



MURA # 414

SIFON4
(Program 132)

Simulation of an IBM 650 on an IBM 704

Dr. Charles H. Davidson* and John F. McNall

SIFON4 will simulate on an IBM 704, an IBM 650 with the following features:

- 1. A 2000 word drum
- 2. A card reader-punch (533)
- 3. A printer (407)
- 4. All fixed, floating and indexing operations

The simulating 704 must have the following:

- 1. 8192 word core
- 2. A MURA Printer Board #1
- 3. A SIFON4 Card Reader Board
- 4. A SIFON4 Punch Board

PURPOSE

SIFON4 was designed with several objectives in mind, the foremost of which is the elimination of idle time during the first few months after changing from an IBM 650 to an IBM 704.

An organization which has several years of programming effort tied up in 650 code can continue to use these programs on the 704, without extensive changes, while they are being rewritten in 704 code. This will result in the utilization of any time that would normally have been idle after the acquisition of a 704.

It may not be economical to recode very short seldom used 650 programs. These can be kept and run with SIFON4 at any time without translation into 704 code.

In an open shop computing center persons who are familiar with the 650 can continue to program simple one-shot type problems in 650 language. The ease of tracing 650 programs in SIFON4 will greatly assist in this type of use.

*Now at Department of Electrical Engineering, University of Wisconsin

RESTRICTIONS

1. The 650 Divide Status is not perserved. The next arithmetic order is assumed to be a reset.
2. The Lower Accumulator is automatically cleared before a Floating Divide or Floating Multiply is performed.
3. The 650 input-output devices are as follows:
 - a. A reader-punch type 533 attached to Area 1.
 - b. A printer type 407 (for printing only) attached to Area 2.
4. The following is a list of orders which SIFON4 will not perform (orders as listed on page 24 of the SOAP II Reference Manual #32 - 7646).
03 - 09, 12, 13, 25 - 29, 54 - 57, 62, 63, 72, 73, 75 - 79, 85 - 87

SPECIAL FEATURES

1. Single cycle operation is achieved through use of a sense switch.
2. Console manipulations may be performed by use of special cards and sense switches.
3. The 650 program may be selectively traced under control of a sense switch.
4. A 650 drum dump onto binary cards may be done by use of sense switches. This is used in resuming long programs.

INPUT CARD FORMATS

SIFON4 will accept several kinds of cards:

1. Any type of Load Cards (specified by a Y1 or Y2 punch).
2. SOAPED cards as special cases.
3. NAL (Numerical Analysis Laboratory, University of Wisconsin) (a 5 words/card format).
4. Any format that the user desires in place of NAL cards.

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