

Convert! for the Newton Messagepad v 2.5

Introduction

Just as Newton is a replacement for your diary, Convert! is a replacement for the conversion tables usually found at the front. The interactive nature of Newton's built-in metric converter initially struck me as being very useful. I was however frustrated by its limited scope and use of US measures, hence Convert! was born.

Convert! is my gift to the Newton community and is FREE to give away. That means that you may make use of the software and distribute it to any other user along with this documentation. Any comments are welcome, please send them to the address below.

Installation

The Convert! package can be transferred to Newton via Apple's Connection Kit or the Newton Package Downloader (which is available free from most good on-line services). If you are upgrading from Convert 1.x or 2.0 you will need to remove the old version manually. The installation of Convert 2.5 will automatically remove the old version's soups if they still exist.

General Operation

Convert! allows the user to enter and quickly convert between 133 common (and not so common) metric and imperial units. Convert!'s menu screen is pictured below.

apping on the appropriate icon in the menu screen opens its corresponding conversion table (the area table is pictured below). Once a value has been written into a field Convert! automatically calculates the corresponding values for the other units in the table. You can then simply overwrite any field with a new value and have the whole table recalculate.

Customizing the operating environment

The following operating parameters can be specified via the prefs button in the main menu area.

Automatically open in: specifies which area Convert should open when launched.

Results to: specifies the accuracy of the results displayed by Convert!

Number entry font: defines the font used in the number fields.

Number entry behaviour: defines whether the entry of a number in a field replaces or appends what is already there.

Measurement system: Specifies the default volume measure to use.

remove prefs: deletes Convert's data soup from Newton.

Conversions

The following conversions are supported by Convert! v2.5

Area

sq. millimetres, sq. centimetres, sq. metres, ares, hectares, sq kilometres, sq inches, sq. feet, sq yards, sq rods, acres, sq miles.

Length

millimetres, centimetres, metres, kilometres, inches, feet, yards, chains, fathoms, furlongs, cables, statute miles, nautical miles.

Volume

cubic centimetres, litres, cubic metres, cubic feet, cubic yards, US and UK fluid ounces, US and UK pints, US and UK quarts, US and UK gallons, teaspoons, tablespoons, cups.

The user may toggle between US and UK volume measures using the radio button pictured above.

Mass

carats, milligrams, grams, kilograms, tonnes, ounces, pounds, stones, hundredweight (cwt), slugs, tons, long tons.

Pressure

atmospheres, pascals, Newtons/sq metre, Kilopascals, bar, dynes/sq metre, mm Hg, torr, inches of water, ounces/ sq inch, pounds/ sq inch.

Temperature

degrees centigrade, degrees fahrenheit, Kelvin, degrees rankine

Energy

eVolts, MeV, ergs, joules, kilojoules, foot pounds, calories, kilocalories, kilowatt hours, british thermal units (BTU), tons of TNT

Time

nanoseconds, microseconds, milliseconds, seconds, minutes, hours, days, weeks, years

Power

watts, kilowatts, foot pounds/second, horsepower.

Velocity

centimetres per second, metres per second, kilometres per second, kilometres per hour, inches per second, feet per second, miles per second, miles per minute, miles per hour, knots, speed of sound (Mach), speed of light (C).

Currency

Conversion between five user defined currencies are supported. The default exchange settings shown below are used when Convert! is opened for the first time.

ny figure entered in the first five fields will be converted to the other currencies using the exchange rates in the lower half of the window. Exchange rates can be altered by overwriting the old value with the latest exchange figure. Convert will automatically save the new rate along with a date stamp of when it was altered. The date stamp can be viewed in the edit window below.

Currency labels can be altered via the edit button and the corresponding window shown below.

ny alterations to the currency labels are saved.

Computing

bits, kilobits, megabits, bytes, characters, kilobytes, megabytes, gigabytes, bits per second, seconds, inches, points, picas, ems.

In addition to the regular table calculations, the user can specify a data transfer constant (either in bits per second or seconds) via a radio button and have Convert! calculate the "missing variable". For example to calculate how long it would take to transfer 2Mb at 2400bps: select the "bps" radio button and write in 2400 and 2 in the respective bps and megabyte fields. The answer will appear in the sec field.

Navigation

radians, gradians, grades, degrees, minutes, seconds, quadrants, circles, signs

Unit measure conversions

The length, mass, time, navigation and computing tables also have a button respectively labelled "yd:ft:in", "ton:lbs:ozs", "deg:min:sec" and "hr:min:sec".

his allows the user to additionally convert the feet, pounds and seconds fields from a fraction to whole units. e.g.: 6320 seconds = 1 hours, 45 minutes, 20 seconds. This field is also dragable.

Troubleshooting

I cannot input a decimal number successfully: Remember there is a bit of a knack to entering data into Newton. I have found the most successful way to enter decimal numbers is to firstly never pause in the middle of a number (especially at the decimal point) and secondly place the decimal point close to

the dotted base line. If the latter is not followed Newton has a tendency to change 456.78 into 456 .78 (and treat it as 456.00) or replace 456 with .78 (depending on which number entry behaviour setting is specified in the preferences. If the append number entry setting is in effect and Newton gets a digit wrong you can simply overwrite the digit with the correct one.

Alternatively you can double tap on the field to bring up the number entry keypad.

Launching Convert! results in error 48404 (or similar): Convert's data soup is corrupt. Use a soup removal utility to remove the soup "convertdata:CLINT" and relaunch Convert!.

Error 48809 (or similar) when opening currency window: Convert's data soup is corrupt or has been deleted via the prefs window. Quit Convert and relaunch.

Legal Bits

Convert! may be freely distributed via on-line services, BBSs and user groups provided it is distributed with its documentation and not altered in ANY way. Commercial, Shareware and CD-ROM services must obtain advance permission in writing from the author before distributing this product. This version of Convert! for Newton is free of charge. However, it is NOT public domain. All copyright, ownership and rights of ownership shall remain with the author.

All attempts have been made to ensure the accuracy of the numbers generated by this program. In no event shall the author be responsible for any consequential, incidental or indirect damages (including loss of business profits, business interruption, loss of business information and the like) incurred through the use of this software.

Change History

Convert 1.0 : initial release.

Convert 1.01: maintenance release

Convert 2.0 beta : beta release (not for general distribution)

Convert 2.0 : general release. Complete rewrite of Convert, better use of memory, user prefs, 62 more conversions... you get the idea.

Convert 2.5 : general release. Provides Messagepad 110 compatibility. Addition of Navigation conversions and 14 other misc conversions. Addition of currency conversions. Provides user with greater flexibility over Convert's environment. New documentation.

Finally...

I hope you find Convert! useful. Please don't hesitate to contact me with comments, suggestions and bug reports. If you include your contact details I will keep you informed with upcoming products (including new versions of Convert!).

If you have an uncontrollable urge to shower me with gifts I will humbly accept those as well.

The core functionality of Newton is useful, however I feel the device will become truly indispensable when it is coupled with custom applications tailored to your specific needs. If you are interested in tailored Newton applications don't hesitate to contact me.

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