ISSUE ROM RELEASE NOTES

The Issue ROMs consist of two 2732 or 2732A programmed EPROMs.
Instructions are supplied separately for fitting the ROMs into the
machine and performing any necessary conversion.

Issue ROMs are superior to earlier Boot ROMs in many respects.
Firstly, serious errors are reported directly to any printer connected
to the Centronics Parallel Port. These basic diagnostics take place in
the period between reset and the ROM screen display, and the
respective error messages produced if an error is detected are:

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ROM CHKSUM ERR  = ROM Checksum Error, bad EPROM.
LOW RAM FAIL    = Error in first 64K of motherboard RAM.
SCRN RAM FAIL   = Error in screen RAM.
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Output has been tested with an Epson FX80 dot-matrix printer and Juki
6100 daisy wheel printer. There is no handshaking.

Earlier types of ROM immediately aborted a boot attempt on detecting
any one of these errors, causing the machine to freeze. However the
Issue ROMs continue the boot attempt making diagnosis considerably
easier in the case of minor faults such as single bit failure in the
screen RAM.

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PIC    = Programmable Interrupt Controller (8259) Location 5K
PPORT  = Parallel Port Interface Chip (6522) Location 15L
KBPORT = KB and Screen Control Interface Chip (6522) Location 12L
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Another feature of the Issue ROMs is that the memory test is non-
destructive. Thus it is possible for the Issue RAMDISC to be restored
following a reset, and in many cases data can be salvaged which would
otherwise have been overwritten by earlier ROMs. Every eighth byte is
checked on re-boot.

Occasionally a memory error report may be noticed even though the full
amount of memory is also reported. PASS confirms the end of memory;
the figure in K gives the amount of memory that has passed the memory
test. If the full amount of RAM is reported with a bit error it simply
means that the diagnostic routine has been unable to confirm whether
the following 64K is faulty or non-existent. Earlier Boot ROMs simply
ignored any memory error which occurred on a 128k boundary, with the
result that a defective memory board was often completely ignored.

The Issue ROM memory test is biased towards giving a meaningful report
of a single bit failure, the most common type of memory fault. It can
be readily checked by removing a memory chip from an expansion board.
In the case of multiple bit failures, the highest (most significant)
bit is reported first. If more than three bits fail the memory is
assumed to be non-existent.

The Issue ROMs are ideal for all Sirius machines running CP/M or MS-
DOS 1, 2 or 3 and they will support hard discs of 10Mb, 20Mb or 30Mb.