

# INSTRUCTION MANUAL

for



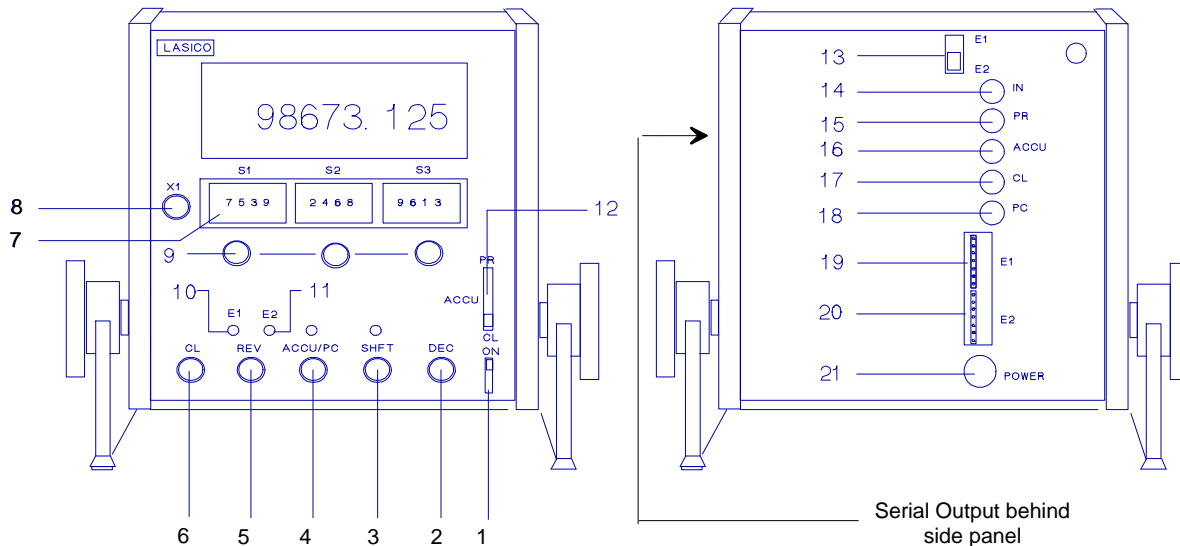
## MODEL M / XM PROCESSORS

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# INSTRUCTION MANUAL FOR LASICO MODEL M / XM PROCESSORS

T1/inst/M-Xm



## CONTROLS, CONNECTORS

- |  |  |
|--|--|
| <p>1 Power switch</p> <p>2 Decimal selector</p> <p>3 Shift switch. If the display exceeds 8 digits, an overflow indicator will become visible on the display. After activating SHIFT up to 4 more digits (the most significant ones) can be displayed (verified on the LCD). To return to the normal mode, press SHIFT again. The CL button will also cancel the shift mode.</p> <p>4 Freezes display and counters . (for accumulative measurements)<br/>Activating the ACCU switch also engages the point counter circuit. To cancel Accu, press the ACCU button again.</p> <p>5 The REV switch is used to reverse the counting direction. To cancel, press REV again.</p> <p>6 Clears both display and counter.</p> <p>7 Scale input switches (1ea for Mod.M,3 ea for Mod. XM) are used to program a multiplier into the processor.</p> <p>8 Switch 8 defeats the multiplier circuit and provides un-scaled results. (multiplies by 1)</p> <p>9 Scale select switch(es) (1ea for Mod. M, 3ea for Mod. XM) are used to select the respective multiplier</p> | <p>programmed into switch(es) 7. Each switch controls the switchbank under which it is positioned.</p> <p>10 LED E1, indicates that E1 input is active</p> <p>11 LED E2, indicates that E2 input is active</p> <p>12 Remote selector: Used to assign either the CL, ACCU or PR function to the remote switch integrated into some instruments.</p> <p>13 Encoder Input Selector. Activates either E1 or E2</p> <p>14 Initialization Jack. For use with some computer interface circuits.</p> <p>15 Remote Jack to control print / process functions</p> <p>16 Remote Jack to control the Accu function</p> <p>17 Remote Jack for counter/ display clearance.</p> <p>18 Point Counter Input Jack for 70AA counter pen.etc</p> <p>19 Encoder Input Receptacle E1</p> <p>20 Encoder Input Receptacle E2</p> <p>21 Power Input Jack for 7.5-12 V.DC power supplies</p> |
|--|--|

## Display Indicators

OVERFLOW	Indicates, that the result exceeds 8 digits
SHIFTED	Indicates, that the secondary display mode is engaged
ACCU	Accu function or point counter engaged
REV	Counting direction is reversed
S1	Scaler Circuit 1 is active
S2	Scaler Circuit 2 is active
S3	Scaler Circuit 3 is active
x1	A x1 multiplier is engaged (scaler is switched off)
6D SCALER	NA
PRESET	NA

## DETERMINATION OF THE MEASURING CONSTANT C

Before the processor can be used, a measuring constant must be either extracted from the instrument calibration records or computed and then programmed into the processor.

The determination of measuring constants is extensively covered in the instructions for the measuring instrument to be used with the processor.

The basic Formula  $C = \frac{D}{R}$ ; applies,

where **C** = the Measuring Constant  
**D** = the value of a known parameter ( dimension, area, length, weight, pressure, time, etc.  
**R** = the unscaled measuring result obtained by measuring the known parameter.

**Procedure:**

- depress switch x1 ( 8 )
- clear display with switch CL ( 6 )
- measure known parameter D
- find R on display
- to obtain C divide D by R
- Program C into the processor

**Example:**

An aerial photograph is to be evaluated. The scale ratio is unknown. However a bridge with a known length ( D= 125.3 ft) is shown on the photograph.

### Procedure :

depress switch x1 ( 8 )  
clear display with CL ( 6 )  
measure the bridge ( D = 125.3)  
find result R = 5698( assumed) on display  
compute:

$$C = \frac{125.3}{5698} = 0.02199 \text{ (ft)}$$

Program 2199 into a scaler input switch bank ( 7 )

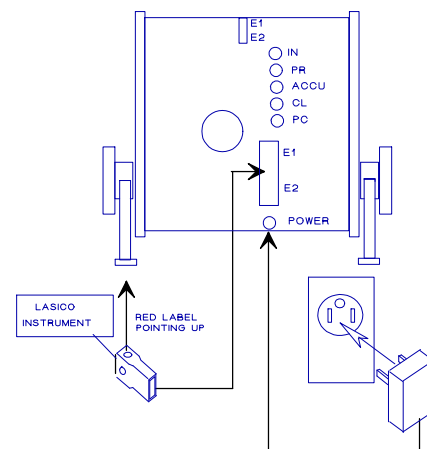
Press the applicable scale select switch ( 9 ) and find 2199 on display.

Set the correct decimal place by pushing switch DEC ( 2 ) until the display shows 0.02199.

The processor is now ready for operation.

## PROCESSOR OPERATION

- Plug the power supply into the wall outlet and its DC connector into the power jack ( 21) on the rear panel.
- Insert the 7 pin encoder plug of the measuring instrument into E1 or E2 ( 19 / 20 ) receptacles and set the encoder input selector switch ( 13 ) accordingly. Insert the plug in such a manner, that the red decal is pointing up !
- Turn the processor power switch ( 1 ) to ON. Depending on encoder input used, either the LED E1 or LED E2 will turn on.



- Select the measuring constant by activating a scale selector switch ( 9 ) and the appropriate decimal setting.  
(Model M users have only one choice)
- If the transducer (Measuring instrument ) is activated , the display will change. Each count generated by the transducer is multiplied by the value programmed into the Scale Input Switch(es) ( 7 ).

*Example:* If 0125 would have been programmed into a scale input switchbank, each transducer pulse would be multiplied by 125.

- Clear the display using switch CL ( 6 )
- Perform your measurement.
- Clear again, measure, clear ..... etc.

Please note:

Depending on the measuring direction, a + or - sign is displayed. It can be ignored for most work since the counting sequence and results will be identical. However if you need a positive sign for a specific measurement (for entry into a computer, etc) simply activate REV ( 5 ). It reverses the measuring direction.

### The Accu Function

permits accumulative measuring. Each time the Accu button ( 4 ) is depressed, the counting circuit is switched off and the result on display is frozen. Thus it is possible to add a 2nd measurement result to the first, a third to the first and second, etc.

**Procedure:**

Measure and find result on display  
Engage ACCU (switch 4)  
Move instrument to beginning of next measurement  
Disengage ACCU (press switch 4 again)  
Make 2nd measurement.  
On display : Measurement 1 + 2

### The Item Counter

Model M and XM are equipped with a point count facility. A Lasico 70AA counter pen or any other momentary switch can be connected to the rear panel PC input jack ( 18 ) (uses standard phone connector)

**To activate the item counter**

engage the ACCU function (press switch 4)  
If the x1 mode is active, counting will advance by one count each time the counting switch is depressed .  
If a scaler function is engaged, each count will be multiplied by the value programmed into the scaler. input switches. ( 7 )

### Line Interference

Computer circuits are sensitive to line noises and surges. The micro computer incorporated into LASICO PROCESSORS is no exception.

If your processor malfunctions, please unplug the DC plug extending from the wall transformer from the processor power receptacle ( labeled: power) for 15-20 seconds. This will reset the computer. This may be the cure for the problem you are having.

### For Micro Measurements with Filar Eyepieces

Model M and XM processors do not have a facility to limit the number of decimal places of a measuring result.

A result expressed in inch or cm will force these processors into an overflow condition most of the time, where the most significant digits are only visible by calling up the secondary display. (by pushing the shift button)  
This is inconvenient and may prohibit data entry into a computer .

However, since results expressed in large measuring units like inch or cm make no sense for microscopic measurements, we recommend to simply adjust the decimal setting of the measuring constants in such a way, that the desired

measuring unit is located on the left side of the decimal point.

**EXAMPLE:**

If a shifted result shows : 0.00659873 ( inch ) and results are to be expressed in thousands, simply move the decimal point to read: 6.59873 , i.e. only values shown left of the decimal point are of interest to you.

If you want results expressed in ten thousands, adjust the decimal point to read : 65.9873 etc. .

**EXAMPLE :**

A filar eyepiece is calibrated for results in mm. A result (shown with overflow status) is: 0.00156972 (mm)  
For a readout in microns, set the decimal place to read : 1.56972.