CHIP-8 Assembler-3 provides a professional approach to programming in CHIP-8, and its features, plus the terminology used to describe it, demand full treatment. I will therefore proceed very carefully into its operation in order to give you every opportunity to appreciate its full value.

My hope is that you will gain not only a valuable new programming aid, but that you'll learn more about the workings of your microprocessor and the operation of utility programs such as these. (Machine language assemblers use the same terminology and format as CHIP-8 Assembler-3, and if you have not had experience with such a program, the following will introduce the concepts involved. You need no special knowledge to get full use out of CHIP-8 Assembler-3.)

Before reading further, however, you should be familiar with the operation of Text Editor-21, which will be used to prepare CHIP-8 programs. If you already own a text editor for your VIP (so long as it can prepare 16-character-a-line ASCII text), you will be able to use your own editor to prepare the source listing. In fact, by using only the first 16 characters of a line, and by following the format for the assembler described here, <u>any other computer</u> could be used to prepare VIP source listings!

In order to do so, you would need detailed knowledge of both systems. For example, tape I/O compatibility might be a problem. But ASCII <u>itself</u> can be considered to be a machine-independent language. Any computer that <u>speaks</u> ASCII could conconceivably talk to any other computer, no matter how different, that <u>understands</u> ASCII. The concept is valid, and the implementation is a challenge.

Experienced programmers will want to use CHIP-8 Assembler-3 to assemble programs that use an entirely different interpreter as well. The only requirement is that your interpreter's instructions have the same basic two-byte CHIP-8 format, with addressing from 0000 to 0FFF, taking the last three nybbles (a nybble is 4 bits) of the hex code instruction. Other