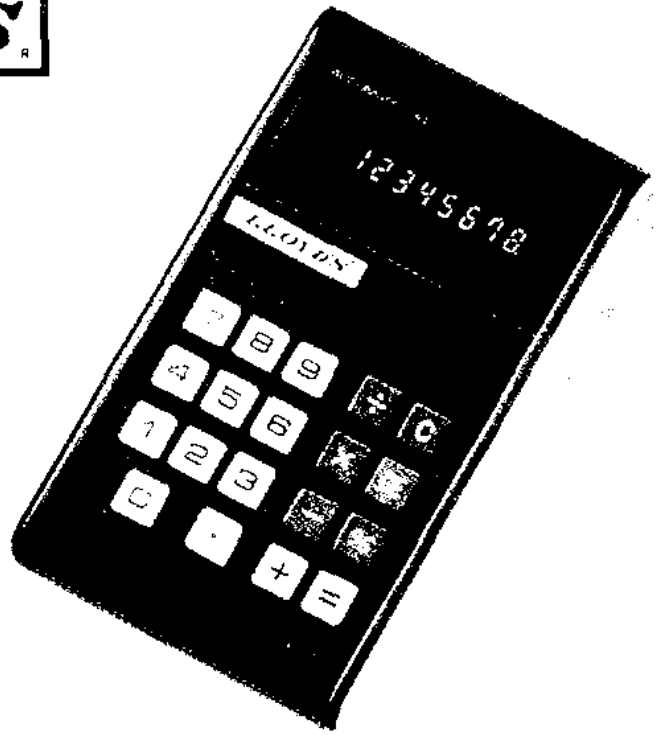
LLOYD'S

ACCUMATIC TM 30

MICROELECTRONIC

HANDHELD CALCULATOR



EH-9036
(255 D)

INTRODUCTION

Congratulations on the purchase of your new LLOYD'S Accumatic™ 30 Electronic Calculator. You can be assured of years of enjoyable, troublefree service if you use it as outlined in these pages.

This Calculator is one of the newest in a wide ranging line of **personal** electronic products that LLOYD'S has to offer; **personal**, because all LLOYD'S products are designed to meet **your** needs for high quality performance and dependability at a reasonable price. If you already own a LLOYD'S Stereo or Quad System, Cassette Recorder, or Digital Clock Radio, you know what we mean. LLOYD'S enjoys an excellent reputation as the manufacturer of a variety of Home Entertainment Systems.

Now that we've added a new dimension to the LLOYD'S line with a series of Calculators, you may be interested in knowing that all LLOYD'S Calculators employ the most advanced microelectronic technology available to date. Modern technology has made it possible to miniaturize all the electronic circuitry in your Calculator so that it fits on a chip of silicon smaller than the eye of a needle! No wonder we can make a Calculator which fits in your pocket!

Why not take a few minutes now to read this manual for the full story on the far-reaching capabilities of your new Microelectronic Calculator.

BEFORE OPERATING YOUR CALCULATOR

Your Calculator operates from four AA penlight batteries, carbon zinc, alkaline or nickel cadmium. Although they have a higher initial cost, alkaline batteries and rechargeable batteries will give you the best overall value. It can also be operated using LLOYD'S AC Adaptor Model YA–7247 (120V/60Hz) or Model YA-7585 (220V/50Hz).

HOW TO CHANGE BATTERIES

To change batteries, make sure the power switch is in the "OFF" position. Remove the battery access cover from the back of the calculator by sliding it toward the bottom of the calculator. Remove and discard the old batteries.

When inserting new batteries, observe the battery polarity. The (+) pole of each battery must correspond with the (+) indication in the battery compartment. **Damage to the calculator can be caused by incorrect placement of the batteries.**

A dimly lighted display is an indication that the battery voltage is low. This is the time to replace the batteries with fresh ones (if rechargeables are being used, recharging is required). If the batteries become too low, the calculator will become inoperative.

HOW TO USE THE AC ADAPTOR

Your calculator may also be operated from AC with the use of LLOYD'S AC Adaptor Model YA-7247 (120V/60Hz) or Model YA-7585 (220V/50Hz). Batteries may be left in the calculator when using it on AC. However, if the calculator is being used on AC only over long periods of time, the batteries should be removed to prevent possible damage from battery leakage. The AC Adaptor will also charge rechargeable alkaline and nickel cadmium (Nicad) batteries.

CAUTION: To avoid damage, use only LLOYD'S Model YA-7247 (120V/60Hz) or Model YA-7585 (220V/50Hz) AC Adaptors with your calculators.

To connect the adaptor, follow these four steps in the order outlined:

1. Make sure that the power switch is in the "OFF" position.
2. Connect the adaptor plug into the calcultor socket.
3. Plug the adaptor into the power outlet.
4. Move the calculator power switch to the "ON" position.

NOTE: When the AC Adaptor is used only to recharge Nicad or rechargeable alkaline batteries, it is not necessary to turn the calculator switch to "ON".

CAUTION: When the calculator is not in use, disconnect the AC Adaptor from the AC outlet and from the calculator. Leaving the AC Adaptor plugged into the calculator without AC power connected will drain the batteries.

KEYBOARD ORGANIZATION

The following is a brief explantion of the function of each key and indicator found on the keyboard of the Accumatic™ 30.

DIGIT ENTRY KEYS

0 through 9: Pressing one of these keys will enter that digit into the rightmost display position. Previously entered digits will be shifted one position to the left.

DECIMAL POINT ENTRY KEY

•: Depression of this key will correctly position the decimal point in your entries.

ARITHMETIC FUNCTION KEYS

[+], [−], [×], [÷]: Depression of any one of these keys tells the calculator what operation to perform with the next number entered. During calculations, intermediate results are also displayed when these keys are depressed.

ANSWER KEYS

[=], [%]: When the [=] key is depressed, the answer will appear on the display. Depression of the percentage [%] key will give the answer as a percentage, with the decimal point AUTOMATICALLY positioned in the proper place. The automatic constant is also stored after the depression of these keys. Refer to the section on Constant Operation for details.

CLEAR AND CLEAR ENTRY KEYS

[C], [CE]: Depression of the clear [C] key performs the following functions:

1. Resets the overflow condition.
2. Clears all registers of the calcultor and places a zero in the rightmost position.

Depression of the clear entry [CE] key clears the display register in case a number is entered by mistake. It has no affect on other storage registers or any arithmetic operation which may be set.

NOTE: The [C] must be depressed before starting a new calculation if the last calculation was not concluded by depressing the [=] or [%] keys.

NEGATIVE NUMBER INDICATOR

This indicator is located in the leftmost display position and lights whenever negative numbers or credit balance are displayed.

OVERFLOW (ERROR) INDICATOR

This indicator is located in the leftmost display position. Any answer or subtotal exceeding eight digits to the left of the decimal point, overflow indicator "E" lights and eight most significant digits are displayed. The position of the decimal point in the overflowed display tells you how many digits are overflowed.

For example, if the overflowed display reads E1234.5678, the decimal point indicates four overflowed (counting from the left). The actual answer is 123456780000.

Depression of the clear "C" key will reset the calculator and only a zero, in the rightmost position, will appear on the display.

MACHINE CAPACITY

1. The Capacity of the machine is 0.0000001 to 99,999,999 (10^{-7} to $10^{8}-1$).
2. The calculator displays whole numbers up to eight digits.
3. The calculator displays decimal numbers up to eight digits. For decimal answers exceeding eight digits, the least significant decimal digits are automatically suppressed to prevent overflow.
4. The calculator displays numbers less than 1 up to seven digits. A zero always appears to the left of the decimal point if the number is less than one.

EXAMPLE PROBLEMS

The following example problems show you how easy it is to use the Accumatic™ 30 Calculator.

The calculator should be turned on using the on-off switch located at the top edge of the calculator. When the calculator is "On" a zero will appear in the rightmost display position. You are now ready to begin.

ADDITION

Example: 5 + 3 = 8

ENTRY	DISPLAY	COMMENTS
5	5	
[+]	5	Sets Add Mode
3	3	
[=]	8	

SUBTRACTION

Example: 6 − 2 = 4

ENTRY	DISPLAY	COMMENTS
6	6	
[−]	6	Sets Subtract Mode
2	2	
[=]	4	

NEGATIVE BALANCE

Example: 4 − 9 = −5

4	4	
[−]	4	
9	9	
[=]	−5	Negative Indicator Lights

MIXED ADDITION, SUBTRACTION

Example: 3 − 7 + 8 = 4

3	3	
[−]	3	Sets Subtract Mode
7	7	
[+]	−4	Result 3−7 Negative Indicator Lights
8	8	Negative Indicator Goes Out
[=]	4	

MULTIPLICATION

Example: 5.2 x 6.3 = 32.76

5.2	5.2	
[×]	5.2	Sets Multiply Mode
6.3	6.3	
[=]	32.76	Multiply Mode is still set for Auto-Constant

DIVISION

Example: 12.4 ÷ 0.4 = 31

ENTRY	DISPLAY	COMMENTS
12.4	12.4	
[÷]	12.4	Set Divide Mode
.4	0.4	No need to key-in leading zero
[=]	31	

MIXED MUTILIPLICATION, DIVISION

Example: 8 x 6 ÷ 12 = 4

8	8	
[×]	8	Multiply Mode Set
6	6	
[÷]	48	Result 8 x 6
12	12	
[=]	4	

PERCENTAGE

Example: 5% of 30 = 1.5

30	30	
[×]	30	Multiply Mode Set
5	5	
[%]	1.5	

AUTOMATIC MARK-UP

Example: A $47.25 Purchase Plus 4% Tax

47.25	47.25	
[×]	47.25	Sets Multiply Mode
4	4	
[%]	1.89	4% of 47.25
[+]	1.89	
[=]	49.14	

AUTOMATIC DISCOUNT

Example: A $15.25 Item Discounted 20%

ENTRY	DISPLAY	COMMENTS
15.25	15.25	
[×]	15.25	Sets Multiply Mode
20	20	
[%]	3.05	20% of 15.25
[−]	3.05	
[=]	12.20	

COMBINED MARK-UP, DISCOUNT

Example: A $31.25 Item Discounted 20% Plus 5% Tax

31.25	31.25	
[×]	31.25	Sets Multiply Mode
20	20	
[%]	6.25	20% of 31.25
[+]	6.25	
[M+]	25.00	Discounted Price
[×]	25.00	Sets Multiply Mode
5	5	
[%]	1.25	
[+]	1.25	
[=]	26.25	

RECIPROCAL

Example: 1/4 = 0.25

4	4
[÷]	4
[=]	1
[=]	0.25

SQUARES AND POWERS

Example: $2^2 = 4$

ENTRY	DISPLAY	COMMENTS
2	2	
[×]	2	
[=]	4	

Example: $2^4 = 16$

2	2	
[×]	2	
[=]	4	2^2
[×]	8	2^3
[=]	16	2^4

CONSTANT OPERATIONS

MULTIPLICATION

Example: 4 x 3 = 12, 4 x 5 = 20

4	4	
[×]	4	Sets Multiply Mode
3	3	
[=]	12	Sets Auto-Constant
5	5	
[=]	20	

DIVISION

Example: 6 ÷ 2 = 3, 8 ÷ 2 = 4

6	6	
[÷]	6	Sets Divide Mode
2	2	
[=]	3	Sets Auto-Constant
8	8	
[=]	4	

CHAIN OPERATIONS

Example: $\frac{(6 + 4) 2}{5} - 8 = 2.4$

ENTRY	DISPLAY	COMMENTS
6	6	
÷	6	
4	4	
×	10	6 + 4
2	2	
÷	20	(6 + 4) 2
8	8	
−	12	(6 − 4) 2 − 8
5	5	
=	2.4	Result

ENTRY CORRECTION

Example: 5 + 3 = 8

5	5	
+	5	
4	4	Should Have Been 3
CE	0	
3	3	
=	8	

RECOVERY TECHNIQUES

Occasionally during calculations, an undesired function key may be depressed. Should this happen, simply push the proper function key and continue.

OVERFLOW AND ERROR INDICATIONS

Whenever the capacity of the machine is exceeded or an impossible calculation is attempted, the display will read ..... 0.

Whenever the capacity of the machine is exceeded or an impossible calculation is attempted, a "⊏" will appear in the leftmost display position.

The error conditions relevant are:

1. Depressing ÷, −, ×, □ when the magnitude of the result is greater than 99,999,999.
2. Division by zero.

PRODUCT WARRANTY

LLOYD'S Electronics warrants its products to be free from defects in materials and workmanship under normal use and service for the following period

PARTS 1 YEAR LABOR 90 DAYS

This warranty begins with the date of purchase and applies to the original owner only. Within the specified period LLOYD'S will repair or replace any part(s) which we deem defective through normal use, at no charge except for a factory processing fee of $1.75.

All products must be returned to the appropriate LLOYD'S Factory Service Department for Warranty Service

IMPORTANT: To obtain Warranty Service on any product, you must present a copy of the Bill of Sale as proof of valid guarantee. If the merchandise is to be mailed to us, be certain to include the Bill of Sale along with your check or money order for the processing fee.

Any alterations, abuse, misuse, battery corrosion or accidental damage voids this guarantee.

Any repairs made by other than a LLOYD'S Factory Service Center are not covered by our warranty.

This guarantee is in lieu of all other guarantees, either expressed or implied and is valid only in the Continental U.S., Alaska, Hawaii and Canada.

Beyond the warranty period service may be obtained at the Factory Service Centers at reasonable rates.

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