**FX-451M**

Pocket Style, 10 Digit, Solar Powered with Battery Back Up
- Total number of functions 132
- 116 scientific functions
- 10 digit (10 + 2) LCD
- Number base (conversions/calculations)
- Logic operations
- Hyperbolic functions
- Fractions
- Percentages
- Engineering notation
- 16 metric conversions (US galls to litres only)
- 13 physical constants
- Power source: Solar cell and lithium battery GR927

**FX-82C**

Hand Held, 8 Digit
- Total number of functions 75
- 59 scientific functions
- 8 digit (8 + 2) LCD
- Hyperbolic functions
- Percentages
- Engineering notation
- Power source: Two AA size batteries

**FX-911N**

Slim, 8 Digit, Solar Powered with Battery Back Up
- Total number of functions 128
- 75 scientific functions
- 8 digit (8 + 2) LCD
- Hyperbolic functions
- Linear regression
- Fractions
- Percentages
- Engineering notation
- Power source: Solar cell and lithium battery type GR927

- \( a^2 = b^2 + c^2 - 2bc \cos A \)
**Powerful Scientific and Statistical Calculators**

- **Total number of functions 163**
- **110 scientific functions**
- **10 digit (10 + 2) LCD display**
- **Number base (conversions/calculations)**
- **Logic functions**
- **Linear regression**
- **Hyperbolic functions**
- **Fractions**
- **Percentages**
- **Engineering notation**
- **9 physical constants**
- **Power source:** One silver oxide battery type SR44

**Hand Held, Solar with Battery Back Up**

- **Total number of functions 163**
- **110 scientific functions**
- **10 digit (10 + 2) LCD display**
- **Number base (conversions/calculations)**
- **Logic functions**
- **Linear regression**
- **Hyperbolic functions**
- **Fractions**
- **Percentages**
- **Engineering notation**
- **9 physical constants**
- **Power source:** Solar cell and lithium battery type GR927

**Hand Held, 10 Digit**

- **Total number of functions 154**
- **101 scientific functions**
- **10 digit (10 + 2) LCD**
- **Number base (conversions/calculations)**
- **Logic operations**
- **Hyperbolic functions**
- **Fractions**
- **Percentages**
- **Linear regression**
- **Engineering notation**
- **Power source:** One AA size battery

**Hand Held, 10 Digit, Solar Powered with Battery Back Up**

- **Total number of functions 154**
- **101 scientific functions**
- **10 digit (10 + 2) LCD**
- **Number base (conversions/calculations)**
- **Logic operations**
- **Hyperbolic functions**
- **Linear regression**
- **Fractions**
- **Percentages**
- **Power source:** Solar cell and lithium battery type CR2032

**10 Digit, Complex Number Calculator**

- **Total number of functions 180**
- **128 scientific functions**
- **10 digit (10 + 2) LCD dot matrix display**
- **Complex number calculations**
- **Gamma function**
- **Number base (conversions/calculations)**
- **Linear regression**
- **Unit mode** — electronic unit symbols can be entered along with variables
- **Power source:** Two lithium batteries type CR2032
FX-7000G
Large Graphic Display Calculator
- 20 built in function graphs
- User generated function graphs
- Statistical graphs
- 16 character by 8 line dot matrix display
- (10 + 2) digit display for calculations
- Total number of functions 193
- 93 scientific functions
- Programmable - 422 steps over 10 program areas
- 26 memories (standard) expandable to 78
- Power source: Three lithium batteries type CR2032C

FX-7500G
Large Graphic Display Calculator
- 20 built in function graphs
- User generated function graphs
- Statistical graphs
- 16 character by 8 line dot matrix display
- Total number of functions 150
- 107 scientific functions
- Programmable - 4,006 steps over 10 program areas
- 26 memories (standard) expandable to 526
- Power source: Three lithium batteries type CR2025

FX-8000G
Large Graphic Display Calculator with Print Out and Tape Storage Option
- 20 built in function graphs
- User generated function graphs
- Statistical graphs
- Optional R880 interfaces allows connection of an Epson® compatible graphic printer or plotter printer, and storage of data to tape
- File editor - 1,917 steps - for easy storage of routine equations, or programs, which can be password protected
- 26 constant memories (standard) expandable to 206
- Programmable 1,446 steps over 10 program areas
- Total number of functions 254
- 93 scientific functions
- 16 character by 8 line dot matrix display
- (10 + 2) digit display for calculations
- Power source: Three lithium batteries type CR2032C

(*Epson is a registered trademark of Epson Corporation)
**PROGRAMMABLE CALCULATORS**

**FX-4000P**
- **Walnut style, 135 step programmable**
  - Total number of functions: 151
  - 88 scientific functions
  - 135 program steps over 4 program areas
  - 10 digit (10 + 2) LCD
  - 1 independent memory and 6 constant memories — retained after power off
  - Number base (conversions/calculations)
  - Linear regression
  - Power source: One lithium battery type CR2025

**FX-3800P**
- **Wallet Style, 135 Step Programmable**
  - Total number of functions: 151
  - 88 scientific functions
  - 135 program steps over 4 program areas
  - 10 digit (10 + 2) LCD
  - 1 independent memory and 6 constant memories — retained after power off
  - Number base (conversions/calculations)
  - Linear regression
  - Power source: One lithium battery type CR2025

**FX-3400P**
- **Wallet style, 29 step programmable**
  - Total number of functions: 171
  - 110 scientific functions
  - 29 program steps over 2 program areas
  - 10 digit (10 + 2) LCD
  - 1 independent memory and 6 constant memories — retained after power off
  - Number base (conversions/calculations)
  - Linear regression
  - Power source: Solar cell and one lithium battery type CR927

**FX-4000P**
- **Powerful, Programmable, Dot-matrix Display**
  - Total number of functions: 160
  - 95 scientific functions
  - 550 program steps over 10 program areas
  - Perfect entry system
  - 10 digit (10 + 2) alpha numeric display
  - 26 constant memories (expandable to 94)
  - Number base (conversions/calculations)
  - Logic functions
  - Linear regression
  - Power source: Two lithium batteries type CR2032
10 Digit, Built In Formula Calculator
- Total number of functions 198
- 109 scientific functions
- 10 digit (10 + 2) LCD display
- 23 built in formulae for mathematics, physics, electricity, mechanics and statistical applications
- Formula memory allows programming of 2 original formulae (up to 29 steps total)
- Linear regression
- Number base (conversions/calculations)
- 9 physical constants
- Power source: Solar cell and one lithium battery type GR927

FX-10F has the same functions except for the 9 physical constants

FX-61F
- 10 Digit, Electrical/Electronic Formula Calculator
- Total number of functions 176
- 91 scientific functions
- 10 digit (10 + 2) LCD display
- 27 built in formulae for electrical and electronic calculations
- Formula memory allows programming of an original formula (up to 30 steps)
- Linear regression
- Complex number calculations
- Number base (conversions/calculations)
- Impedance calculations
- Power source: Solar cell and one lithium battery type GR927

FX-5000F
2-line Display Formula Calculator
- Total number of functions 288
- 103 scientific functions
- 2 line LCD display
- 128 built-in formulae for mathematics, physics, electricity, mechanics and statistical applications
- Formula memory allows programming of up to 12 original formulae (up to 675 steps total)
- Linear regression
- Number base (conversions/calculations)
- 13 physical constants
- Power source: Two lithium batteries type CR2032

\[
S = \frac{n(\text{mod})}{6}
\]
### BUILT-IN FORMULA LIST

#### FX-50F
- Quadratic Equation Solution
- Cosine Theorem
- Heron's Formula
- Normal Probability Function P(x)
- Normal Probability Function Q(x)
- Coulomb's Law
- Resistance of a Conductor
- Magnetic Force
- Change in Terminal Voltage of RL in RC Series Circuit
- Voltage Gain
- Impedance in HVAC Circuit
- Impedance in LRC Parallel Circuit
- Frequency of Electric Oscillation
- Distance of Drop
- Cycle of Simple Pendulum
- Cycle of Spring Pendulum
- Doppler Effect
- Equation of State of Ideal Gas
- Centrifugal Force
- Elastic Energy
- Bernoulli's Theorem
- Calculations Using a Stadia (1)
- Calculations Using a Stadia (2)

#### FX-500F

### MATHEMATICS

1. Quadratic equation solution  
2. Simultaneous linear equation with two unknowns  
3. Simultaneous linear equation with three unknowns  
4. Cosine theorem  
5. Heron’s formula  
6. Area of a triangle  
7. Sine theorem (1)  
8. Sine theorem (2)  
9. Rectangular – polar coordinate conversion  
10. Polar – rectangular coordinate conversion  
11. Logarithm with random base  
12. Permutation  
13. Combination  
14. Repeated permutation  
15. Repeated combination  
16. Sum of arithmetic progression  
17. Sum of geometric progression  
18. Sum of squares  
19. Sum of cubes  
20. Inner product  
21. Angle formed by vector  
22. Distance between two points  
23. Distance between point and straight line  
24. Angle of intersection for two straight lines  
25. Area of a triangle  
26. Area of a rectangle  
27. Area of a parallelogram (1)  
28. Area of a parallelogram (2)  
29. Area of a trapezoid  
30. Area of a circle  
31. Area of a sector (1)  
32. Area of a sector (2)  
33. Area of an ellipse  
34. Volume of a sphere  
35. Surface area of a sphere  
36. Volume of a circular cylinder  
37. Lateral area of a circular cylinder  
38. Volume of a pyramid  
39. Volume of a circular cone  
40. Lateral area of a circular cone

### PHYSICS

41. Acceleration  
42. Distance of advance  
43. Distance of drop

### ELECTRICITY/ELECTRONICS

44. Law of universal gravitation  
45. Cycle of circular motion (1)  
46. Cycle of circular motion (2)  
47. Cycle of circular motion (3)  
48. Simple harmonic motion (1)  
49. Simple harmonic motion (2)  
50. Cycle of spring pendulum  
51. Simple pendulum (1)  
52. Simple pendulum (2)  
53. Cycle of simple pendulum  
54. Centrifugal force (1)  
55. Centrifugal force (2)  
56. Potential energy  
57. Kinetic energy  
58. Elastic energy  
59. Energy of rotational body  
60. Sound intensity  
61. Velocity of wave transmitted by a chord  
62. Doppler effect  
63. Relative index of refraction  
64. Critical angle of incidence  
65. Equation of state of ideal gas (1)  
66. Equation of state of ideal gas (2)  
67. Equation of state of ideal gas (3)  
68. Equation of state of ideal gas (4)  
69. Quantity of heat  
70. Coulomb’s law  
71. Magnetic force  
72. Resistance of a conductor  
73. Frequency of electric oscillation  
74. Average gaseous molecular speed  
75. Electronic kinetic energy in magnetic field  
76. Strength of electric field  
77. Energy density stored in electrostatic field (1)  
78. Energy density stored in electrostatic field (2)  
79. Energy stored in electrostatic capacity (1)  
80. Energy stored in electrostatic capacity (2)  
81. Energy stored in electrostatic capacity (3)  
82. Force exerting on magnetic pole  
83. Magnetic energy of induction  
84. Electrostatic capacity between parallel plates  
85. Impedance in LR series circuit  
86. Impedance in RC series circuit  
87. Composite reactance in LC series circuit  
88. Impedance in LRC series circuit  
89. Impedance in LRC parallel circuit  
90. Series resonance circuit  
91. Parallel resonance circuit  
92. Power factor  
93. Joule’s law (1)  
94. Joule’s law (2)  
95. Electric energy in magnetic field  
96. Voltage gain  
97. Current gain  
98. Power gain  
99. D-Y conversion  
100. Y-D conversion  
101. Minimum loss matching  
102. Change in terminal voltage of RL in RC series circuit

### STATISTICS

103. Probability function of binomial distribution  
104. Probability function of Poisson’s distribution  
105. Probability function of geometric distribution  
106. Probability function of hypergeometric distribution  
107. Probability function of exponential distribution  
108. Probability function of uniform distribution  
109. Normal distribution (probability density function)  
110. Normal probability function  
111. Deviation

### MECHANICS

112. Tension and compression  
113. Shearing stress (1)  
114. Shearing stress (2)  
115. Entropy  
116. Efficiency of Carnot’s cycle (1)  
117. Efficiency of Carnot’s cycle (2)  
118. Bernoulli’s theorem (1)  
119. Bernoulli’s theorem (2)  
120. Bernoulli’s theorem (3)  
121. Equation of continuity (1)  
122. Equation of continuity (2)  
123. Module (1)  
124. Module (2)  
125. Module (3)  
126. Module (4)  
127. Reynold’s number  
128. Calculations using a stadia
<table>
<thead>
<tr>
<th>Function</th>
<th>Scientific Calculator</th>
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<td>Add</td>
<td>+</td>
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<tr>
<td>Subtract</td>
<td>-</td>
</tr>
<tr>
<td>Multiply</td>
<td>×</td>
</tr>
<tr>
<td>Divide</td>
<td>÷</td>
</tr>
<tr>
<td>Memory</td>
<td>M</td>
</tr>
<tr>
<td>Clear</td>
<td>C</td>
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<tr>
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<td>x²</td>
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<tr>
<td>Cube</td>
<td>x³</td>
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<tr>
<td>Square Root</td>
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<td>π</td>
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<td>E</td>
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<td>Log</td>
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<td>Ln</td>
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Note: All Casio Scientific Calculators have these functions and use the scientific logic for computation.