

## BLOCK II SELF-CHECK

The SELF-CHECK for BLOCK II depends on the contents of the SMODE register to tell the computer what option of SELF-CHECK is desired; this is the same as BLOCK I. However, the options are different in BLOCK II.

Placing a  $\pm$ NON-ZERO in the SMODE register will allow the computer to check the following parts of the computer:

- $\pm 1$  octal: checks all the pulses of the computer except those used exclusively by the IN-OUT instructions.
- $\pm 2$  octal: checks all the IN-OUT instruction pulses.
- $\pm 3$  octal: checks SC registers and all bit combinations.
- $\pm 4$  octal: checks erasable memory.
- $\pm 5$  octal: checks fixed memory.
- $\pm 6$  octal: an extensive multiply arithmetic check.
- $\pm 7$  octal: an extensive divide arithmetic check.
- $\pm 10$  octal: checks everything in the previous seven options.

If an error is detected with any of the above  $\pm$ NON-ZERO numbers in the SMODE register the following will occur:

1.  $+0$  is placed in the SMODE register.
2. the ERCOUNT register is incremented by  $+1$ .
3. the program alarm light on the DSKY is turned on.
4. octal 01102, C(SFAIL), and C(ERCOUNT) are displayed in R1, R2, and R3 of the DSKY.
5. the SELF-CHECK routine stays in the backup idle loop because of  $+0$  in the SMODE register.

If an error is detected with any of the above  $-$ NON-ZERO numbers in the SMODE register steps 2 through 4 above are performed first. The SMODE register is not changed so the routine is started at the beginning again.

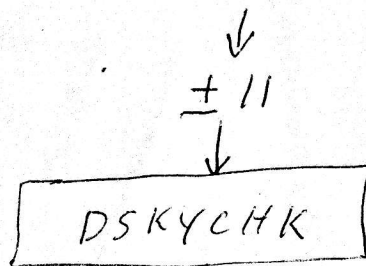
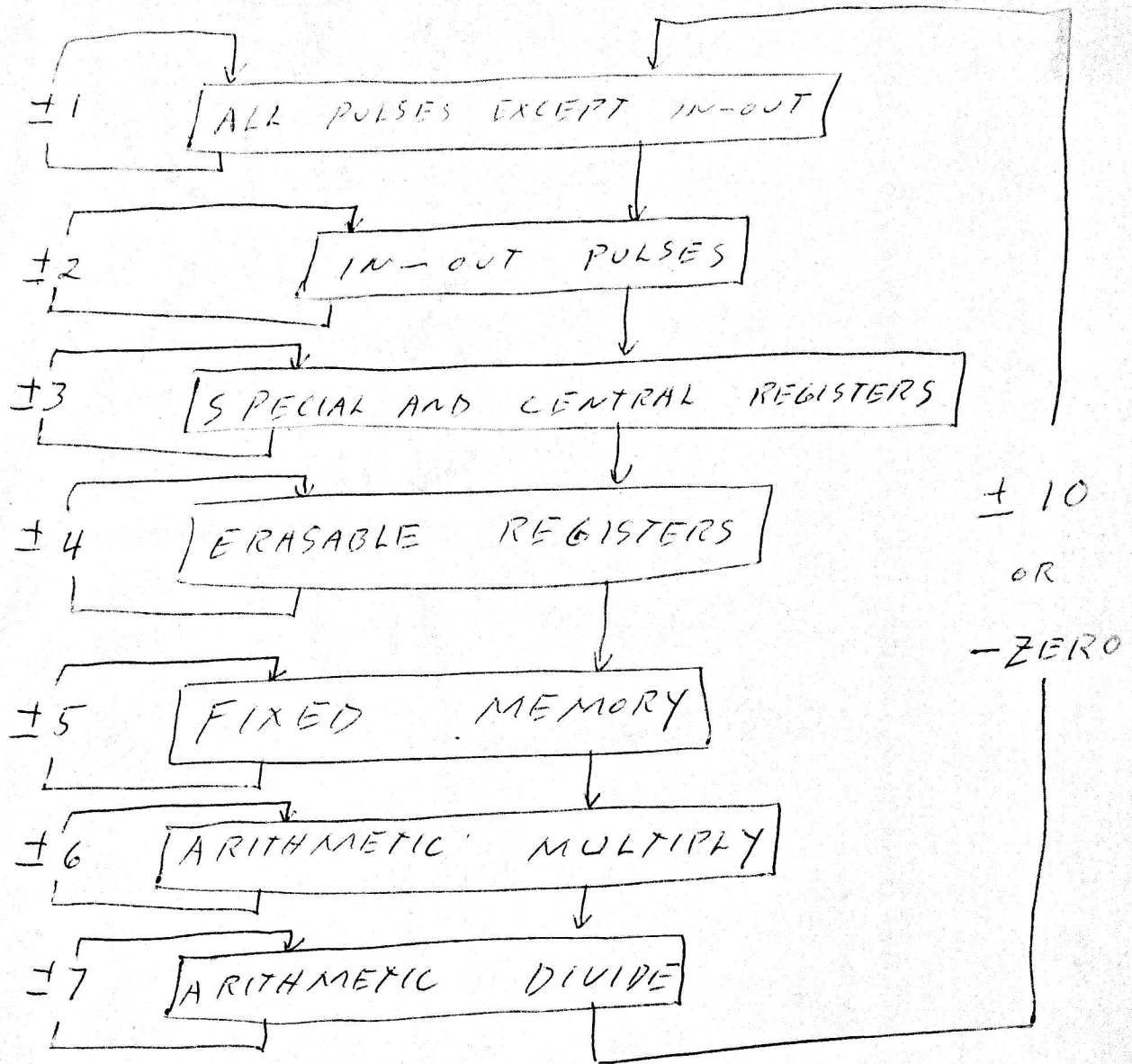
A second error will change the display in R1 of the DSKY to 41102 to indicate multiple errors. The routine keeps starting at the beginning after each error and keeps incrementing the ERCOUNT register after each error.

Placing a +0 in the SMODE register forces the computer to go into the backup idle loop where it does nothing but continuously looks for a new job.

Placing a -0 in the SMODE register does all of the things that placing a -10 octal in the SMODE register does with one important exception. When an error is found and after the correct alarm indicators are performed the computer keeps on checking the routine instead of starting at the beginning of the routine.

Placing a ±11 octal in the SMODE register will perform the DSKY check once, then the computer goes into the backup idle loop. All numbers are placed in R1, R2, R3, VERB, NOUN, and MODE DSKY displays. The Verb-Noun flash and computer activity are turned on at the same time that the + and - signs are checked.

Any number greater than octal 11 should not be used in this Block II version of SELF-CHECK. However if any number greater than octal 11 is placed in the SMODE register, a subroutine will change it to +0. This will force the computer to go to the backup idle loop.



put 40 in SMODE  
and idle

\* numbers represent G(SMODE)