

letters and symbols, positioned in the upper right corner of the grid. This allows 16 characters to be displayed on each line, with ten lines and an underline cursor (using the 2-page display). The higher resolution displays, while useful for text applications (as described by Don Stein in issues 3, 4 and 5 of Volume 1 of The VIPER) are not needed here; the goal is to produce English-language statements for CHIP-8 game programs.

I have also included my interpretations of the card suits: spades, diamonds, clubs, and hearts, in that order, using the ASCII codes 1C, 1D, 1E, and 1F respectively.

The Messenger Program (which follows shortly) will allow positioning of lines of text anywhere on the screen, at selected X and Y coordinates. "I" is set (using the AMMM instruction) to the desired message (which is stored in ASCII form). The Message Display routine is called, and one standard DXYN instruction displays up to 16 characters!

What used to take hours to draw out on graph paper, and what once required complicated programming, will now take only a few minutes - and what's more, your VIP will do the work!

### THE PROGRAM

The code for the program has been listed with comments, so you can follow exactly what's happening. If you purchased the tape containing the program, you should nevertheless try to follow the code and understand the program so you can make your own modifications if you wish to do so.

### CHIP-8 VARIABLE ASSIGNMENTS

V0                      Key Pressed/Display address. V0 is also used as an escape flag from Control C routine when V0=VF.