1. What is "UU" Encoding & Decoding?

Those familiar with UNIX systems are probably aware of the need for encoding binary files to send via mailing programs. If not, the "UU" stands for Unix-to-Unix, where the program originated. The limitation of the mail programs on UNIX was that only 7-bit ASCII characters were supported, not binary. The solution to the problem was to then convert the 8-bit binary data into a form usable by the mailing programs. That solution was to generate (encode) four ASCII characters from every three binary characters, which is basically converting 6-bits of binary information into 8-bits of ASCII characters (only 7 bits are used). This guarantees that only ASCII text is sent when the encoded output is sent over computer communication links. Similarly, the decoding process converts four ASCII characters into three binary characters. The penalty of this approach is that the encoded file is 33% larger than the original file, but that's better than not being able to mail binary data at all!

Another popular use for UU encoding and decoding is the "Net News" facility on UNIX systems. Again, the reason is to allow binary data to be sent using only ASCII characters. PCs are already beginning to support Net News as well.

Now you can handle these encoded files on a Windows 3.0 equipped PC such that UU encoding and decoding is possible between two PCs or between your PC and a UNIX system. UUCODE can do both encoding and decoding, and is fully compatible with the standard "uuencode" and "uudecode" programs found on UNIX systems.

In summary, whenever you need to send binary data over a communications link which cannot handle 8-bit data, then UU encoding and decoding are your solution.

2. Installation

<u>UUCODE is not free</u>; it is shareware. See the terms and conditions later in this file for explanations of the trial period and registration requirements.

UUCODE comes with four files:

UUCODE.WRI	This file, containing instructions and registration
information	
UUCODE.EXE	The executable file

WHIO.DLLA support dynamic link libraryBARCTRL.DLLA support dynamic link library

Copy the UUCODE.EXE and UUCODE.WRI files to anywhere from which you want to run the program. The WHIO.DLL and BARCTRL.DLL files must be in the path where Windows can find them. The typical place is in the "windows subdirectory" where you have Windows installed.

3. Version Information

This package contains version 1.6 of UUCODE. This version fixes two bugs in version 1.5. First, UUCODE will now allow multiple instances of itself. Of course, when two or more instances are running with file I/O, system performance will be slowed down. Second, version 1.5 might possibly insert an additional byte or two when decoding. This caused no problems with archived (ZIP, ARC, LZH, ZOO, etc) or executable (EXE or COM) files, but could interfere with straight text files.

4. Usage

4.1 Menu Structure

All operation of UUCODE is done via the menu (or associated hot keys). There are no pull-down menus; all activity is initiated from the top-level menu.

4.1.1 <u>About!</u> Menu Item (Hot Key: Alt-A)

Hitting <u>About!</u> will cause UUCODE to display the version of this software and will indicate the location to send the registration fee.

4.1.2 Exit! Menu Item (Hot Key: Alt-X)

Hitting Exit! will quit the UUCODE program.

4.1.3 Encode! Menu Item (Hot Key: Alt-E)

Hitting Encode! will cause UUCODE to begin the process of encoding a binary file (any file type actually) into a uuencoded ASCII file. You will first be prompted to select a file to encode, then prompted to pick an output file. An output file name will be suggested, and the default file extension is ".UUE". If the output file already exists, UUCODE will ask if you want to overwrite it. Finally, the encoding process is started by clicking the "Encode" button. You

will notice a % complete bar being updated as UUCODE encodes the input file. At any time during this process, you may hit the "cancel" button and be returned to the main menu, ready for another command. If you cancel the encoding operation, no uuencoded output file will be generated.

4.1.4 <u>Decode!</u> Menu Item (Hot Key: Alt-D)

Hitting Decode! will cause UUCODE to begin the process of decoding a previously uuencoded ASCII file into its binary (original) form. You will first be prompted to select a file to decode, using the default extension of "<u>.UUE</u>". Then UUCODE will read the file to determine the name of the output file. You will be prompted with the output file name, which you can change if you wish. After you have bit the "OK" button, UUCODE will check if the output file already exists. If it does, you will be asked if you want to overwrite it. Finally, the decoding process is finished by clicking the "Decode" button. You will notice a % complete bar being updated as UUCODE encodes the input file. At any time during this process, you may hit the "cancel" button and be returned to the main menu, ready for another command. If you cancel the decoding operation, no uudecoded output file will be generated.

5. System Requirements & Limitations

UUCODE was written for Windows 3.0 equipped PCs using the 80286 instruction set. Therefore UUCODE will only work on PCs using 80286, 80386, 80386SX, 80486, and 80486SX processors. While running, UUCODE uses about 55K of memory. UUCODE runs only in Windows standard or enhanced modes; not in real mode.

For decoding, UUCODE requires the input file be in one piece. Some uuencoding programs automatically generate multi-part files when the encoded file is very large. You must manually put the pieces into one file for UUCODE to work. UUCODE will ignore blank lines in the file (those with both Carriage Return (CR) and Line Feed (LF) or just CR or just LF).

For encoding, UUCODE places the output into one file. If that file is too large for a mailing or communications program to handle, then you must manually split it into pieces.

6. Other Commentary

UUCODE is a "nice" program such that it shares the CPU during the encoding

and decoding processes (which use extensive file I/O). This results in slightly slower performance than if no sharing were done.

UUCODE allows multiple instances of itself. Since Windows 3.0 is a multitasking system, it is possible that the same encoded or decoded file might be used by UUCODE at one time. This could happen by mistake if the user chooses the same file name twice. To solve this problem, UUCODE takes advantage of Windows file locking mechanism and does not allow any other application to read or write the UUCODE output file as it is being created. However, multiple read accesses to files are allowed.

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