule technology before the advent of electronic calculators.

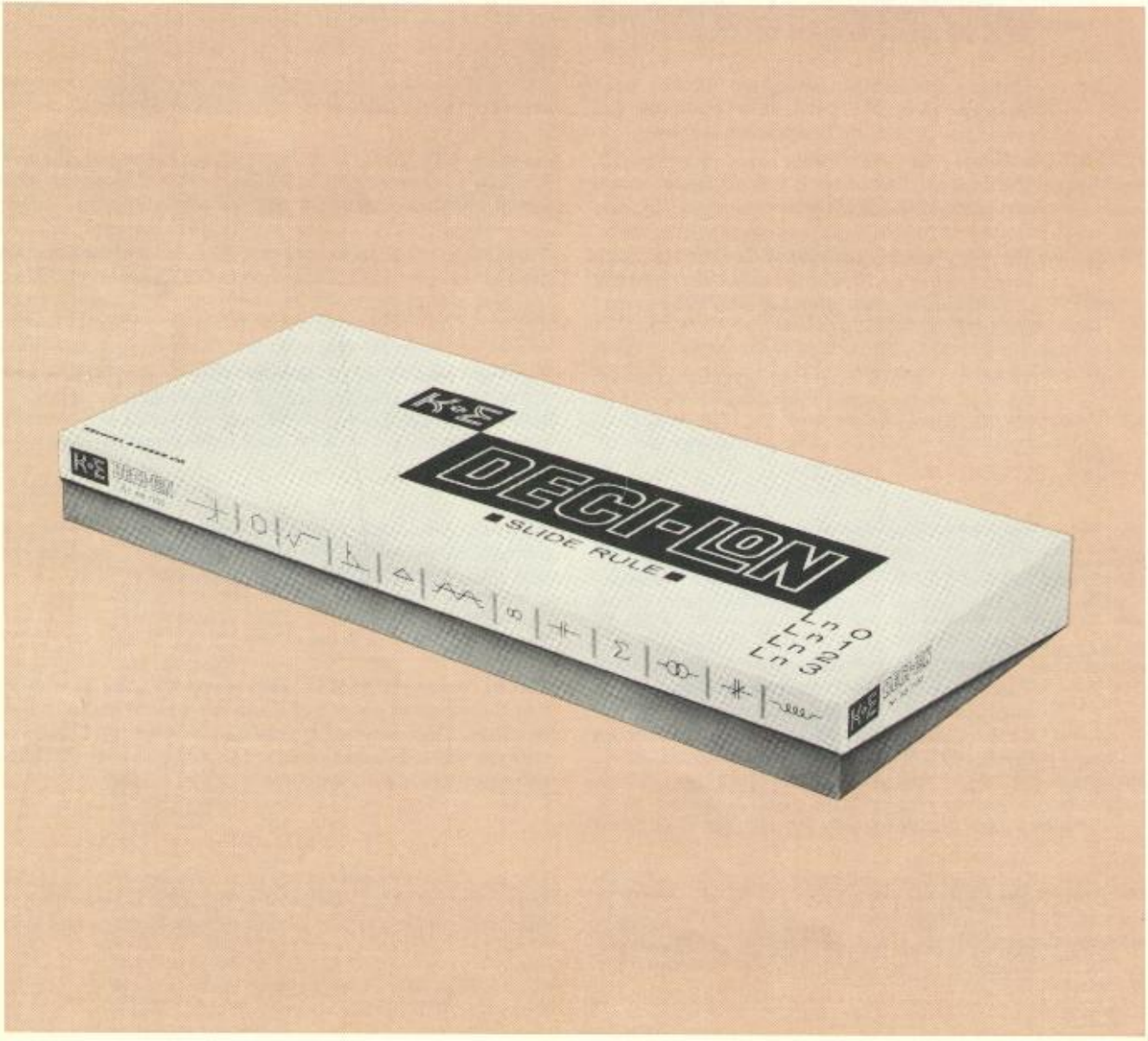
A Summary of features include:

- The Deci-Lon 68 1100 is a model with 10-inch scales, known for its precision and extensive scale set.
- It is made of a shatterproof synthetic material, ensuring durability. The indicator is crafted from clear plastic with metal edges, providing a sturdy and reliable sliding mechanism
- The front face of the Deci-Lon 68 1100 features 13 scales, including Sq1, Sq2, DF, CF, CIF, L, CI, C, D, Ln0, Ln1, Ln2, and Ln3. These scales are printed in red and black, which enhances readability

The following pages are from the K&E Slide Rule Catalog for 1962, which can be found at K&E 1962 - Index (mccoys-kecatalogs.com)

REFERENCE CHECKLIST (cont'd)

SCALE	DESIGN	MAIN APPLICATIONS
LL01, LL02, and LL03	These scales are graduated proportionate to the mantissa of the common logarithms of the natural logarithms of the numbers appearing on the scale—that is, numbers having values less than 1. They cover the following ranges: LL01: 0.99 to 0.905 LL02: 0.905 to 0.368 LL03: 0.368 to 0.00005	**The LL0 scales are reciprocals of any number on the corresponding LL scales. They are mainly used to find the value of numbers below 1 to any power or the cologarithms of numbers below 1 to any base. In conjunction with each other it is possible to find the reciprocals of numbers close to 1 with much greater accuracy than can be done with the D and DI scales.**
Ln-0, Ln-1, Ln-2, and Ln-3	Scales Ln-1, Ln-2, and Ln-3 are similar to scales LL01, LL02, and LL03, but scale Ln-0 is new. It extends the range for values slightly less than 1, from 0.99 to 0.999.	**The Ln- scales are used exactly as are the familiar LL0 scales: to find the values of numbers below 1 to any power or cologarithms of numbers below 1 to any base. Using the Ln-0 scale in conjunction with the Ln0 scale, the reciprocals of numbers very close to 1 can be read to an accuracy of 1 part in 10,000 or better.**



General Purpose

DECI-LON®

The DECI-LON Slide Rule, with its expanded computing capacity, marks the latest achievement in slide rules by K&E. It was developed to provide students and professionals with all the familiar scales for basic calculations, plus new scales and arrangements for more advanced mathematical analysis.

The professional engineer or scientist will find the DECI-LON Slide Rule an extremely versatile calculating instrument. Its expanded Lon scales will enable him to solve not only conventional problems but also problems in rates of chemical reactions, radioactive decay, temperature changes in jet engine compressors and turbines, etc., and in the related field of engineering economics. Moreover, professional engineers who already know the DECITRIG® will be able to use the DECI-LON with only a few minutes of familiarization. Undergraduate students who become familiar with the DECI-LON will find its advanced capabilities particularly useful when they move on into postgraduate studies or professional careers.

Expanded Computing Capacity . . . The DECI-LON Slide Rule has eight Lon scales as compared to the six Log Log scales on the DECITRIG slide rules. The two additional scales, Ln0 and Ln-0, bring the lower limit of the Lon scales and the upper limit of the Lon minus scales ten times closer to unity. A slight widening of one rail of the body makes it possible to locate the four Lon scales side-by-side on the front face, and the four Lon minus (negative exponential) scales together on the reverse face. These powerful scales appear in unbroken sequence and refer consistently to the C and D scales, which appear on *both* faces of the rule. With them, roots and powers of numbers from 1.001 to 28,000, and of decimal fractions from 0.000045 to 0.999, as well as reciprocals between these limits, can be found speedily and directly, including decimal point location.

Two other additional scales, Sq1 and Sq2, constitute a double-length scale used with the full-length D scale for fast, accurate evaluation of squares and square roots. Because these scales adjoin the DF scale, the area of a circle can be found instantly when its radius is known. These new scales do not displace the A and B scales, which are retained for continuous operations of multiplication and division involving squares or square roots. Moreover, fourth powers and fourth roots, which occur in thermal radiation problems and other applications, can be read directly by using the Sq1 and Sq2 scales in conjunction with the A and B scales.

68 1100

sewed leather case with belt carrier

68 1130

leather pocket case with clip

Slide Rules for Engineering, Science, Mathematics

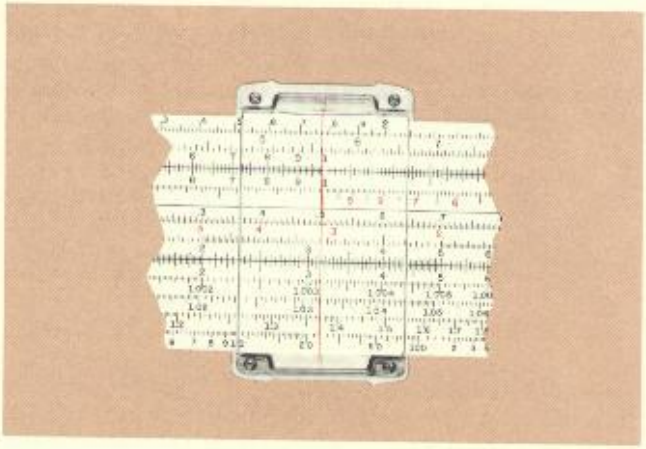
Greater Consistency and Logic . . . On the DECI-LON Slide Rule *all* scales maintain the K&E-pioneered principles of full logic and consistency. All scales read directly to the C and D scales. New names have been given to certain scales to describe their functions: *Sq* for scales that give squares; and *Ln* and *Ln-* for scales that give lons (logarithms to the base *e*). The traditional scales remain unchanged.

Color coding has also been extended. Black serrations on the ends of the slide indicate the front face; red serrations on the ends indicate the reverse face. Black is used for positive Lon scales on the front face, which read from left to right; red is used for the negative Lon scales on the reverse face, which read from right to left. On the trigonometric scales, black is forward reading and slanted to the right; red is reverse reading and slanted to the left.

Convenience and Speed . . . A number of features have been incorporated in the DECI-LON Slide Rule to enable the user to perform calculations more rapidly and easily. Among them are: providing C and D scales on both faces; extending the calibrations of the Lon, folded, and trigonometric scales beyond the indexes for easier reading of values near the ends; and color coding of the legends of scales.

Lifetime Construction . . . The DECI-LON Slide Rule is made of a time-proved, shatterproof synthetic material developed especially for K&E. Humidity variations have no effect on its operation and warping or sticking is eliminated. Precision molding and the new four-bolt end plates insure accuracy, rigidity, and permanence of alignment. This slide rule, including its unbreakable indicator, will give a lifetime of service.

Complete, Hard-Cover Manual . . . The DECI-LON manual contains a complete new section dealing with the significant field of financial calculations, increasingly important in the areas of engineering economics and industrial engineering. Trigonometry chapters are arranged in logical sequence, dealing first with vibratory functions, then with solution of triangles and rectilinear figures. Visual summaries are provided throughout to help fix operational techniques in the reader's mind.



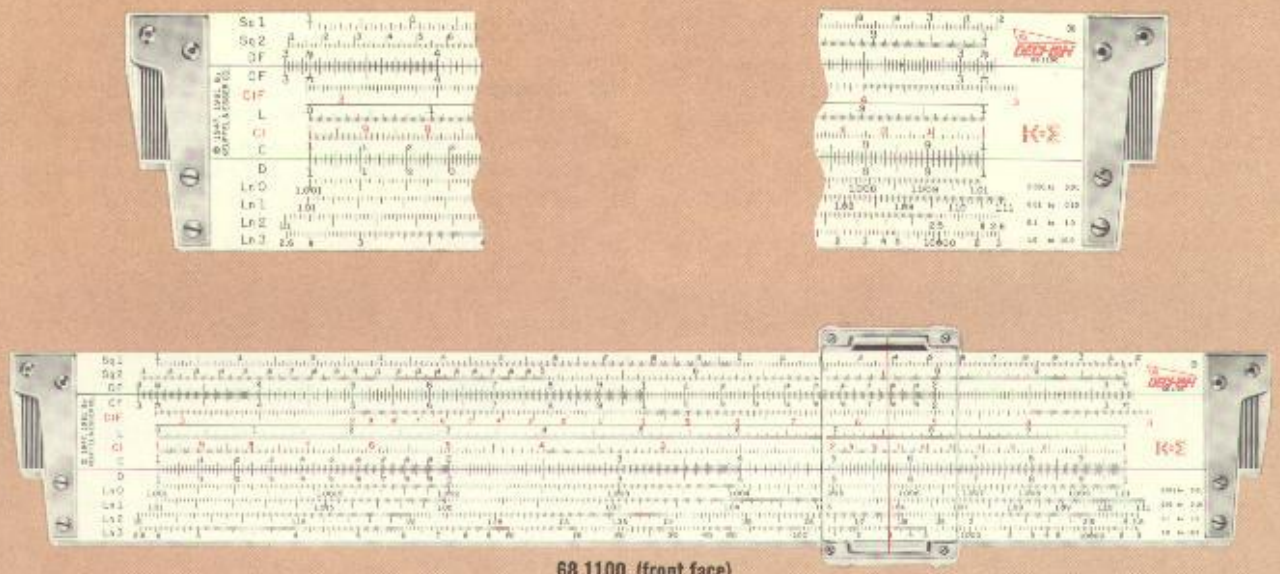
Special Indicator Design . . . The indicator frame with serrated edges is designed for ease of manipulation with a wider field of view. The window material is unbreakable and carries a red hairline on both sides to contrast vividly with the rule's black graduations.

The DECI-LON® Group

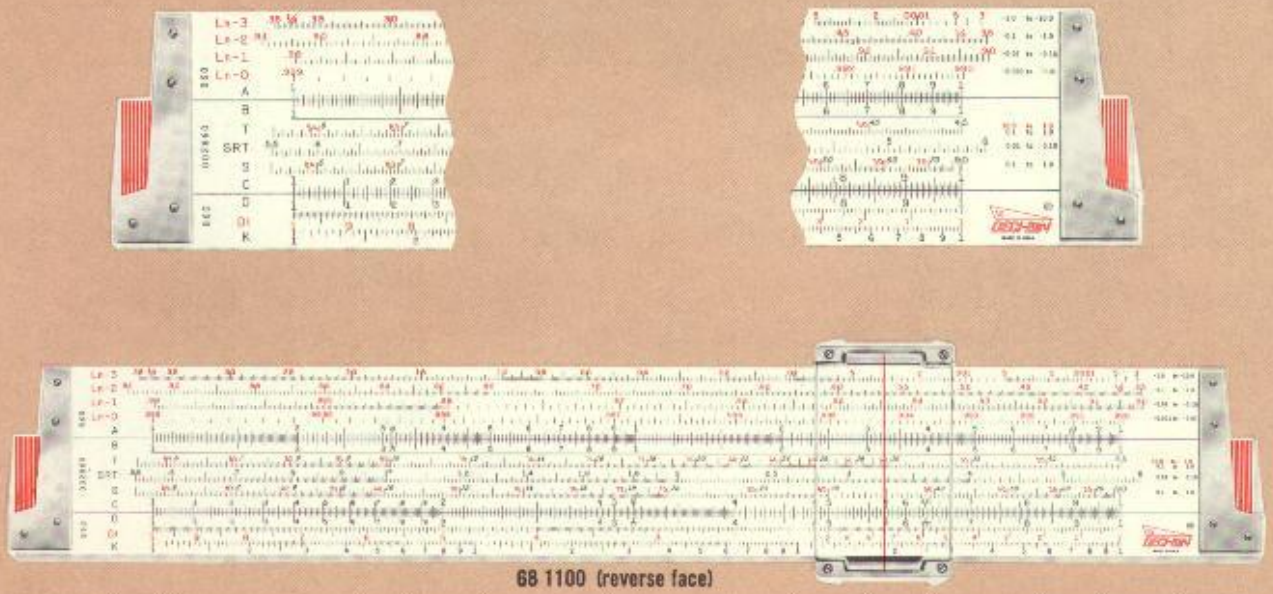
All have identical scale arrangement:
Scales on Front Face: Sq1, Sq2, DF, CF, CIF, L, CI, C, D, Ln0, Ln1, Ln2, Ln3. **Scales on Reverse Face:** Ln-3, Ln-2, Ln-1, Ln-0, A, B, T, SRT, S, C, D, DI, K.

	SCALE LENGTH (INCHES)	BODY MATERIAL	DIVISION METHOD	CASE	INSTRUCTIONS INCLUDED
68 1100 DECI-LON*	10	shatterproof synthetic	precision molded	sewed leather, chamois lined, with belt carrier	hard-cover manual
68 1130 DECI-LON	5	shatterproof synthetic	precision molded	sewed leather, with leather-covered pocket clip	manual on order; see page 28.

*For demonstration models, see page 24.



68 1100 (front face)



68 1100 (reverse face)