

RECALIBRATION

OF A LASICO MODEL 10/20/30, MODEL L or N 40 / L or N 50 POLAR PLANIMETER

If you have lost the calibration records of your planimeter, you can either ship your instrument to us for recalibration or else recalibrate it yourself. The procedure is outlined below.

- *If your instrument is equipped with a self scaling processor, select the non scaling mode.
- *Enter a 1x multiplier if it is equipped with a calculator, program 0001 into SM or SM2 processors , press the 1x button if you have a Model M or XM processor or set the scaler select switches to "Norm" if you have an old D-type processor.
- *Mechanical Models and Model L and N 40 processors are non scaling and can be used as is.
- *Prepare a sheet of paper with a precisely drawn known area . For example draw a 3 x 3 inch square.
- *Select the tracer arm length for which the calibration is to be established. We recommend to start with the short arm extension (no choice for Models 10 and 20)
- *Now measure the test area at least 10 times in order to obtain a good average value.
- *Enter the averaged measuring result into the following formula:

$$U = \frac{AT}{RT};$$

Where **u** = the value of the smallest measuring unit (= max. measuring resolution)

AT = the known value of the test area

RT = the unscaled measuring result obtained by measuring the test area.

Example: We draw a test area of 9 sq.in. (= 3x3 inch square).

We assume a test result of 1452 using a short arm extension.

Subsequently

$$u = \frac{9}{1452} = 0.00619;$$

The u-value can now be entered into the basic area constant formula

where **Ca** = the planimeter multiplier and

Sc the scale ratio expressed as an engineering scale.

$$Ca = Sc^2 \times u ;$$

Example: Scale Ratio : 1" = 40 ft. Therefore $Ca = 40^2 \times 0.00619 = 1600 \times 0.00619 = \underline{\underline{9.904}}$

If your instrument is a Model 40 (= non scaling model) you must multiply your measuring results by Ca. If it is a self scaling model, you must program Ca into the processor.

After determining the u-value for your short arm extension, use the same procedure to find it for other arm lengths you are planning to use. Write them down for the future.

