Mr Gregg B White
Information International Inc
5933 Slauson Avenue
Culver City
California 90230
USA

Our Ref: RW2028

4 October 1976

Dear Gregg

Thank you very much for your detailed replies to my last two questions.
I was delighted to hear from Mike Daniels that my visit to III has been
arranged and I am looking forward to meeting you on the 20 October.   I
thought it might be a good idea if I wrote to you before then with some
of the questions I would like to raise when we meet.

Question one: If the counter is being used to control the number of
characters plotted by the High Speed Character Generator (with interrupts
enabled) and the last character to be plotted causes a negative dispatch
interrupt then will an 'HSCF' instruction cause a second interrupt (counter
overflow) ie can one character give rise to both a neative dispatch interrupt
and a counter interrupt?

Question two: If after plotting a character from the Accumulator by the 'HSCP'
instruction an 'HSRB' is issued, what will be the values of the stop
condition and dispatch word?

Question three: What use is made by the Print Programs of the High Speed
option in the Character Generator?

Question four: The High Speed Character Generator hardware seems designed to
perform the spacing and line-feed functions at 90° rotations. Do you have a
neat way of spacing at 45° angles?

Question five: In the Assembler is it true that expressions are evaluated
left to right? How does the Assembler handle real numbers; for example,
what is the value of '4.2*000001+12.6+5:10.'?

Question six: What results if an attempt is made to plot characters after
an 'HSLB' instruction has been issued with ACO=1 (6 bit) and AC2 = 1 (8 bit
half word) both set?

Question seven: Please could you explain the meanings of bits 6-10 in the
'DDRS' status word and the checksum mechanism used to check transfers.

Mr Gregg B White   4 October 1976

Question eight: Currently, after displacing the DACs (eg set point) a fixed period of time is allowed to elapse to let the DACs settle before starting to draw a vector. Will bit 11 of the Accumulator after a 'VGRS' instruction allow me to detect when the DACs have settled, thus reducing the overhead of an unnecessary time delay?

The above are a few specific questions. I would also like to talk about more general questions as well. I am looking forward to meeting you.

Yours sincerely

Rob

R W Witty
Interactive Computing and Graphics Group
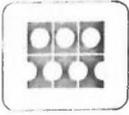
August 5, 1976

Mr. Rob Witty
Rutherford Laboratory
Computer and Automation Div.
Science Research Council
Chilton, Didcot
Oxfordshire OX11 OQY
England

Dear Mr. Witty,

In response to your inquiry about the high speed text option in FR 80 Displayer I will admit that you hit on something of which I was not aware. Your machine was built right around the time I joined this company and was one of the first to incorporate the new half-word format and high speed text feature. Unfortunately, because most machines could not use these options an assembly parameter for your machine configuration was forgotten. We now find, thanks to your persistance, that no one has been using high speed text mode in FR 80 Displayer. I had assumed that everyone else was and that yours was a special problem and therefor wanted more documentation in order to track down what had gone wrong at your site.

In the User's Manual now there is only a revision bar where the explanation for bit 10 in the enter text mode (204) command sat. What it had been and in fact still is, is a character packing select bit. If bit 10=$\emptyset$ it means half-word format and if bit 10=1 it is the

Atlanta • Chicago • Houston • New York • San Jose • Washington, D.C.

Montreal • London

8 bit format as you discovered. The older machines were able to run high speed text using the 8 bit format as are the newer machines. This had been a transitional set-up which apparently was never properly or fully documented within Information International.

Your machine does have the capability to run high speed text in the half-word format and while a new version could be assembled and shipped to you we felt that since you have already patched many of your programs for special functions of your own it would be easier and quicker for you to patch in the necessary changes to make this modification work in your current software. I am returning the pages on which you showed the 204 interpreter code with new instructions in red ink to show what should be added or replaced. Should you desire new program assemblies instead we will be glad to send them to you.

Again, I want to apologize that what you correctly saw as an error in what our book said and what our program did I interpreted as a specific problem related only to Atlas Labs. I trust that this will straighten out any problems along this line for you. I thank you for enlightening us and hope if I can be of any further service to you in this matter or any other you will not hesitate to contact me.

Sincerely,
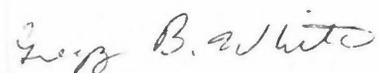
Gregg B. White

Gregg B. White
Product Support Specialist

c M. Daniels