

HP has now provided you a total solution for APL. Final stages of product development for the terminal entails actually putting it on the price list and making it available. This will occur in November and delivery will begin soon thereafter.

The HP 2641A APL Display Station, interfaces similarly as our other 2640 terminals to the 3000. It was developed in conjunction with HP Labs and some of the other major APL users around the country. We have the terminal in the lobby and after this we will show you some of the key features of the terminal. For those of you who are not familiar with APL terminals let me tell you a little bit about the HP 2641A. It has a 128 character APL set, a full 64 character overstrike set and 64 character Roman set which is optionally expandable to 128 character Roman. Also, it will support one optional character set. What that means, is that it will support one of our three alternate character sets. These are the line drawing character set, a mathematical symbol character set and the large character set, which was just recently introduced. With the large character set you can type characters on the screen that are about three characters high and three times the width of characters that normally you see on the screen. It operates up to 9600 baud as a standard ASCII teletypewriting terminal or as an APL terminal. Additionally it has all the features of the recently introduced HP 2645 High Performance Terminal that features multiple and standard communications protocols. Also, it features eight user definable soft keys. These eight function keys have been designed so you can execute up to an 80 character sequence from one key. You may ask what is the benefit? One of the key benefits is that you can tailor the terminal to your application. For example a whole computer log-on sequence can be stored under one of these keys. There are many other benefits of this terminal that you may want to see and I would be happy to show you after this talk.

Price? A lot of you are going to be surprised. It is only \$4100 without tapes, with tapes it is \$5700. It works very well with the

3000 system and with other systems that support ASCII APL terminals. Another of the key features of using the 2641A with the 3000 APL system is that when you log on to the 3000 many of the frequently made system calls such as variables, or functions will be automatically loaded under a soft key. This happens to be a very useful feature; and one that you can change at any time.

Overstrike. I would like to talk a little bit about this. When overstrikes are performed we access an alternate character set and display the actual overstrike character. They are very clear and well defined.

It will also display an "out" character, when you try to perform invalid overstrikes. What this means is that with the 2641A you do not have to wait until you transmit this program to see your error. You can see and correct it on line.

To date we have tested the terminal on a number of non-HP timeshare systems and it has worked perfectly. Are there any questions? I will be happy to answer them.

Q. ON THE QUESTION OF UPGRADES, WE DO HAVE 12 2640'S AND WE INITIALLY HAD ORDERS FOR 12 2644'S. WE FOUND IN OUR APPLICATION THAT THE 2400 BAUD RATE HAS NOT BEEN FAST ENOUGH, SPECIFICALLY FOR DISPLAYING SCREENS AND WE HAVE APPROACHED DIFFERENT WAYS SUCH AS DRAWING PORTIONS OF A SCREEN AT A TIME, TRICKING THE SYSTEM AND USING A SCREEN ALREADY UP AND ERASING SPECIFIC FIELDS OF IT. WE WOULD LIKE TO HAVE 9600 BAUD. WE UNDERSTAND THE LIMITATIONS OF THE 8080 CHIP VS. THE 8008 FOR MICROPROCESSOR. ARE THERE ANY PLANS TO UPGRADE A 2640 TO A FASTER PROCESSOR TO ALLOW A 9600 TRANSFER?

A. No. We are currently offering the 2643A which operates to 9600 baud.