ee9 V3 ERRATA

- **V3 has a formatting bug when displaying very large floating point operands in traces.**
- **V3 has a bug in setting up a watchpoint if only a starting address is given.**
- **V3 computes a very slightly too short CPU time for some shifts performed by normalization.**
- **V3 does not truncate the times returned by OUTs 3, 9 and 17 to a multiple of 32μs.**
- **V3 gives an inaccurate message for a RESET interrupt caused by an address with syllable number 6 or 7.**
- **V3 has a bug with the potential to cause a spurious LIV when doing flow analysis for Usercode store prints.**
- **V3 does not signal clock interrupts correctly, so Director reports program execution times inaccurately.**

SIGNIFICANCE: TRIVIAL; THESE ERRORS DO NOT PREVENT A RUN OF A KDF9 PROGRAM.

- **V3 has a bug in its emulation of OUT 10, which returns the two results in the wrong order in the NEST; there was a compensating error in the Usercode test program `OUTX`.**

SIGNIFICANCE: MINOR; NO SURVIVING SOFTWARE USES OUT 10, SO FAR AS I AM AWARE.

- **V3 has a bug in its emulation of backwards reading (e.g. by MBRQq) of magnetic tape blocks, when the data block on tape is shorter than the core transfer area delimited by Qq.**
- **V3 has a bug in backwards reading of magnetic tape blocks, whereby it goes wrong if the data block immediately follows the label block.**
- **V3 has a bug in MFSKQq orders, such that they fail to stop on a last-block marked block.**
- **V3 has a bug in writing to End Message (by MWEQq) on magnetic tape; it fails to output the terminating End Message character to the tape file.**
- **V3 has a bug in orders of the MqMkH group, which wrongly calculate [Mk]/2 in unsigned arithmetic.**
- **V3 has a bug in OUT 5, which fails to allocate a device that is already in use by means of OUT 8.**
- **V3 treats a zero syllable as an invalid order, but evidence has come to light that the hardware actually treated it like DUMMY.**
- **V3 does not handle TR-setting orders for magnetic tape correctly when running in Director.**
- **V3 fails to restore normal instruction fetching when an interrupt occurs immediately after a successful jump by JrCqNZS.**
- **V3 fails when running a Director in authentic timing mode.**
- **V3 has a bug in the FLOAT and FLOATD orders that gives plausible results when the scale factor operand in N1 is outside the range permitted by the Manual, but evidence has come to light that the hardware only used the least significant 8 bits of N1.**

SIGNIFICANCE: MODERATE; NO SURVIVING SOFTWARE OTHER THAN THE KALGOL COMPILER, OR TSD, WHICH WERE NOT FULLY SUPPORTED BY V3, USES ANY OF THESE FEATURES.

- **V3 has a bug that might cause a spurious LIV when checking lockouts in extreme cases.**

SIGNIFICANCE: POTENTIALLY SEVERE, BUT HAS NEVER ACTUALLY HAPPENED.

- **V3 has a bug in floating point multiplication that gives +1.0 instead of +0.25 when squaring -0.5 (and affects only that exact operation).**

SIGNIFICANCE: SEVERE.

V4.1D CORRECTS ALL OF THESE ERRORS IN V3.

NOTWITHSTANDING THE ABOVE, V3 IS CAPABLE OF RUNNING MUCH INTERESTING KDF9 SOFTWARE, INCLUDING THE WHETSTONE ALGOL 60 SYSTEM.
HOWEVER, IT WILL NOT RUN THE TIME SHARING DIRECTOR (OS) NOR THE KIDSGROVE ALGOL 60 COMPILER.