International Computers Limited

Memo

Date 2/6/75 Your ref Ref. no HEW/VR Tel ext

To
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From
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Restart notes on the use of Eric Hotine's Utility

Summary

The technique below illustrates how to restart this utility after it has been used and after control has been transferred to a different program resident with it in core. There is no need to reload the utility unless it has been corrupted by use of the other program.

Example

The example shows the loading and entering of the utility, use of the utility, loading of a TCP, entering and use of the TCP followed by re-entry and use of the utility.

Method

To Load Utility:-

1. Power up with the watchdog timer on and the μ step, stop, go switch set to 'go' or else do a general reset
2. Set the μ step, stop, go switch to 'stop'
3. Set 3FB2 on the address keys
4. Set Register F on the scratch pad keys
5. Load Scratch pad
6. Load 4000 into the instruction register
7. If using the clear store version of the utility tape then inhibit the watchdog timer.
8. Set 'go' on the μ-step, stop, go switch
9. Set termiprinter controls up (e.g. transparency on, speed 120 cps)
10. Load utility
11. Set watchdog timer on.

The Utility is entered by the loader and is operated in accordance with instructions in the document '7502 Utility Operating Notes'.

To stop utility so that it can be re-entered:-

1. Ensure that all it is doing is processing timer interrupts.

2. Set 0000 on the ETU address keys.
3. Set request stop.
4. The machine will stop immediately at location zero and in state 4.
5. Set the μ-step, stop, go switch to stop.
6. Unset request stop.

To load the TCP

Carry out the load utility process from 2 onwards. Do not power off/on or do a general reset.

The TCP is entered after loading and is used. When it is desired to re-enter the utility:-

Re-enter utility:-

1. Set the μ-step, stop, go switch to 'stop'.
2. Inhibit the watchdog timer.
3. Write 2FF1 into location 40 and
   Write 1B08 into location 41 } See addendum
4. Set the μ-step, stop, go switch to 'stop'.
5. Set 1B00 on the ETU address keys.
6. Set register F on the scratchpad keys.
7. Load scratchpad.
8. Load 4000 into the instruction register.
9. Set the μ-step, stop, go switch to 'go'.
10. Set the watchdog timer on, and if the utility timer display does not work then the procedure has failed.
11. Press interlock and clear screen, holding interlock down while clear screen is pressed.

Henry E. Woodman

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Addendum to memo on restarting E. Hotine's Utility

Writing to store

The engineers ɷwrite program is entered as follows:-

1. Set stop on the μ-step, stop, go switch
2. Inhibit the watchdog timer
3. Set 3FA8 on the ETU address keys
4. Set Register F on the scratchpad keys
5. Load scratchpad
6. Load 4000 into the instruction register
7. Set the μ-step, stop, go switch to 'go'
8. Set the write address e.g. 0040 on the ETU address keys
9. Load scratchpad
10. Set the write data e.g. 2FF1 on the ETU address keys
11. Press start: when start is pressed the write address is displayed on the ETU address lamps, and when it is released the write data is transferred to store (note that it is not displayed).
12. For further sequential writes repeat steps 10 and 11. The above sequence writes 2FF1 into location 40, to check it use the engineers read program.

Reading from store

1. Repeat steps 1 to 3 above using address 3FAD
2. Repeat steps 4 to 7 above
3. Set the read address e.g. 40 on the ETU address keys
4. Load scratchpad
5. Press start: when start is pressed the read address is displayed; when start is released the data contents of that address are displayed (on the address lamps)
6. For further sequential reads just repeat step 5.