

by Chris Morton

Over the years, many different types of computer input devices have been introduced, with more promised in the future. Several have been outright commercial flops. Since sophisticated, voice-activated computers as seen on "Star Trek" still represent CAD's "Final Frontier," for the present, draftspeople and designers must remain satisfied with the more traditional devices. Or do they?

While not voice activated, Communication Intelligence Corporation's (CIC) Proficient AutoCAD Enhancer may certainly seem futuristic to those who are still fumbling with dual input devices; i.e., keyboard and digitizer. Through highly accurate pattern recognition and artificial intelligence, Proficient takes handwritten characters drawn with a stylus on a tablet and converts them into AutoCAD commands. Consisting of an IBM PC add-in board, driver software, macro file, Macro Editor, and a template to attach to your digitizer, Proficient virtually eliminates the need for the keyboard altogether. Instead, the stylus is used for inputting handwritten commands and predefined macros, making AutoCAD jump through hoops without so much as turning your head away from the graphics monitor—a so-called "heads-up" system.

According to CIC literature, up to 80 percent of potential computer users are uncomfortable with the thought of having to enter commands through the keyboard. Recognizing the need for an all-in-one input device that takes a minimal amount of desktop real estate, they settled on a handwritten character recognition system based on existing stylus/digitizer technology. With the keyboard out of the way and the need to continually refer to a template for command selections virtually eliminated, the user is free to focus more intently on the work appearing on the screen. Distractions from continual head/eye reorientation are reduced by 75 percent, says CIC, cutting down on fatigue and increasing drawing productivity.

Moving Closer to a "Heads-Up" System

PROFICIENT AUTOCAD ENHANCER VERSION 2.0

HOW IT WORKS

With Proficient, using AutoCAD becomes a simple matter of using the stylus to write macros (one- to three-character alphanumeric short cut commands) in block lettered format anywhere on the digitizer. By our count, CIC provides over 250 predefined macros for Release 10, with the user having the ability to create new macros using CIC's Macro Editor, which comes as part of the software. Other macro sets are included for previous versions of AutoCAD.

The Proficient AutoCAD Enhancer can utilize up to 348 macro commands for use with both AutoCAD and third party add-on applications. Each macro may consist of strings of up to 127 characters in length, giving the Proficient AutoCAD Enhancer much in the way of flexibility and programming power that, as a result, translates into reduced drawing time for AutoCAD users.

DOCUMENTATION AND INSTALLATION

The manual for the Proficient AutoCAD Enhancer is small, yet well-written

with several illustrations depicting proper usage. I appreciated not having another tome to digest before becoming thoroughly operational with this new method of inputting commands; setup was essentially a routine "plug and go."

The manual even contains a complete list of the more than 200 standard AutoCAD macro commands. I prepared our own version of the list in a format that was more usable on an everyday basis. I'd like to see a pop-up screen listing all of the macros in future Proficient releases; these could be accessed at any time from within AutoCAD through AutoCAD's pull-down dialog boxes or through a script file.

I first installed CIC's Proficient AutoCAD Enhancer on a Win Labs 386 equipped with a Control Systems Artist One graphics adapter driving a Mitsubishi 19" color monitor. Going by a suggestion of our CIC contact, I set aside our Calcomp tablet and tested Proficient on the Seiko DT3503-11 digitizer that was shipped with the evaluation copy. I later installed Proficient on an AST Premium 386C using a Video 7 V-RAM VGA adapter driving an NEC Multisync XL monitor. In both cases, using a variety of old and new equipment, setting up Proficient was easy—I'd had much more difficulty with various mice that I'd tried in the past.

An eight-bit interface board (configurable for one of five user-selectable serial ports) was first installed in an available slot, with a cable running from the board to the digitizer. CIC provides a single 5

1/4" diskette with the installation routine, software drivers, macro files, and Macro Editor. The setup program prompts for the version of AutoCAD being used and installs the appropriate files to the hard disk; Proficient is then called up through a two-step series of batch commands.

In order to run AutoCAD with either graphics adapter, I had to edit the PROFICNT.BAT file to load the respective ADI graphics driver prior to calling AutoCAD. Users with other specialized system requirements may want to modify how Proficient is started if ADI drivers aren't being loaded by the AUTO-EXEC.BAT file upon bootup.

The Proficient software lets you re-align the template each time it's run by tapping the spacebar and digitizing the menu control points with the stylus; CIC suggests that each person take the few moments necessary to run through this simple procedure each time, if different users are on the same system. The first time using Proficient, you'll also need to reconfigure the digitizer for AutoCAD's ADI driver. Since Proficient's recognition board does operate via a serial interface, it will be necessary to configure both the board and your system accordingly, to avoid possible conflicts with modems and other devices. For our tests, I left the board in the default COM1 configuration and disabled our regular COM1 devices temporarily.

RUNNING PROFICIENT

The Proficient AutoCAD Enhancer works as advertised. Entering commands into AutoCAD with the package is easy, quick, and fun. To input other commands, such as AutoCAD menu selection choices, coordinate points, or answers to "yes" and "no" questions, you merely write the appropriate characters in small grid boxes just above the menu area of the template. Proficient's recognition system responds virtually immediately, with reaction times being adjustable through software control. You can even shell out of AutoCAD and enter DOS commands in the grid boxes—Proficient won't miss a beat.

While the manual does provide a discussion on proper entry methods, Proficient isn't as picky as Miss Slappenruler was in second grade regarding handwriting neatness. The recognition system seems to operate without a hitch even when different users of varying penmanship skills are at the controls.

POOR ERGONOMICS

If I had one piece of constructive criticism, it had to do with the stylus cable,

which directly affects productivity during use of their system. On the Seiko stylus, the cable was so twisted that it made it difficult to always keep one's index finger in the proper position relative to the button. I suggest a redesign that might incorporate a swiveling contact point at the end of the stylus. A larger stylus button would also be nice, as well as a more ergonomic feel overall. I agree with CIC's research conclusions that, as a pointing device, the stylus is more natural than a mouse, puck, or trackball, but that it has been subject to neglect during product design sessions; it's unfortunate that CIC's fortunes rely so heavily on hardware that isn't their own. James Dao, CIC's president, recognizes that "your writing speed and recognition performance . . . (depends) on the quality of the stylus." CIC urges that, if you're in the market, you spend the extra money on a "high-quality tablet with a durable, usable stylus," whether you plan to invest in CIC packages or not.

NEW RELEASES

The system tested is actually the second public release of the Proficient AutoCAD Enhancer. CIC has enhanced Proficient's custom macro capabilities and has

provided added functionality to the Macro Editor. Proficient now includes a more comprehensive, menu driven setup program that accommodates more system configurations. CIC has added drivers for additional digitizers from GTCO, Kurta, and Houston Instrument (Proficient already supported other models from Seiko, Summagraphics, Kurta, Hitachi, and Calcomp), as well as support for the Nth Engine graphics board from Nth Graphics.

CIC's "Write-On" series of software/templates includes versions for Aldus PageMaker (now in beta testing), WordPerfect, Lotus 1-2-3, and DOS, with each package enhancing the Proficient AutoCAD Enhancer system. CIC also makes available a signature verification add-on system, whereby authorized users are identified by their handwritten signature when inputted with the stylus on the tablet. Firms that exercise security clearances for AutoCAD drawings will want to contact CIC to learn more about the benefits of this system.

All CIC products work with IBM PCs, XTs, ATs, and compatibles, including most 80386 machines. 640K of RAM is required. The Proficient AutoCAD Enhancer System lists for \$649, which in-

cludes the full-length IBM PC style recognition board, software, AutoCAD template, and user's manual. CIC's Write-On software/template series retails for \$189 each, with a Write-On package also being available for the Solomon III accounting series, which is \$299. The upgrade from Release 1.0 of Proficient is \$65. CIC provides toll-free telephone technical support for its products.

CIC proudly claims that, using their device and software, "You don't have to be a typist to use the computer. Head, eye, and hand movements are reduced by 75 percent, thereby minimizing fatigue and distraction." If you're from the old school of AutoCAD, you'll probably continue typing in commands at the prompt out of habit. But if you're looking to obtain greater speed and power while also substantially reducing training time for new users, Proficient is for you. □

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Proficient AutoCAD Enhancer
Version 2.0, Price: \$649
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