Convert 2.01

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Program: **CONVERT**

100% IBM Compatible PC running Microsoft Windows 3.1. VGA or better display Preregs:

(color not required).

Unit conversion calculator for Windows 3.1. Comes with a data file containing a large Purpose:

number of common (and not so common) conversions in categories such as

length, speed, pressure, volume, and time.

What sets Convert apart is that you can easily customize the supplied data files or create

your own to deal with personal requirements such as industry-specific units.

You can even create multiple files and easily switch among them from within the program.

Convert comes with a built-in text editor to make the job even easier.

CVT201.ZIP Archive Name:

Registration: \$15 with media or \$10 without. Any registration option gets you a personal serial

number, product support, and other goodies.

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Convert is a Shareware product. As such, it is made available to the general personal computing public for evaluation. Users are licensed to operate this program on their computers for the purpose of test and evaluation on a trial basis for a limited trial period. It is not possible to reasonably define the limits of a fair and equitable time period for evaluation; therefore it is left to the user's judgment and sense of fair play as to the time required to make a decision as to its usefulness. (As a guideline, 30 days should generally be sufficient time to evaluate the utility of a program of this type.) If the user decides the program is not of sufficient merit to warrant purchase through registration with the author, he/she should remove the program from his/her personal computer. Otherwise, if the program is deemed useful and is in regular use on the user's computer system, registration with the author is required.

Registered users are those users who elect to pay for *Convert* and register that payment with the author. By virtue of registration and payment for the program, registered users are granted a license to continue to utilize the program on their personal computer for as long as they choose. This license authorizes the user to use the program on any personal computer system he or she may own or use so long as the program is operated on only one computer system at a time.

GUARANTEE

Convert is offered with an unconditional 30-day money-back guarantee. If you become dissatisfied with the program for any reason within that period, just let me know and your registration fee will be refunded. If you purchased a registration package which included a diskette and/or a manual, please return these when requesting a refund.

This guarantee is unconditional. I would ask, however, if you are having a problem to let me know before giving up on *Convert* since your problem may be something I can solve.

Finally, if you order a registration package which includes a diskette or manual and either of these items are defective – either through my error or through postal service "processing", let me know and I will send replacements promptly.

Registration

The registration fee is \$15, payable to:

Bit Masons Consulting 3205 Windsor Ridge Dr. Westboro, MA 01581

The payment of this registration fee to the author entitles the user to full use of the product for an unlimited period of time in addition to product support and a diskette with the latest version and other utilities written by the author. Hardcopy documentation and future updates are not included as part of the basic registration fee. See the REGISTER.WRI file for the charges associated with these services.

Convert is a fully functional Shareware product. Shareware is a computer program distribution and marketing method that permits potential buyers to thoroughly try the program prior to purchase. It is NOT free and it is not in the Public Domain. If, after evaluating the program, you find it useful enough to use on a regular basis, you are expected to pay for it by registering with the author.

Site Licensing

Attractively priced site licensing is available for commercial users. Please call or write for additional information. Customization is also available on a contract basis.

Upgrade and Update Policies

There has been some confusion in Shareware circles recently about upgrade/update policies for certain pieces of software. Therefore, I'd like to take this opportunity to spell out my policies. First, some definitions: I define upgrade as the RIGHT to use a later revision of a piece of software. I define update as the physical media on which the upgrade resides. I'll further define an update as not including hardcopy documentation unless specifically defined. With that out of the way, I'd like to spell out my current upgrade/update policies:

There are no upgrade charges associated with *Convert* and I do not have any plans at present to institute such charges with future revisions. I do reserve the right to do so, however, if in my sole opinion the nature and magnitude of *Convert* changes to such a degree as to constitute a substantially new product. I currently do charge for updates and plan to continue to so charge. The content and pricing for specific update packages is described at the end of this document and in the REGISTER.WRI file. Pricing is subject to change without notice, however, to accommodate postage, printing, and other price increases.

ASP Ombudsman Statement

This program is produced by a member of the Association of Shareware Professionals (ASP). ASP wants to make sure that the shareware principle works for you. If you are unable to resolve a shareware-related problem with an ASP member by contacting the member directly, ASP may be able to help. The ASP Ombudsman can help you resolve a dispute or problem with an ASP member, but does not provide technical support for members' products. Please write to the ASP Ombudsman at 545 Grover Road, Muskegon, MI 49442 or send a Compuserve message via Easyplex to ASP Ombudsman 70007,3536.

Distributing Convert

Convert may be freely distributed subject only to the following distribution for-charge restrictions:

Convert is the sole property of Gordon Haff. The program may be freely copied and transferred to individual parties for evaluation purposes. It may be posted on Bulletin Board systems (BBS) for electronic access as long as NO FEE is charged for its distribution except for private BBS operations that charge a regular user subscription fee. Computer information services such as Compuserve (CIS), Genie, and Byte Information Exchange (BIX) are authorized to post this product for subscriber access. Convert may be distributed on diskette only by 1) disk distributors/vendors who are associate members of the Association of Shareware Professionals (ASP) or 2) users groups which do not charge more than a nominal fee to cover the costs of distribution. Any changes to these policies must be made in writing by the author.

Please feel free to distribute copies of this program to friends, coworkers, bulletin boards, and users' groups. **I do ask, however, that you please distribute all of the original files and not modified copies.** Changing the archive contents, including the packed DLL files will prevent the installation program from completing successfully. While you should certainly feel free to distribute any modified or additional data files you come up with, please do so in the form of a separate archive and not as part of *Convert*.

Technical Support

Registered Users: Full technical support is available to registered users of *Convert*. I have found that the most effective product support can be delivered through the electronic services listed below. If this option is not open to you, however, I also offer full product support through the mails, or, if the problem absolutely cannot wait, the telephone (no collect calls please). I will do my best to resolve any software bugs in a timely manner and I am always open to incorporating new features or changes which are appropriate to the nature of the product.

Unregistered Users: I will attempt to respond to software trouble reports made by non-registered users if the problems concern the general functionality of the program. Such users should not, however, expect product support beyond initial aid in determining whether the program is suitable for their needs.

If *you have a problem:* I ask that, before calling or writing, you make a note of as many aspects of your hardware and software environment as possible. For example, which video board you're using. Since *Convert*, like many Windows products, makes extensive use of third-party libraries, this sort of information can be especially important in tracking down the problem.

If you follow these steps, it will help me to solve your problem in a more efficient and timely manner.

Contact via:

Channel 1 BBS (617) 354-8873

Compuserve User ID# 72561,2637 (See Note 1) **Internet** 72561.2637@compuserve.com

U.S. Mail 3205 Windsor Ridge Dr. Westboro MA 01581

Telephone (508) 898-3321 (after 6pm Eastern time)

I usually check Channel 1 daily and Compuserve weekly. In addition, I monitor the Ilink and RIME Shareware relays through Channel 1.

What is Convert?

Now that we have all that boring stuff out of the way, what is *Convert* anyway? *Convert* is a handy little utility for Windows 3.1. It is effectively a special-purpose calculator which converts between most units (i.e. things like inches, feet, and so forth). You pick a category such as mass or volume and the available units (available in the units database, that is) are then displayed. You then pick your to and from units, enter a number to convert from and out pops the answer.

There's a button to swap the TO and FROM units. You can change the format of the answer display. Just go ahead and run it. It's pretty intuitive and has a full-blown hypertext Windows help function if you get stuck.

The program comes with an extensive general-purpose units database. Lots of people have a need for industry or job-specific units though, so I've designed the database so that it can be easily modified. It's just a plain ASCII file which can be modified using any text editor or wordprocessor capable of generating plain ASCII files (i.e. files without formatting codes and such). Something like the Windows Notepad will do just fine. To make your life easy, though, *Convert* comes with its own built-in editor to make modifying files a snap.

It's this ability to customize the databases that makes *Convert* special. If there's one thing I've learned over the years in designing software, it's that attempting to anticipate every desire or requirement in advance is a pretty futile activity. If I tried to put in every conversion that anyone could ever want, I'd invariably miss some absolutely essential unit used only by Zamboni repairmen. At the same time, others would complain that the program had far too many conversions! All they want is a dozen or so conversions they use for cooking and all the other stuff just makes the program cumbersome.

So *Convert* is easy to setup for your own needs. To get you started, the default files are a rather extensive compilation of all sorts of conversion goodies. I've also put together abridged versions which are oriented towards everyday sorts of things like cups, kilograms, and degrees Farenheit.

Installing Convert

Please refer to the README.CVT file for complete installation instructions. In most cases, you can (and should) simply use the supplied installation program. Run A:\INSTALL.EXE (substitute the appropriate floppy drive or hard disk directory for A:) using the File|Run menu item in the Program Manager.

Don't worry about my installation script messing up any of your INI files or anything like that. I've made a point to have the installation program ask you before overwriting any files which could be shared with other programs.

Just in case you want to do a manual install, however, all the instructions are in the README.CVT file.

CONVERT.INI

The following is the default CONVERT.INI file -- which should reside in your Windows directory.

[Convert]
CatData=cats.dat
UnitData=units.dat
Decimals=2
Type=0
Registration=
AlwaysSmall=0
DisableEdit=0

CatData and UnitData point to the current data files used by Convert. If no path is given, the program's startup directory (as specified under the program's properties) is assumed.

Decimals is the number of digits to the right of the decimal point in the answer.

Type =0 for decimal formatting of the answer. Set to 1 for Scientific notation.

The above items are automatically stored upon program exit if any changes are made.

Registration= holds your serial number which you would normally enter using the **Enter** # button in the Toolbox.

Set AlwaysSmall=1 if you want the same window layout to be used for 640 x 480 displays and 800 x 600 (or larger) displays. The 800 x 600 layout is, I think, a bit prettier but was too wide to fit on a 640 x 480 display. If you use *Convert* on multiple systems with different display types, however, and want the display to always look the same, you may want to set this option.

Set DisableEdit=1 if you want to disable access to the internal editor for the data files.

Convert Features

Using *Convert* should be reasonably intuitive but I'd like to use this section to point out a few features just in case you miss them or don't immediately grasp their function. There's also some information here about calculation ranges and such matters.

Display controls: You can set the output field to either Decimal (e.g. 1234.67) or Exponent (e.g. 1.23467E03) style of display. The display will automatically switch to Exponent (Scientific notation) if necessary to accommodate the answer. The number of digits to the right of the decimal point is set by either typing a number between 0 and 5 in the field or by clicking on the spin control with the mouse. (A maximum of 5 digits works well in terms of the display and, given the precision of the conversion factors, is really all the precision which is useful.)

Calculation Range: The input number, answer, or intermediate calculations cannot produce numbers above approximately 1.1 E +4932. That should be large enough for most of you.

Edit controls: Clear clears the input and answer fields. Copy copies the **answer** to the clipboard. Paste pastes the contents of the clipboard to the **input**. You can therefore use copy and paste to do chain calculations.

About: In the unlikely even that you care, there's a standard Windows About box hidden at the bottom of the system menu.

Tools: This button opens up a dialog box which lets you change the category and/or units data files used by the program as well as edit those files with a built in editor. The Toolbox also includes a couple of additional buttons in unregistered copies. The **Enter** # button lets you enter a Serial Number for your copy of *Convert*. The **Register** button lets you enter your registration information and printout a copy of this information.

Help: You can get help from just about anywhere in the program by clicking a Help button or by hitting the F1 key.

Accelerators: Anytime you see a button with a letter underlined, that means you can activate that button by pressing <Alt><le>letter> where <letter> is the underlined letter.

About the data files

Convert comes with a database which should be useful for many general purpose needs. Most of the conversion factors are derived either directly or indirectly from those in the CRC Handbook of Chemistry and Physics. All reasonable care has been taken to check the data but you probably want to double-check before depending upon an obscure conversion for anything critical. If you do find any errors in the distributed data, I would very much appreciate your dropping me a line to let me know of the problem so that it may be corrected in future revisions.

As mentioned earlier, he database is supplied in an easy to modify format. If you make any extensive additions, I'd be interested in adding them to the program. You should also feel free to distribute any additions for use with Convert. I only ask that they be distributed in addition to the original files rather than in place of them and that they be accompanied by documentation clearly stating their source.

The format of CATS.DAT is as follows:

cat1 cat2 cat3

where cat1, cat2, cat3 are the names of categories such as length or volume.

The format of UNITS..DAT is as follows:

```
cat1,unit1,MultFactor[,AddFactor] cat1,unit2,MultFactor[,AddFactor] cat2,unit3,MultFactor[,AddFactor]
```

where cat1 and cat2 are the names of categories which correspond to entries in the CATS.DAT file, unit1, unit2, and unit3 are units which correspond to the various categories, and MultFactor and AddFactor and multiplicative and additive conversion factors (respectively) for each of the entries. The AddFactor is optional and, if not present in an entry, is assumed to be 0.

The following formula is used to calculate the answer:

```
NumberTo = (NumberFrom + AddFrom) * ConvTo/ConvFrom - AddTo
```

If you want to create you own data files, the best thing for you to do is probably to look at the existing UNITS.DAT file and puzzle it out (temperature has Add factors so is probably a good place to start). There are no particular rules regarding the sort of data for which you can use *Convert*. As you can see from the supplied files, it usually makes the most sense to assign one unit as the "reference" (i.e. with a conversion factor of 1) but this is only for ease in computing the factors when putting together the data. *Convert* doesn't care whether or not there's such a reference value. I know this is all a bit confusing. I go

into a bit more detail, by way of example, in Appendix A.

The other somewhat obvious point is that units within a category should be dimensionally consistent. There's not much point in trying to convert kilogarms to light-years. Things do get a bit confusing in the mass/weight department when dealing with English units, but I think I've handled them in a consistent way in the supplied data files.

You may, in unusual cases, want to break the dimensional consistency "rule." For example, if you set up a category for cooking measurements, you might conceivably have a conversion from ounces of flour to cups, but this would be an atypical case.

Other Bit Masons Software For Microsoft Windows

Pass Through Print (PTP)

Pass files directly to a printer under Windows 3.1 without interpretation by Windows print drivers. For example, use this utility to send Encapsulated Postscript files to a Postscript printer. Both more elegant and much faster (in

many cases) than dropping to DOS and using a COPY command.

Free, copyrighted software

Latest version: 1.00 (PTP100.ZIP)

Cheat

Small program for counting cards under Windows. Check off the cards as they appear. Suits are totaled automatically.

Free, copyrighted software

Latest version: 1.00 (CHEAT100.ZIP)

For DOS

Directory Freedom (DF)

Offers users a fast, compact alternative to DOS Shells which provides 1) selective file and directory operations; 2) a scrollable environment for examining files and directories; 3) user-defined keys which can operate upon highlighted files (e.g. by defining an editor). All this in a program which takes less than 35KB since it is written in assembler! Easily customized through an external configuration program. A "look-and-feel" similar to PC Mag's DR, but does much more. Now with SmartViewers and many more exciting new features.

Shareware: \$25 Registration Latest version: 4.61 (DF461.ZIP)

the last word

'the last word' is a quotations trivia game in which 1 to 4 players compete against each other and their own high scores in identifying the source of quotations and completing partial quotes. Most answers are entered free-form and are matched against a set of acceptable responses with a sophisticated pattern-recognition algorithm. 'the last word' runs in text mode -- including on mono displays -- and offers a high level of user configurability.

Shareware: \$15 Registration

Latest version: 1.00 (LWORD100.ZIP)

X-Ray Viewers

The X-Ray Viewers provide a scrollable environment for examining the contents of various types of archive files and allows the user to view those contents by piping them to LIST. In other words, you can read a text file contained within, for example, a .ZIP file without extracting the archive. In combination with the SmartViewer functions in **DF**, the X-Ray viewers make the examination of .ZIP, .ARJ, .LZH, and .ZOO files almost automatic (just highlight a file and press **Enter>**).

"Freeware" but requires the appropriate archive program and LIST to function.

Latest revision: 1.03; Archive name: XRAY103 (XRAY.ZIP on Compuserve)
Contains ARJ, ZIP, LZH, and ZOO viewers. See XR.TXT on the disk for more information.
Subsumes ZR which was in turn a renaming of ZV.

ND

This program can be set to a user-defined function key and will rename the highlighted file to a new name which is derived from the current date. For example, FILENAME.TXT would be renamed to 891015.TXT if the date were Oct 15, 1989. It appends a letter to the base name (e.g. 891015A.TXT, 891015B.TXT, etc.) if the "dated name" already exists. I find this very useful for handling message-base files from BBS's. Version 2.00 adds a great deal of flexibility with command-line switches.

ND is "Freeware."

Latest revision: 2.0; Archive name: NAMD200.ZIP (ND200.ZIP on Compuserve)

Maketest

Command-line utility to create test files. Lets you create any number of test files with user-specified names and sizes. Automatically can add characters to avoid duplicate names. This is an easy way to create something like 100 zero-length files. Handy for users or programmers who want to test a program's capabilities.

Free, copyrighted software with QB source Latest version: 1.0 (MKTST100.ZIP)

These programs and others (Multi-Edit macros for use with Qmail Deluxe, for example) are available on many fine bulletin boards. The latest releases are always available on Channel One. If you just have to get a copy of one or more of these programs and can't find one, however, I can send them out for a nominal media and postage charge.

Technical and Acknowledgements

Convert was developed on a Gateway 2000 DX2-66V with AMI Ultra Pro video. Primary programming tools were Borland C++ 3.1 with OWL Application Framework, Borland's Resource Workshop and Turbo Debugger, Multiscope Debugger from Symantech, and the WinSys library and Data Entry Workshop from Turbo Power Software. The installation program is Install Pro from Eschalon Development.

The program has been tested under Microsoft Windows 3.1 and Windows for Workgroups 3.1.

Beta testers were Ron Lloyd and Rick Strom.

History

Rev. 1.00	Initial Release
Rev. 1.01	Original upload defective. Was missing data files.
Rev. 2.00	Complete rewrite. Modern appearance, Output formatting, Change and edit data files from within program. User-friendly automated installation program.
Rev. 2.01	Modifications to the install script and addition of anpack utility for manual installation This revision is also for the purpose of replacing some 2.00 archives on BBS systems which have had the common DLL's removed. Minor fixes and additions to data files

Appendix A Creating your own Unit Entries

Creating your own entries in the units data file can be a bit confusing, so I'm going to work through a couple of simple examples using units included with the program. We'll start off simple with an entry which doesn't require any add factors (e.g. converting from one length unit to another just involves multiplying by a constant). We'll then proceed to the more complicated case of temperature where there are offsets to consider as well.

To keep things simple, we'll consider just three length units: meters, inches, and feet. Then we follow these basic steps:

1. Write down the relationships we know about these units. Namely:

```
1 foot = 12 inches
1 meter = 39.37 inches
```

- 2. (Optional but useful) Pick one of the units as our basis (i.e. with a conversion factor of 1). Having a base unit like this can often make your calculations easier and less error prone. We'll pick meters since many common length units are related to meters as a power of 10.
- 3. Compile your table entries as follows:

Meters come first since they're our base. So we add the following line to our file: length, Meters, 1

Inches come next since we already know their relationship to meters (39.37 inches = 1 meter) length, Inches, 39.37

Feet are a bit more complicated (but not by much) since we don't directly know their relationship to meters. But we can figure it out as follows.

1 foot/12 inches * 39.37 inches/meter = 3.28 feet/meter

So we add the entry:

length,Feet,3.28

4. You may then want to reorder the entries in your text editor to put them in alphabetical or some other logical order. It's also worthwhile to run a couple of test cases and check the results before using your new data for anything important. In addition, for your actual entries, you'll probably want to use conversion factors with more significant digits than I used in the above example. Remember that rounding errors will accumulate through chain calculations.

Now, we can go onto considering the more complicated temperature case which uses offsets. Following the same steps:

1. Write down the know relationships:

```
K (degrees Kelvin) = C (degrees Centigrade) + 273.15
R (degrees Rankine) = F (degrees Farenheit) + 459.67
R = 1.8 * K
```

- 2. Pick a base. We choose Centigrade.
- 3. Compile the table entries as follows:

Doing our base entry first:

temperature, Centigrade, 1,0

Now we do Kelvin. Rearranging the first equation slightly:

$$K - 273.15 = C$$

So we add the entry

temperature, Kelvin, 1, -273.15

Now things start to get a bit more complicated as we tackle Farenheit. Expressing Farenheit and Centigrade in terms of each other:

$$F = 1.8 * C + 32$$
 or $F - 32 = 1.8 * C$

This results in the entry:

temperature, Farenheit, 1.8, -32

Now at first glance this may seem the opposite of what we were doing in the first example in that the 1.8 is on the right side of the equation here. But consider that 1.8 Farenheit degrees = 1 Centigrade degree. Note that this is the same as saying that 1.8 Rankine degrees = 1 Kelvin degree. But, per the equations at the start of this section, Degrees Rankine = Degrees Kelvin * 1.8. Hence the apparent reversal.

You'll probably need to think about this last section a bit and play around with the numbers until this makes sense; and then it will still probably take a bit of fiddling and trial and error when you go to add your own categories with offsets. I've tried to explain it the best I can, but realize that it's likely confusing anyway.

Registration for Convert 2.01

To register, please return this form with your registration check or money order (Purchase orders are also accepted) to:

Gordon Haff Bit Masons Consulting 3205 Windsor Ridge Dr. Westborough, MA 01581 Phone: (508) 898-3321

Name				
Address				
Phone	()			
Where di	d you get Convert from:			
BBS / S	Service Name	Number ()		
	Convert Registration w/ diskette (Includes a license for one user, diskette v Convert and associated files, personal ser			\$
	Convert Registration (*) (Includes a license for one user and produ NO DISKETTE OR HARDCOPY DOCU			\$
	(**) Non-North American shipping	@ \$ 5.00	\$	
TOTAL Enclosed (in US Dollars please)				
If a diske	tte is being ordered: 3.5" 5.2	25"		

- (*) Please note that this option covers registration ONLY. You will receive acknowledgement of registration but will NOT receive a diskette or printed documentation! This economy option is intended for those who receive software by electronic means and are sure that they have the latest version.
- (**) Non-North American orders need include \$5.00 extra to cover additional shipping and handling charges ONLY if a diskette and/or manual is being ordered. Please send all payments payable in U.S. Dollars unless you have explicitly made other arrangements with the author.

Canadian customers may use Canadian postal money orders in dollar denominations.