7. SPECIFICATIONS

Type: 8 digits handy type electronic calculator
Power source: DC: 3V Dry battery operation, SUM-3E x 2
Operates for 8 hours on two manganese dry batteries... (at 20°C)
(Slightly changes according to the kinds of the batteries and the way of use.)
AC operation with AC adaptor/charger (EA-17E), Ni-Cd (EA-188)
Capacity: 8 digits
Decimal point: Complete floating decimal point positioning
Indicator: Minus sign indicator
Memory indicator
Overflow error indicator
Calculations: 4 arithmetic calculations
Chain multiplication and division
Tax/Discount calculation
Power calculation, square root calculation
Percentage calculation
Reciprocal calculation
Mixed calculation, memory calculation
Temperature: 0°C ~ 40°C
Components: LSI, etc.
Power consumption: DC: 0.5W
Dimensions: 79mm(W) x 20mm(H) x 128.5mm(D)
Weight: 160g (with the dry batteries)

1. INTRODUCTION

That's right! The EL-8116 is so easy and fast. And you can perform complicated calculations up to 8 digits instantly with amazing convenience.
2. OUTSTANDING FEATURES

* Square root calculation
* Complete floating decimal point positioning
* Overflow error check device
* Tax and discount calculation
* Chain calculation
* Power calculation
* Percentage calculation
* Reciprocal calculation
* Memory calculation
* Approximate results in excess of 8 digits

3. KEY LAYOUT CHART

- Division key
- Multiplication key
- Numeral keys
- Change sign key
- Decimal point key
- Minus sign indicator
- Square root key
- Clear/clear entry key
- Percentage key
- Recall memory/clear memory key
- Memory plus key
- Equals key
- Minus key
- Plus key

4. OVERFLOW ERROR

In the following cases, an overflow error symbol turns on. To clear the error, depress the \( \boxed{\text{C}} \) key.
1. When the integer portion of the result exceeds 8 digits.
2. When the number is divided by zero, \( \boxed{\text{10} / \boxed{0}} \)
3. When the square root extraction is performed for the negative number.
   \[ \sqrt{-x} \ (x \geq 0) \]
4. When the integer portion of the quotient exceeds 16 digits.
5. When the integer portion of the result after adding (subtracting) to (from) memory exceeds 8 digits.

As for the case 1, the upper significant 8 digits of the result is divided by \( 10^8 \) (100000000) and then it is displayed on the numeral display part; and an overflow error symbol (E) is displayed on the symbol display part.
(The symbol (E) turns on when the result is negative.)
Therefore, the decimal point of the displayed number means the unit of one hundred million.
While as for the case 2 to 5, the display is occupied "0 - C".
(Note) In all the cases 1 to 5, the memory retains the contents before the overflow error is detected.

5. HOW TO REPLACE THE BATTERY

1. Set the power switch at off position.
2. Slide a battery cover in the direction of an arrow mark and take it out. (Fig. 1)
3. Take care not to mistake the battery polarity.
4. Slide the battery cover into the unit.
5. When the voltage of the batteries are lowered, display becomes dark.
6. This set can be operated also with optionally available Ni-Cd batteries (EA-18B). The Ni-Cd batteries can be recharged by the aid of EA-11E.
7. Charging time: 15 hrs. (Power switch at "OFF")
8. Note: If the power switch is set at "ON", Ni-Cd batteries can be recharged.

Caution:
1. Dry batteries and Ni-Cd batteries should not be used as mixed.
2. When operating the set with dry batteries, be sure to insert two pieces of type AA.
### 6. OPERATIONS

<table>
<thead>
<tr>
<th>Examples</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Addition &amp; Subtraction</strong></td>
<td></td>
</tr>
<tr>
<td>1. 123 - 46.8 + 789 = 866.4</td>
<td>123 [46.8 + 789] = 866.4</td>
</tr>
<tr>
<td><strong>Multiplication &amp; Division</strong></td>
<td></td>
</tr>
<tr>
<td>1. ((-1.15) \times 365 + 0.5 = -838.6)</td>
<td>1.15 \times 365 - 0.5 \times 839.6</td>
</tr>
<tr>
<td>2. Constant Multiplication &amp; Division</td>
<td></td>
</tr>
<tr>
<td>295 \times 8 = 2360</td>
<td>295 [8] = 2360</td>
</tr>
<tr>
<td>285 \times 6 = 1770</td>
<td>18 [6] = 1770</td>
</tr>
<tr>
<td>18 \div 9 = 2</td>
<td>12 \div 6 = 2</td>
</tr>
<tr>
<td><strong>Square &amp; Power Calculation</strong></td>
<td></td>
</tr>
<tr>
<td>1. (6^2 = 25)</td>
<td>(6 [6] = 25)</td>
</tr>
<tr>
<td>2. ((25)^2 = 625)</td>
<td>((25) [25] = 625)</td>
</tr>
</tbody>
</table>

### (13) Correcting mistakes

**Ex. 1**

\[ 123 \times 566 \text{ (mistake)} \]

\[ 456 \text{ (correct)} \]

**Operation**

\[ 123 \times 566 \Rightarrow 56088 \]

**Ex. 2**

\[ 5 \times 8 \text{ (mistake)} \]

\[ 9 \text{ (correct)} \]

**Operation**

\[ 5 \times 8 \Rightarrow 45 \]

### NOTES

1. Avoid placing the unit in hot, dusty, or humid locations.
2. When cleaning the cabinet, do not use a wet cloth or any organic solutions such as kerosene or benzine.

### SERVICE CENTER ADDRESS

**SHARP ELECTRONICS CORPORATION**

10 Keystone Place
Parasus, New Jersey 07652
(201) 265-5800

**SHARP ELECTRONICS CORPORATION**

214 Harvard Avenue
Boston, Massachusetts 02134
(617) 738-1905

**SHARP ELECTRONICS CORPORATION**

2133 Wisconsin Avenue, N.W.
Washington, D.C. 20007
(202) 337-8000

**SHARP ELECTRONICS CORPORATION**

6478 Inter State 85
Norcross, Georgia 30071
(404) 448-5280

**SHARP ELECTRONICS CORPORATION**

4458 South 84th Street
Omaha, Nebraska 68127
(402) 399-1402

**SHARP ELECTRONICS CORPORATION**

430 East Plainfield Road
Countrywide, La Grange, Illinois 60525
(312) 222-0870

**SHARP ELECTRONICS CORPORATION**

21580 Wilmington Avenue
Long Beach, California 90810
(213) 830-4470

**SHARP ELECTRONICS CORPORATION**

1205 Executive Drive East
Richardson, Texas 75080
(214) 224-1136

**SHARP ELECTRONICS CORPORATION**

15231 Military Road, S.
Seattle, Washington 98188
(206) 243-3902
### INTERNATIONAL WARRANTY SYSTEM

In an agreement with Sharp's international service network, warranty repair may be obtained for any Sharp battery-operated consumer calculator within one (1) year of the purchase date when presented along with an international warranty certificate to any of the service centers listed below:

- Australia, Hong Kong, Iran, Japan, Kuwait, Lebanon, Malaysia, Panama, Philippines, Singapore, South Africa, Thailand, United Kingdom, U.S.A., West Germany

This international warranty certificate is not necessary to receive warranty repair within the continental United States. However, if you plan to travel abroad, an international warranty certificate may be obtained free of charge by sending your dated proof of purchase listing the model and serial number of your calculator to Sharp Electronics Corporation, 10, Keystone Place, Paramus, N.J. 07652, ATT: NATIONAL SERVICE MANAGER. Your proof of purchase will be returned to you along with your international warranty certificate. Please allow three (3) weeks for processing.

### LIMITED WARRANTY

SHARP Electronics Corporation warrants this product to the original purchaser to be free from defective materials and workmanship, and agrees to repair any such defect or to furnish a new or equal part in exchange, except batteries, through an authorized SHARP Factory Service Center.

This warranty does not apply to appearance items nor to any product subjected to misuse, abnormal service or handling, nor to any product altered or repaired by other than an authorized SHARP Factory Service Center.

This period of this warranty covers one (1) year on parts and one (1) year on labor from date of purchase.

This warranty entitles the original purchaser to have service rendered at no cost for the period of the warranty described above when the calculator is carried or shipped into an authorized SHARP Factory Service Center together with proof of purchase.

Neither this warranty nor any other warranty expressed or implied shall extend beyond the period of time listed above. In no event shall SHARP be liable for consequential damage.

SHARP Electronics Corporation 10 KEYSTONE PLACE PARAMUS, N.J. 07652

### TABLES

<table>
<thead>
<tr>
<th>Examples</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Mixed calculation</td>
<td></td>
</tr>
<tr>
<td>(5 + 12) x 18 ÷ 4 - 16 = 60.5</td>
<td>5 [x] 12 [x] 18 [÷] 4 [x] 16 [=] 60.5</td>
</tr>
<tr>
<td>1 Tax/discount calculation</td>
<td></td>
</tr>
<tr>
<td>6000 + 6000 x (19%) = 6900</td>
<td>6000 [x] 15 [%] [+] 6000 [=] 6900</td>
</tr>
<tr>
<td>6000 - 6000 x (12%) = 5280</td>
<td>6000 [x] 12 [%-] [+] 6000 [=] 5280</td>
</tr>
<tr>
<td>1 Applications</td>
<td></td>
</tr>
<tr>
<td>123 ÷ (456 + 798) = 8.991228%</td>
<td>123 [÷] 456 [+] 798 [÷] 123 [=] 8.991228</td>
</tr>
<tr>
<td>2 123 ÷ (456 + 798) = 33.333333%</td>
<td>456 [÷] 798 [÷] 123 [=] 33.33333</td>
</tr>
<tr>
<td>3 123 ÷ (456 + 798) = 57.675438%</td>
<td>789 [÷] 798 [÷] 123 [=] 57.675438</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory calculation</td>
<td></td>
</tr>
<tr>
<td>48 + 78 = 124</td>
<td>48 [+] 78 [=] 124</td>
</tr>
<tr>
<td>125 - 59 = 66</td>
<td>125 [−] 59 [=] 66</td>
</tr>
<tr>
<td>72 + 85 = 157</td>
<td>72 [+] 85 [=] 157</td>
</tr>
<tr>
<td>(Total 32)</td>
<td>32</td>
</tr>
<tr>
<td>2 (123 ÷ 456) x (456 - 83) = 61666</td>
<td>123 [÷] 456 [x] 456 [−] 83 [÷] 61666 [=] 61666</td>
</tr>
<tr>
<td>3 369 x 8 = 2952</td>
<td>369 [x] 8 [=] 2952</td>
</tr>
<tr>
<td>369 x 8 = 2952</td>
<td>369 [x] 8 [=] 2952</td>
</tr>
<tr>
<td>5 x 40 = 200</td>
<td>5 [x] 40 [=] 200</td>
</tr>
<tr>
<td>5 x 7 = 35</td>
<td>5 [x] 7 [=] 35</td>
</tr>
<tr>
<td>(Total 55)</td>
<td>55</td>
</tr>
</tbody>
</table>