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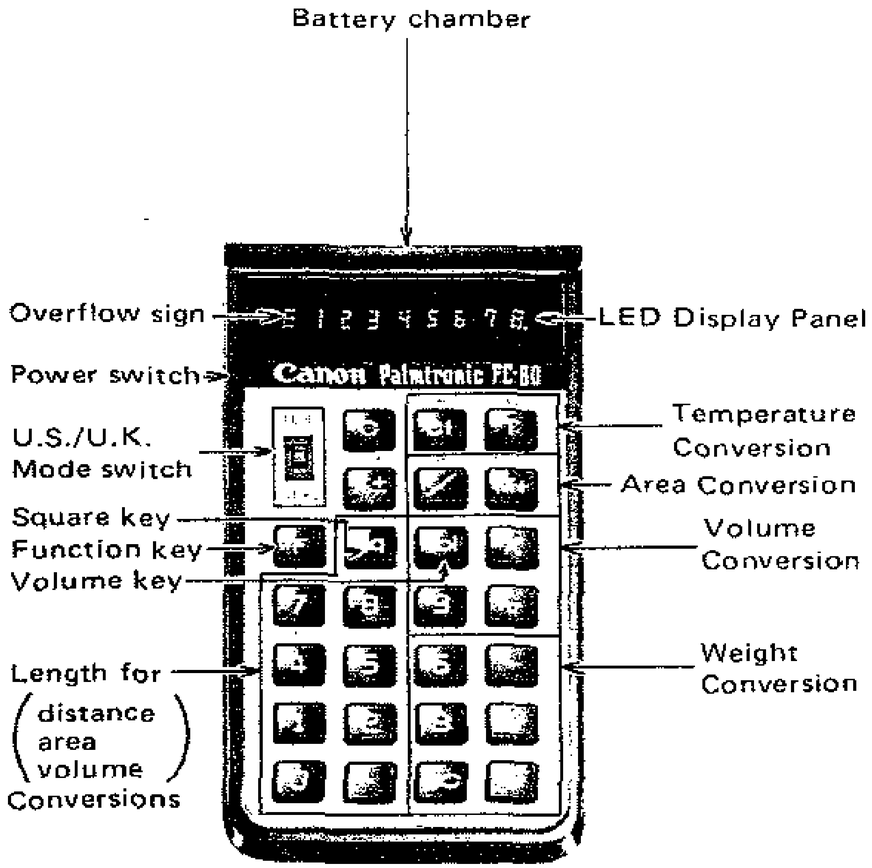
Canon Palmtronic FC-80

INSTRUCTIONS

English Edition

Contents

Description of Palmtronic FC-80



Operational Keys and Switch

Power Switch: Slide the power switch to ON and the Palmtronic is ready for immediate use.

Clear Key: Used for clearing all entries and calculations.

Clear Indicator Key: Used for correcting entries.

Degree Fahrenheit Key: Used for converting to or from degree fahrenheit.

Total Recall Memory Key: Used for recalling and clearing the contents of the memory.

Degree Centigrade Key: Used for converting to or from centigrade.

Percent Plus-Minus Key: Used for performing percentage and add-on & discount calculation.

Per-mill Plus-Minus Key: *Used for performing* per-mill calculations and add-on & discount calculations.

Fraction Key: Used for performing fractional calculations.

Acre Key: Used for converting to or from acre.

Plus Memory Key: Used for adding the numeral to the memory.

Hectare Key: Used for converting to or from hectare.

Second Function Key: Used for performing conversion calculation. Depress this key after a numeric entry, and then depress conversion keys.

Square Key: Used for performing square conversion. Depress this key after a numeric entry and then depress conversion keys.

Feet/Inch Key: Used for converting to or from feet/inch.

Volume Key: Used for performing volume conversion. Depress this key after a numeric entry and then depress conversion keys.

Quart Key: Used for converting to or from quart.

Numeric 0 Key: Used for entering 0.

Mile Key: Used for converting to or from mile.

Numeric 1 Key: Used for entering 1.

Yard Key: Used for converting to or from yard.

Numeric 2 Key: Used for entering 2.

Meter Key: Used for converting to or from meter.

Numeric 3 Key: Used for entering 3.

Pound Key: Used for converting to or from pound.

Numeric 4 Key: Used for entering 4.

Feet Key: Used for converting to or from feet.

Numeric 5 Key: Used for entering 5.

Centimeter Key: Used for converting to or from centimeter.

Numeric 6 Key: Used for entering 6.

Ounce Key: Used for converting to or from ounce.

Numeric 7 Key: Used for entering 7.

Inch Key: Used for converting to or from inch.

Numeric 8 Key: Used for entering 8.

Millimeter Key: Used for converting to or from millimeter.

Numeric 9 Key: Used for entering 9.

Gallon Key: Used for converting to or from gallon.

Decimal Point Key: Used for entering decimal point.

Kilometer Key: Used for converting to or from kilometer.

Sign Change Key: Used for converting signs of the indicated value.

Ton Key: Used for converting to or from ton.

Equal Key: Used for obtaining calculation results.

Kilogram Key: Used for converting to or from Kilogram.

Plus Key: Used for performing addition.

Gram Key: Used for converting to or from gram.

Minus Key: Used for performing subtraction.

Pound/Ounce Key: Used for converting to or from pound/ounce.

Multiplication Key: Used for performing multiplication.

Pint Key: Used for converting to or from pint.

Division Key: Used for performing division.

Liter Key: Used for converting to or from liter.

U.S./U.K. Mode Switch: Used for ton and volume (gallon, quart & pint) conversions. Set at the U.S. position to perform the U.S. mode conversion, and at the U.K. position to perform the U.K. mode conversion.

Before Calculation

1. Slide the power switch to ON, and the Palmtronic is ready for immediate use.
2. The keys are operated according to the calculation expression except conversion calculations.
3. It is not necessary to depress the [C] key before starting the calculation, because the preceding calculation result is automatically cleared.
4. Depress the [CI] key when incorrect entries are made. You may then make new entries, and continue the operation.

Note: Please keep in mind that accurate results depend on correct key operation.

Calculation Examples

Examples	Key Operation
1. Addition and subtraction 123 + 456 − 789= −210	123 [+] 456 [−] 789 [=] (−210)

The floating minus sign is displayed in front of the displayed numeral when an entry or result is a negative number.

2. Multiplication and division 2 x 3 ÷ 4 ÷ (−5) x 6=−1.8	2 [×] 3 [÷] 4 [÷] 5 [SC] [×] 6 [=] (−1.8)

The negative numbers can be entered with the [SC] key.

1. When the entered numerals exceed 8 digits, only 8 left-most digits are keyed in and excess digits are ignored.
   Ex. 12345678.9 ÷ 987
   (9th digit is ignored)
   Operation: 12345678 [.] 9 [÷] 987 [=]
   (12508.286)
2. When the integers of the calculation results exceed 8 digits, the overflow sign (E) lights up on the leftside of the display panel and further operation is locked, and only the 8 leftmost significant digits are displayed. Depress the [C] key to release the keyboard interlock, and start the further operation.

3. Multiplication and division by a constant	
2 x 3 = 6	2 [×] 3 [=] (6.)
2 x 4 = 8	4 [=] (8.)
2 x 5 = 10	5 [=] (10.)
6 ÷ 3 = 2	6 [÷] 3 [=] (2.)
9 ÷ 3 = 3	9 [=] (3.)
12 ÷ 3 = 4	12 [=] (4.)

The first operation in constant calculation is performed according to the calculation expression. From the second operation, each calculation result is obtained by just entering the numeral and depressing the [=] key.

4. Raising to Powers $2^3 = 8$	2 [×] [=] [=] (8.)

Raising to *n*-th power can be obtained automatically by depressing the [=] key (*n*-1) times.

5. Percentage Calculation	
1) *Percentage calculation* 200 x 15% = 30	200 × 15 %± (30.)
2) Add-on Calculation 20% add-on of 200 (200 + 40 = 240)	200 × 20 %± + (240.)

Add-on calculation is to add the percentage amount to the original amount with the sequential operation of the %± + keys.

3) Discount Calculation 20% discount of 200 (200 – 40 = 160)	200 × 20 %± − (160.)

Discount calculation is to discount the percentage amount from the original amount with the sequential operation of the %± − keys.

6. Per-mill Calculation Per-mill calculation is to multiply a number by 1/1000 with sequential operation of the F & ‰ keys. (To be applied for tax calculations, etc.)	
1) Per-mill calculation 200 x 3‰ = 0.6	200 × 3 F ‰ (0.6)
2) Per-mill add-on calculation 7‰ add-on of 200 (200 + 1.4 = 201.4)	200 × 7 F ‰ + (201.4)
3) Per-mill discount calculation 7‰ discount of 200 (200 – 1.4 = 198.6)	200 × 7 F ‰ − (198.6)

7. Calculation using memory	
20 x 30 = 600	20 × 30 = M+ (600.)
40 x 50 = 2000	40 × 50 = M+ (2000.)
–(15 x 20)=–300	15 SC × 20 = M+ (–300)
Total 2300	T (2300)

By depressing the T key, the content of the memory can be recalled and at the same time cleared from the memory.

8. *Calculation using the ⁄ key*	
$(\frac{1}{2}+\frac{2}{3}) \times 5\frac{1}{6} = 6.0277778$	1 ⁄ 2 + 2 ⁄ 3 × 5 ▪ 1 ⁄ 6 = (6.0277778)
$2\frac{3}{4} \div 5\frac{6}{7} = 0.4695122$	2 ▪ 3 ⁄ 4 = 5 ▪ 6 ⁄ 7 = (0.4695122)

In fractional calculations, depress the ⁄ key after entry of a numerator, and then enter a denominator.
In the case of mixed fractions, first enter the integer and depress the ▪ key before entering the fractions.

9. Mixed calculation	
(2 + 3) x 4 ÷ 5 – 6 = –2	2 + 3 × 4 ÷ 5 − 6 = (–2.)

Conversion Calculations

Any conversion is possible within the same conversion category.

Note: Be sure not to convert a number to a different conversion category. (5m = ? ton)

1. Conversions using the F key

To perform following conversion calculations, it is necessary to depress the F key before conversion keys.

(1) Distance Conversions

US measurement: mile, yard, feet, inch, feet/inch
Metric measurement: km, m, cm, mm

Conversion Calculation	Operation
mile to kilometer 1 mile = 1.609344 km	1 F [mile] D [km] (1.609344)
feet/inch to cm 12 feet 3 inches = 373.38 cm	12.3 F (12.3) *1 [ft in] sq (12.25) *2 [cm] S (373.38)

*1 Enter in 1 or 2 digits (max.) for inches. (1 foot = 12 inches)

*2 Decimals for inches are automatically converted and displayed in feet by depressing the feet/inch ([ft in] sq) key.

Conversion Calculation	Operation
feet to feet/inch 12.24 feet = 12 feet 2.88 inches	12 . 24 F (12.24) [in] I (12.24) [ft in] sq (12.0288) *

* First 2 decimal digits for integral inches (1 foot = 12 inches)

(2) Weight Conversions

US (& UK) measurement: ton (US & UK) pound, ounce, pound/ounce
Metric measurement: kg, g

Conversion Calculation	Operation
ton (US) to kilogram 1.1024 ton (US) = 1000.0805 kg	US 1 . 1024 F [tn] sc [kg] = (1000.0805)

* When converting the US ton, set the US/UK mode switch at the US position US

1 US ton (short ton) = 2000 pounds
1 UK ton (long ton) = 2240 pounds

Conversion Calculation	Operation
pound/ounce to gram 5 pound 3 ounces ≈ 2353.0104 g	5.3 F (5.3) *1 [lb oz] - (5.1875) *2 [g] + (2353.0104)

*1 Enter in 1 or 2 digits (max.) for ounces. (1 pound = 16 ounces)

*2 Decimals for ounces are automatically converted and displayed in pounds by depressing the pound/ounce [lb oz] - key.

Conversion Calculation	Operation
pound to pound/ounce 12.531 pounds = 12 pounds 8.496 ounces	12.531 F [lb] 3 [lb oz] - (12.08496) *

* First 2 decimal digits for integral ounces. (1 pound = 16 ounces)

(3) Volume Conversions

{ US (& UK) measurement: gallon, quart, pint
{ Metric measurement: liter

Conversion Calculation	Operation
gallon (UK) to liter 10 gallon (UK) = 45.4606 liters	US/UK 10 F 9 ÷ (45.4606)

* When converting the gallon, quart & pint, be sure to set the U.S./U.K. mode switch at either U.S. or U.K. position.

Conversion Calculation	Operation
quart (US) to pint (US) 10 quarts (US) = 20 pints (US)	US/UK 10 F vol × (20.)

* The vol key instead of F key can be also used to get volume conversions.
[Refer to conversion example 3-(2)]

(4) Area Conversions

{ US measurement: acre
{ Metric measurement: hectare

Conversion Calculation	Operation
acre to hectare 3.4 acres = 1.3759312 hectares	3.4 F / M+ (1.3759312)

* The sq key instead of F key can be also used to get area conversions.
[Refer to conversion example 2-(2)]

(5) Temperature Conversions

{ Degree Fahrenheit
{ Degree Centigrade

Conversion Calculation	Operation
fahrenheit to centigrade 77°F = 25°C	77 F CI °C T (25.)

2. Conversions using the sq key

To perform following square (area) conversions, it is necessary to depress the sq key before conversion keys.

(1) Area Conversions (length)

{ US measurement: mile², yard², feet², inch²
{ Metric measurment: km², m², cm², mm²

Conversion Calculation	Operation
mile² to kilometer² 1 mile² = 2.5899881 km²	1 sq mile D km . (2.589981)
yard² to feet² 1 yard² = 9 feet²	1 sq yd 1 ft 9 (9.)

* Feet/inch sq key can not be applied for area conversions.

(2) Area Conversions (area)

{ US measurement: acre
{ Metric measurement: hectare

Conversion Calculation	Operation
hectare to acre 100 hectare = 247.10538 acre	100 sq hect M+ / (247.10538)

(3) Area Conversions (length & area)

- Length: mile^2, yard^2, feet^2, inch^2, km^2, m^2, cm^2, mm^2
- Area: acre, hectare

Conversion Calculation	Operation
acre to m^2 7.3 acre = 29542.052 m^2	7.3 sq (a) / (m) 2 (29542.052)
mile^2 to acre 15 mile^2 = 9600 acre	15 sq (mile) 0 (a) / (9600.)

3. Conversions using the vol key

To perform following volume conversion, it is necessary to depress the vol key before conversion keys.

(1) Volume Conversions (length)

- US measurement: mile^3, yard^3, feet^3, inch^3
- Metric measurement: km^3, m^3, cm^3, mm^3

Conversion Calculation	Operation
feet^3 to cm^3 1 feet^3 = 28316.847 cm^3	1 vol (ft) 4 (cm) 5 (28316.847)
yard^3 to inch^3 15.6 yard^3 = 727833.6 inch^3	15.6 vol (yd) 1 (in) 7 (727833.6)

* Feet/inch ((ft·in) sq) key can not be applied for volume conversions.

(2) Volume Conversions (volume)

- US & UK measurement: gallon, quart, pint
- Metric measurement: liter

Conversion Calculation	Operation
liter to gallon (US) 24 liter = 6.3401293 gallon (US)	(US) 24 vol ÷ (US) 9 (6.3401293)

(3) Volume Conversions (length & volume)

- Length: mile^3, yard^3, feet^3, inch^3, km^3, m^3, cm^3, mm^3
- Volume: gallon, quart, pint, liter

Conversion Calculation	Operation
inch^3 to liter 100 inch^3 = 1.6387064 liter	100 vol (in) 7 (l) ÷ (1.6387064)
gallon US to cm^3 2.4 gallon (US) = 9084.9883 cm^3	(US) 2.4 vol (gal) 9 (cm) 5 (9084.9883)

Conversion Rate

(Distance)

(1) Conversion Rate between US & Metric Measurements
1 yard = 0.9144 m
(2) US measurement
1 mile = 1760 yard, 1 yard = 3 feet, 1 foot = 12 inches
(3) Metric measurement
1 km = 1000 m, 1 m = 100 cm, 1 cm = 10 mm

(Weight)

(1) Conversion Rate between US & Metric Measurements
1 pound = 0.45359237 kg
(2) US & UK measurements
1 ton (US short ton) = 2000 pounds
1 ton (UK long ton) = 2240 pounds
1 pound = 16 ounces
(3) Metric measurement
1 kg = 1000 g

(Volume)

(1) Conversion Definition
1 gallon (US) = 231 $inch^3$
(2) US & UK measurements
1 gallon = 4 quarts, 1 quart = 2 pints
1 (UK) gallon = 1.200942 (US) gallon
(3) Metric measurement
1 liter = 1 deci-meter cube (= 1000 cm^3)

(Area)

(1) Conversion Rate between US & Metric Measurements
1 acre = 0.4046856 hectare
(2) US measurement
1 acre = 4840 $yard^2$
(3) Metric measurement
1 hectare (= 100 are = 10000 m^2)

(Temperature)

(1) $°F = 9/5°C + 32$

Conversion Table (Total 326 conversions)

1. Conversions using the F key

(1) Distance: 72 conversions

from \ to	Mile	Yard	Feet	Inch	Ft In	Km	m	cm	mm
Mile		*	*	*	*	*	*	*	*
Yard	*		*	*	*	*	*	*	*
Feet	*	*		*	*	*	*	*	*
Inch	*	*	*		*	*	*	*	*
Ft/In	*	*	*	*		*	*	*	*
Km	*	*	*	*	*		*	*	*
m	*	*	*	*	*	*		*	*
cm	*	*	*	*	*	*	*		*
mm	*	*	*	*	*	*	*	*	

* Mark indicates available conversion

(2) Weight: 30 conversions

from \ to	Ton	Pound	Ounce	Pound/ Ounce	Kg	g
Ton		*	*	*	*	*
Pound	*		*	*	*	*
Ounce	*	*		*	*	*
Pound/ Ounce	*	*	*		*	*
Kg	*	*	*	*		*
g	*	*	*	*	*	

(3) Volume: 12 conversions

from \ to	Gallon	Quart	Pint	Liter
Gallon		*	*	*
Quart	*		*	*
Pint	*	*		*
Liter	*	*	*	

(4) Area: 2 conversions (Acre, Hectare)

(5) Temperature: 2 conversions (Fahrenheit, Centigrade)

2. Conversions using the sq key

(1) Area (length): 56 conversions

from \ to	Mile^2	Yard^2	Feet^2	Inch^2	Km^2	m^2	cm^2	mm^2
Mile^2		*	*	*	*	*	*	*
Yard^2	*		*	*	*	*	*	*
Feet^2	*	*		*	*	*	*	*
Inch^2	*	*	*		*	*	*	*
Km^2	*	*	*	*		*	*	*
m^2	*	*	*	*	*		*	*
cm^2	*	*	*	*	*	*		*
mm^2	*	*	*	*	*	*	*	

(2) Area (length and area): 32 conversions

from \ to	Acre	Hectare	from \ to	Acre	Hectare
km^2	*	*	km^2	*	*
m^2	*	*	m^2	*	*
cm^2	*	*	cm^2	*	*
mm^2	*	*	mm^2	*	*
$mile^2$	*	*	$mile^2$	*	*
$yard^2$	*	*	$yard^2$	*	*
$feet^2$	*	*	$feet^2$	*	*
$inch^2$	*	*	$inch^2$	*	*

3. Conversions using the vol key

(1) Volume (length): 56 conversions

from \ to	$Mile^3$	$Yard^3$	$Feet^3$	$Inch^3$	Km^3	m^3	cm^3	mm^3
$Mile^3$		*	*	*	*	*	*	*
$Yard^3$	*		*	*	*	*	*	*
$Feet^3$	*	*		*	*	*	*	*
$Inch^3$	*	*	*		*	*	*	*
Km^3	*	*	*	*		*	*	*
m^3	*	*	*	*	*		*	*
cm^3	*	*	*	*	*	*		*
mm^3	*	*	*	*	*	*	*	

(2) Volume (length and volume): 64 conversions

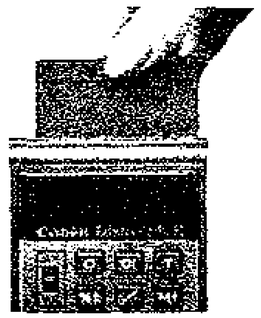
from \ to	Gallon	Quart	Pint	Liter
km^3	*	*	*	*
m^3	*	*	*	*
cm^3	*	*	*	*
mm^3	*	*	*	*
$mile^3$	*	*	*	*
$yard^3$	*	*	*	*
$feet^3$	*	*	*	*
$inch^3$	*	*	*	*

from \ to	Gallon	Quart	Pint	Liter
km^3	*	*	*	*
m^3	*	*	*	*
cm^3	*	*	*	*
mm^3	*	*	*	*
$mile^3$	*	*	*	*
$yard^3$	*	*	*	*
$feet^3$	*	*	*	*
$inch^3$	*	*	*	*

NiCd Battery Pack

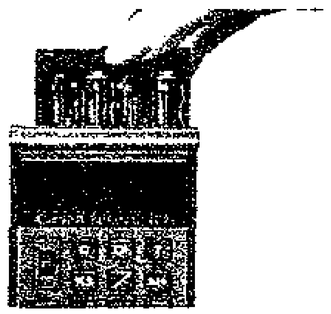
1. Insert the battery pack into the Palmtronic so that the metallic part of the battery pack will contact to that of the Palmtronic.
2. When removing, pull out the battery pack while pushing down the latch of the battery pack. Be careful that the metallic part of the pack will not touch any other metal.

* For charging the NiCd battery pack, please refer to the instruction manual of the Canon Palmtronic Charger.



Dry Battery Cassette

1. Load the dry battery cassette with four new penlight dry batteries (size AA). When loading the batteries, first lay the black tape, which comes attached with the cassette, on the bottom and then put the batteries from the (—) side according to the diagram inside. The Palmtronic will not operate if the batteries are placed upside down.
2. Load the dry battery cassette into the battery chamber of the Palmtronic.
3. When changing the dry batteries, take them out while holding the latch of the cassette. Change all of the four batteries at the same time. The dry batteries can be easily taken out by pulling the black tape of the cassette.



Specifications

Type: "Palmtronic" (miniaturized) electronic calculator with conversion keys
Keyboard: 10-key system
Display: 8 digit LED (Light Emitting Diodes)
Registers: 3 calculating registers and 1 memory register
Calculation capacity: 8 digits in all calculations
Types of calculation: Addition, subtraction, multiplication, and division. Chain multiplication and division. Multiplication and division by a constant. Raising to powers. Percentage, add-on/discount calculations. Per-mill calculation, add-on/discount calculations. Conversion calculations (length, area, volume, weight, and temperature)
Negative numbers: True value with a floating minus sign
Decimal point system: Leftmost digit priority with all floating decimal point.
Indication: Zero suppressed indication panel. Floating minus sign. Overflow indication.
Automatic functions: *Constant calculations.* Automatic rounding off.
Safety devices: Automatic clearing circuit. Overflow keyboard interlock
Elements: MOS-LSIs
Power source: 1. 4 penlight dry batteries (size AA) D.C. 6V 0.6W Manganese batteries make possible about 14 hours of continuous use. Alkaline batteries make possible about 30 hours of continuous use.
2. NiCd battery pack (charged with the Palmtronic Charger) D.C. 4.8V 0.4W. About 10 hours of continuous use is possible with one full charge.
3. AC with the Palmtronic Charger
Usable temperature: 0°C to 40°C (32°F to 104°F)
Size: 78mm wide x 138mm long x 38mm high (3-1/16" x 5-7/16" x 1-1/2")
Weight: 280 g (9.8 oz.) Dry battery cassette attached.

Subject to alterations.

MEMO