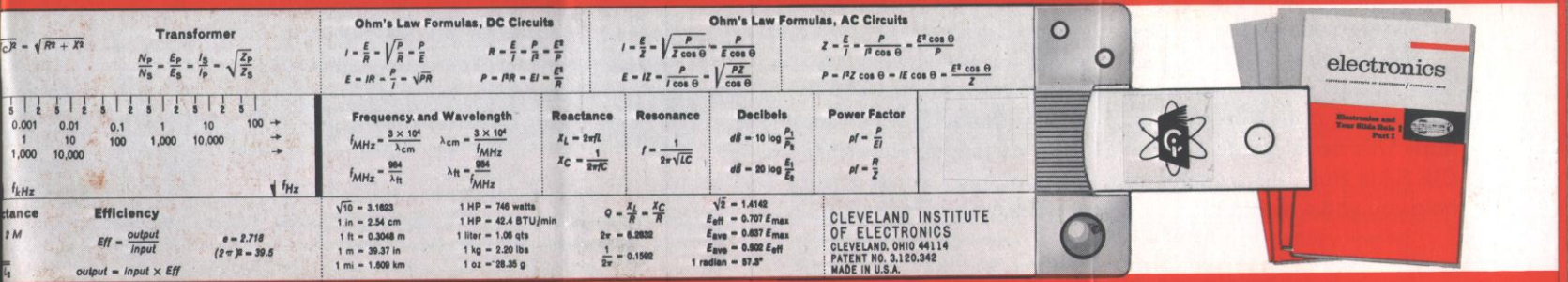
New...Electronics Slide Rule

with Four-Lesson AUTO-PROGRAMMED® Instruction Course!



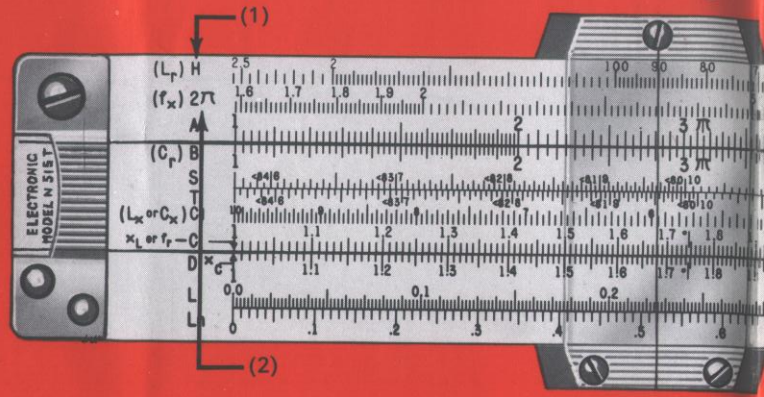
Solve Electronics Problems in Seconds!

"Cleveland Institute of Electronics has designed this Electronics Slide Rule to meet the specific needs of men who work or have an interest in electronics or electricity. It's a professional, high-quality instrument that will save you hours of valuable time in all types of computation. To help you become a real "pro" with this amazing rule, it comes complete with an Instruction Course of four AUTO-PROGRAMMED® Lessons. Men who have used it tell us this course alone is worth far more than the cost of *both* the slide rule *and* instruction course. We hope this booklet will answer all your questions about the CIE Slide Rule. It's a useful, practical tool and I know it will help you solve electronics problems quickly and accurately."

Carl E. Smith

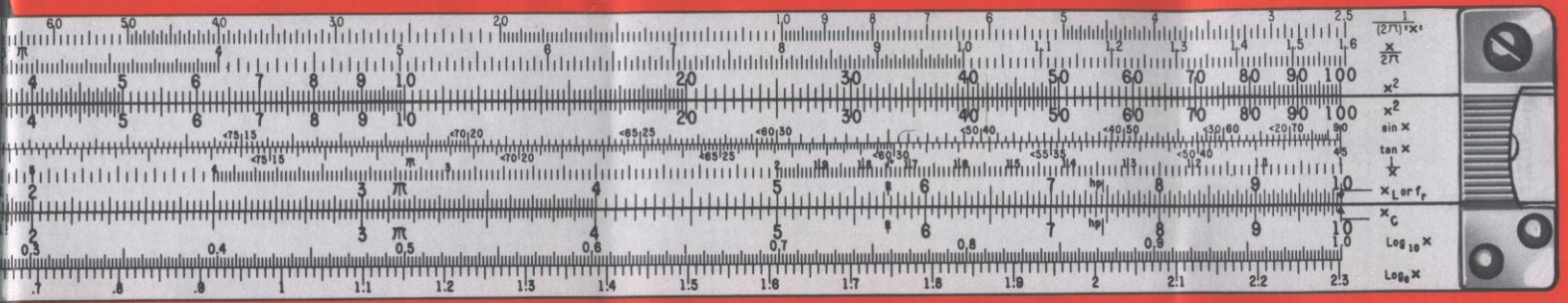
Founder
and Electronics Consultant

Look! A high quality



Once you hold a CIE Electronics Slide Rule in your hands you'll know why technicians, students, hobbyists and engineers call it the "most useful tool" they've ever seen! This is no toy, no gadget. It's all-metal, a full 10" long and made to CIE's rigid specifications by Pickett, Inc. All components (body, slide and indicator) are precisely fitted to assure permanent accuracy and smooth, easy move-

instrument..."made to order" for men in electronics!

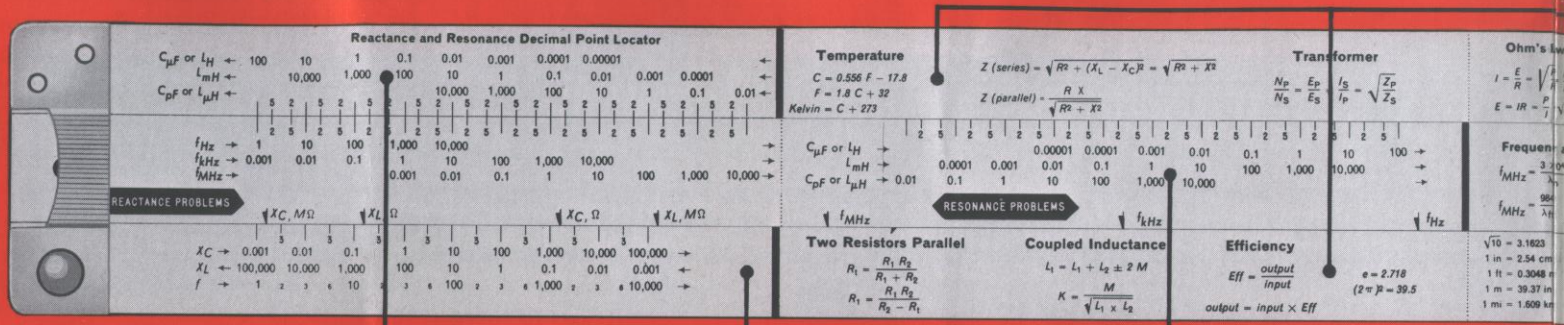


ment . . . regardless of temperature and humidity. The durable, lustrous white finish resists scratches, dirt and rough treatment. Numbers, letters and markings are sharp and clear for quick, accurate readings; all inverse scales are printed in red.

CIE's patented* rule features nine conventional scales (A,B,S,T,CI, C,D,L and Ln), *plus* two special scales. The "H" scale (1) is used to solve resonant frequency problems. The "2π" scale (2) is used for inductive or capacitive reactance problems, or for any problem involving the factor 2π. This combination of scales was selected on the basis of what men working in electronics told us they needed. It's a combination that permits you to handle all kinds of difficult electronics problems as well as such non-electronic computation as multiplication, division, square roots, logs, etc.

*U.S. Patent No. 3,120,342

On the "flip" side...a unique decimal point locator plus useful

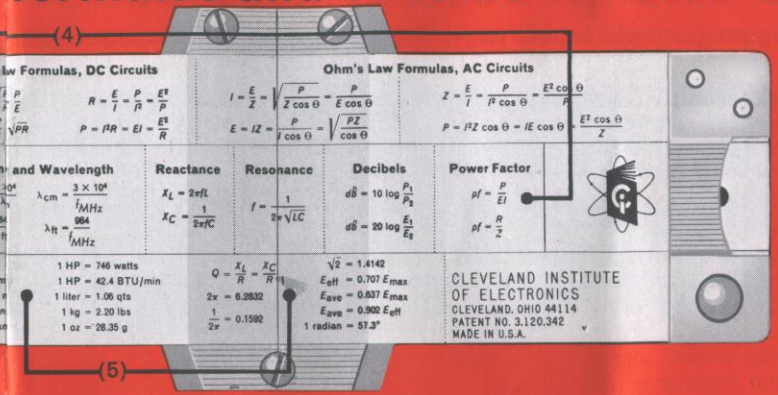


(3)

Men who have used conventional slide rules will quickly see there's something totally new on this side of the rule. It's an ingenious Reactance and Resonance Decimal Point Locator (3). You will find it particularly useful for quickly and accurately locating the decimal point in all problems involving reactance and resonance. (This scale eliminates the need to convert from one unit to another in such problems.)

The Decimal Point Locator uses a nomograph technique and has a sliding scale and indices instead of a straightedge. The scales are calibrated for pF, μH, mH, H, Hz, kHz, MHz, X_L and X_C in ohms and M-ohms, with graduations only at major points. Besides indicating the electrical units involved, the Decimal Point Locator also provides rough but usually adequate numerical answers. If you need greater accuracy, the values obtained may be used to correlate more precise figures with the 2π and H scales on the face of the rule. Thus, you can use the CIE Slide Rule as a simple

formulas and conversion factors!



calculator for approximate answers, or as a regular slide rule for more accurate answers.

The "flip" side of CIE's Electronics Slide Rule also contains many useful formulas (4) for Fahrenheit-Centigrade Temperature Conversion, Ohms Law, Formulas for AC and DC Circuits, Frequency and Wavelength, Reactance, Resonance, Coupled Inductance and Efficiency. In addition, it has 18 commonly-used conversion factors (5) for instant reference.

And, with every CIE Slide Rule...this handsome leather carrying case!

Here's a special bonus: The CIE Slide Rule Case is made of genuine top-grain leather that's doubly reinforced at the "wear" spots. This sturdy case has a heavy-duty plastic liner, plus a removable belt loop for convenient carrying. It's a high quality case that provides ample protection for the precision instrument it was designed to carry.

An exclusive CIE "extra"...a practical instruction

This amazing program will enable you to solve complex problems in seconds

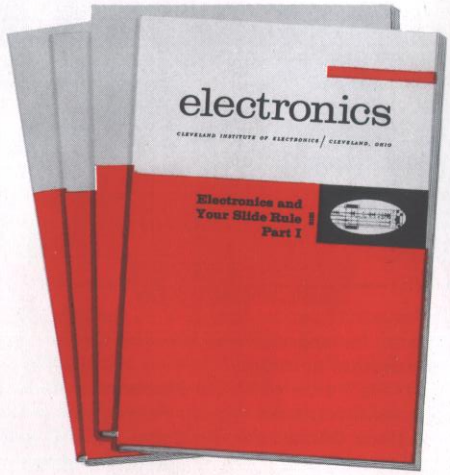
Now that you've seen the Electronics Slide Rule, take a look at the other half of this amazing offer. Four AUTO-PROGRAMMED lessons, complete with illustrations and examples, make learning faster, more effective, and interesting. You'll master hundreds of short-cuts . . . soon be solving complex electronics problems with speed and accuracy you never dreamed possible! Each lesson consists of small, "bite-size" segments plus examples and practice problems; there's also an examination you can send in for grading and consultation by CIE's expert instructors. And, when you complete your Instruction Course, you'll receive a handsome Graduation Certificate as evidence of your newly-acquired skill.

Part I Serves as a self-training course and handy refresher in proper slide rule procedure. Multiplication, division and interpolation are just a few of the sections covered. 15 sections with 161 practice problems.

Part II In addition to reciprocals, square roots and proportion, this lesson shows you how to use the slide rule for blending multi-step problems in one smooth operation. 10 sections with 87 practice problems.

Part III Explains use of special electronics scales, the Reactance and Resonance Decimal Point Locator, and trigonometric functions. 12 sections, 130 practice problems.

Part IV Right triangle applications and phasor problems using operator j, plus summary of common formula settings. 11 sections, 108 practice problems.



course of four [redacted] Slide Rule Lessons

while others plod along the old-fashioned "pad and pencil" way.

Sticky problems like these are a "snap" when you use CIE's Electronics Slide Rule!

Q. What is the maximum current that a 2-watt, 4800 ohm resistor can carry without being damaged?

A. 20.4 mA (requires one slide rule setting and 15 seconds to work.)

Q. What size inductor must I use with a 38 $\mu\mu$f(pF) capacitor to build a tank circuit that will tune to 2360 kHz?

A. 0.12 mh (one setting, 20 seconds. Slide Rule reads answer directly in mH or μH with decimal point correctly located . . . no need to convert from one unit to another, no complicated formula to remember).

Q. If the input to an amplifier is 0.032 watts and the output 12 watts, what is the gain of the amplifier in decibels?

A. 25.7 dB (one setting, 20 seconds).

Q. What size cathode bias resistor should I use to produce 6 volts bias if plate current is 120 mA and screen current is 20mA?

A. 43 ohms (one setting, 12 seconds).

Thousands call the CIE Slide Rule "the most useful, practical

Example No. 1: using the 2π scale to solve a reactance problem . . . Find accurately the reactance of a 60 mH choke coil at 5,000 kHz Solution . . . See illustration.

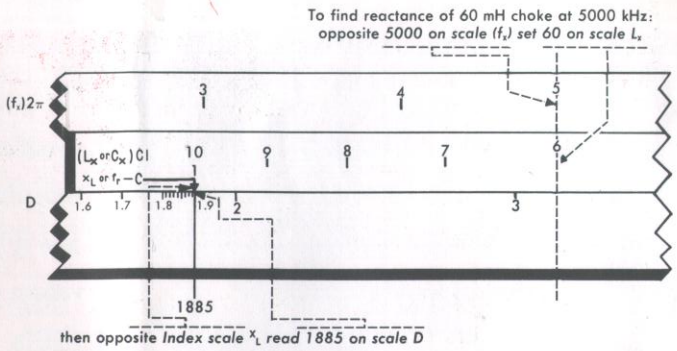
(1) Set the Hairline over 5,000 (which is the frequency) on scale (f_x) 2π.

(2) Move the slide so that 60 (which is the inductance) on scale (L_x or C_x) CI is under the hairline.

(3) Opposite the index of scale X_L or f_r — C, read 1,885 (which is the inductive reactance) on scale D.

(4) Use the Decimal Point Locator scales on the back of the rule to obtain 1.5 megohm as the approximate reactance value.

Hence, the accurate reactance of the choke is 1.885 megohms.



Finding that a 60 mH choke at a frequency of 5000 kHz has a reactance of 1.885 megohms.

These two examples are taken directly from Part III of the Slide Rule Instruction Course. While they are just two of the hundreds of examples included in this course, they demonstrate how this slide rule is used . . . and how you can soon learn to use it in your everyday work.

tool" they have ever used. These two examples show why!

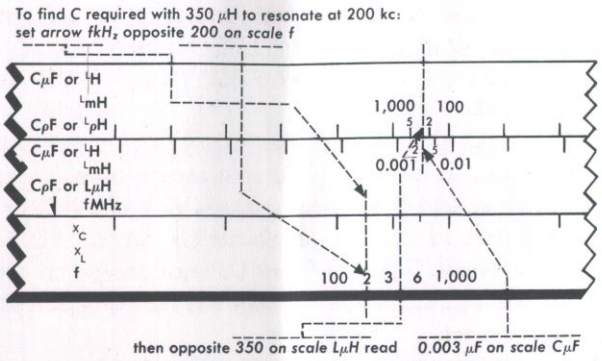
Example No. 2: using the Decimal Point Locator to solve a reasonance problem. As you may know, any reading from a slide rule is in absolute form (no decimal). Thus the figures "15" could be 0.15, 1.5, or 15,000. Where to put that decimal point is a real problem ...even for men with years of experience! Conventional rules have no means of accurately locating decimals. But with CIE's Decimal Point Locator, it's easy to put that decimal point exactly where it belongs. Let's go through a problem to see just how this works:

Approximately what value of capacitance should be used with an inductance of 350 μH in order to resonate at 200 kHz? Solution . . . Refer to illustration.

(1) Move the slide so that the slide arrow designated fkHz is opposite 200 on scale f on the lower body of the rule.

(2) Place the hairline over 350 on scale LμH on the upper body of the rule.

(3) Under the hairline read 0.003 on scale CμF on the slide. Hence, the answer is 0.003 μF.



Showing that for 350 μH to resonate at 200 kHz, a capacitance of approximately 0.003 μF is required.

CIE backs their Electronics Slide Rule with this exclusive warranty:

SATISFACTION WARRANTY

The Electronics Slide Rule with Instruction Course is available only from Cleveland Institute of Electronics, and is covered by CIE's exclusive "Satisfaction Warranty." Order it now . . . use it for ten full days. Then, *if you're not completely satisfied,* simply return it. CIE will refund your payment in full.

Your assurance of complete satisfaction...

When CIE introduced the electronics slide rule described on the preceding pages, it came as no surprise to the thousands of men who have gained success in electronics through CIE training programs. They know that CIE has a special understanding of what's needed in electronics. As a result, the CIE Slide Rule is an instrument that's *really* useful. And the Instruction Course of AUTO-PROGRAMMED Lessons is an outstanding example of how a man, working on his own, can gain skills and knowledge he will use for a lifetime.

But CIE knows that "seeing is believing." And that's why their Slide Rule with Instruction Course is available to you on a 10-day trial basis. It's also backed by the "Satisfaction Warranty" you see on the next page. It's a "no-risk" offer if ever there was one! So take advantage. Order your CIE Slide Rule today.

Cleveland Institute of Electronics has been a leader in electronics training since 1934, and is an Accredited Member if the National Home Study Council. Over 50,000 students are currently enrolled in CIE electronics courses.

Here's proof that men who use the CIE Slide Rule are more than satisfied!

The Editor of Popular Electronics, Mr. Oliver P. Ferrell, states: "Why didn't someone think of this before? The convenience of having all relevant formulas imprinted on the slide rule saved me time the very first day. The 'refresher course' is a marvel of clarity. I couldn't help being amazed at how many standard formula functions I was performing the hard way."

An electronic technician, Mr. Bruce L. Roth, says: "The topics (in the slide rule course) are explained fully and are easy to understand. Nothing is left to guesswork. All the examples are skillfully presented, extremely interesting and highly practical. I really enjoy working electronics problems on your rule."

The Head of the Electrical Technology Dept., New York City Community College, Mr. Joseph J. DeFrance, exclaimed: "I was very intrigued by the 'quickie' electronics problem solutions. It is an ingenious technique. The special scales should be of decided value to any technician or engineer. Your slide rule is a natural."

The Manager of TV and Radio Training, RCA Service Company, Mr. M. O. Pyle, states: "I am very impressed. I have shown your slide rule to a number of my associates and in each case, their reaction has been most favorable. There is no question about this rule being a natural for men in electronics."

CIE
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